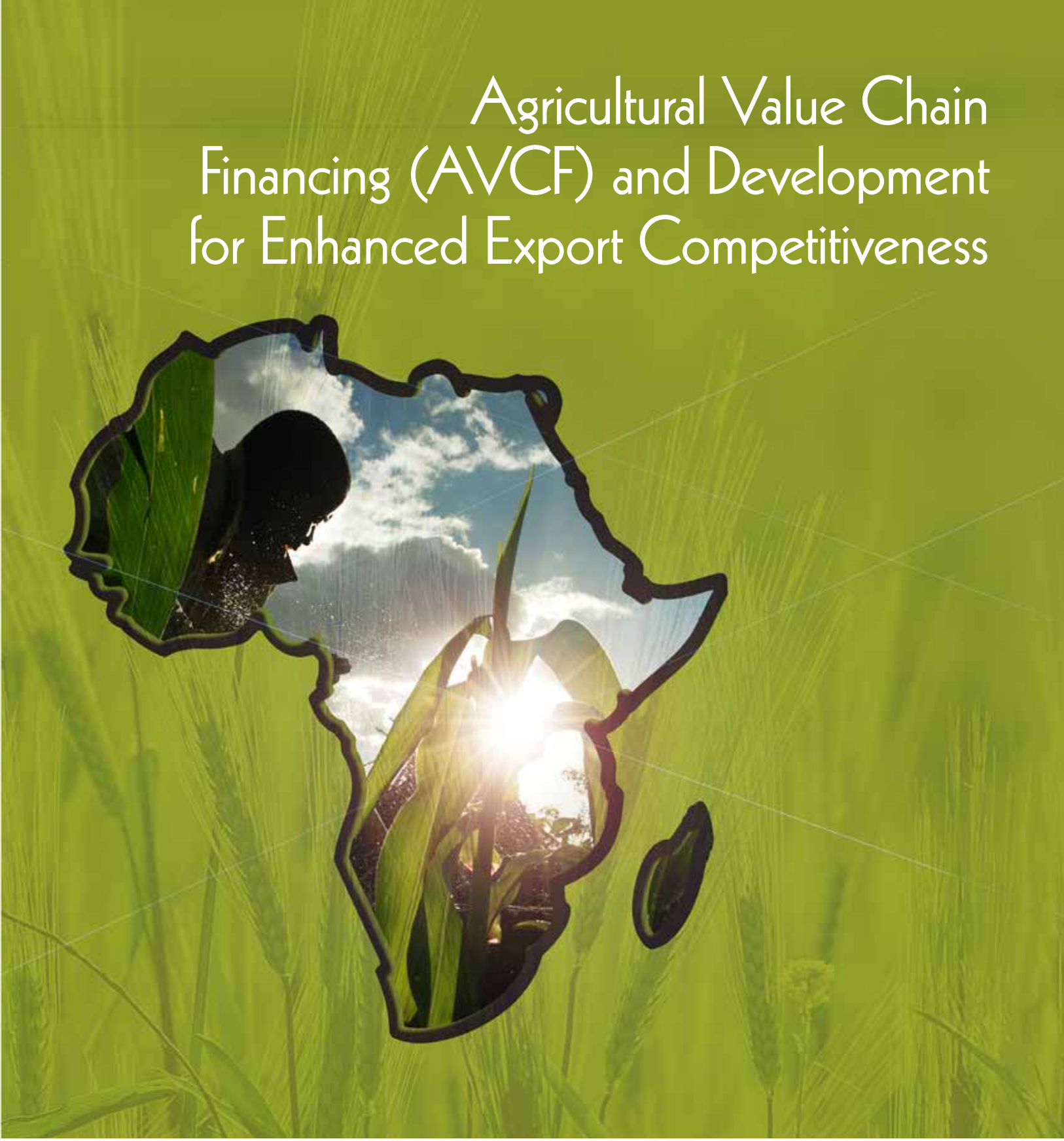
Agricultural Value Chain Financing (AVCF) and Development for Enhanced Export Competitiveness



AFRICAN DEVELOPMENT BANK GROUP

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Agricultural Value Chain Financing (AVCF) and Development for Enhanced Export Competitiveness

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Foreword

Agricultural Value Chains (AVCs) have become very important in determining countries' trade competitiveness in a globalized world. In Africa, where agriculture is the backbone in many economies, they are important not only in enhancing export competitiveness, but also in developing sustainable agricultural systems, alleviating poverty and promoting financial inclusion, especially of the rural poor.

However, AVC development has increasingly become complex over time. Market requirements change rapidly, reflecting increasing demand, changing tastes and lifestyles, international product standards, technological advancements, innovations in financial engineering, and government policies. In response to these dynamics, Value Chain (VC) development is taking many forms and methods to address emerging challenges and leverage new opportunities. A critical input in facilitating AVC development is finance, in terms of availability of financial products to facilitate response to changing market requirements and meeting VC actors' critical needs. However, different countries and VC actors have done things differently, and there is so much to be gained from exchange of experiences.

This publication is a product of a workshop organized jointly by the African Development Bank (AfDB) and the Association of African Development Finance Institutions (AADFIs) in collaboration with the Association of Development Finance Institutions of Asia and the Pacific (ADFIAP) on *'Enhancing Export Competitiveness through Agricultural Value Chain Financing'*. The workshop provided a useful forum for exchange of views on the development of Agricultural Value Chain Finance (AVCF), its various models and methods of financing as well as the roles that can be played government, Development Finance Institutions (DFIs), commercial banks, microfinance institutions and international development partners. This publication has drawn on the presentations and proceedings of the workshop as well as on related materials available elsewhere (as cited) to examine the issues and suggest very pertinent options for African as well as Asian agribusinesses, policymakers, regulators, financial institutions and development partners on how to tackle emerging challenges and opportunities.

We trust you will find this publication useful in your quest for a better understanding on the directions of growth of AVCs and especially the role that various VC actors, government, development finance institutions and external development partners can play in facilitating its growth towards enhancing export competitiveness.

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Mr. Peter Noni
Chairperson
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Preface

This report is an output of the Indo-African knowledge exchange workshops. The workshops were conceived by the AfDB, in 2011. The first workshop on *'Financial Integration through Sound Regulation of Cross Border Mobile Payments: Opportunities and Challenges'* was organized with YES Bank, India on March 29-30, 2012. We are pleased to collaborate with the AADFIs and the ADFIAP in successfully delivering this second workshop on *'Enhancing Export Competitiveness through Agricultural Value Chain Financing'*. We are also grateful for the collaboration of the Industrial Development Corporation (IDC) and the Development Bank of Southern Africa (DBSA), in hosting the workshop in Johannesburg, South Africa.

The Regional Integration and Trade Division (RITD) appreciates the efforts of the task managers in the three institutions, and the support extended by their teams, as acknowledged. We are also particularly grateful for the financial support of the Government of India through the Indian-Africa Economic Cooperation Fund, which is hosted by the AfDB. We also wish to thank the AfDB's Office of the India Executive Director that played a valuable role in facilitating this partnership with the Government of India.

Supporting development of African trade, and especially its financing, is part of the AfDB's work to promote the continent's development and increase its access to global markets, which indeed finds resonance with regional and national development finance institutions in Africa and Asia. While the workshop was originally conceived with a slant on 'financing agricultural value chains' towards enhancing 'export competitiveness', the workshop also covered other key elements that determine sustainability of AVCs, including the various models, the organization and the financing. The workshop discussions were comprehensive and covered aspects that would interest all stakeholders, farmers, agribusinesses, governments, and financial institutions. However, this publication has devoted special chapters to the roles of development finance institutions and external development partners, reflecting the issues important to the co-organizers.

The workshop initiated a lively and spirited interchange from the onset, as the appropriateness of various delivery models were debated following the keynote address delivered by Ms. Mmakgoshi Phetla Lekhethe, Deputy Director General of International and Regional Economic Policy in South African National Treasury, and the three thought provoking questions she posed: (1) Is African development banking model still sound in a period of uncertainty mainly characterized by euro country sovereign debt crisis, threat of going over the fiscal cliff in the US and protracted Japanese economic slowdown? (2) If not, what is the new African development banking model? And (3) How can the new model be used by all African countries, low-income, mid-income and fragile states? The moderators also ingeniously started the discussions of each session with lead questions. The ample use of case studies also made the discussions very practical. The participation of various development finance institutions at the highest levels, Chief Executive Officers, who were interested in how their institutions can participate in this important vehicle that can promote African development, was also quite helpful. Yet, much of the enthusiasm that marked the gathering came from the interactions of participants from different continents and countries with different financial sector challenges and opportunities and at different stages of development of AVCs. The diversity helped to significantly improve the perceptions of the realities and to enrich the recommendations.

The RITD along with AADFI have drawn from the rich discussions that took place to produce this publication. It has also benefited from notes provided by a team put together by the AfDB, AADFIs and the IDC to capture the discussions. Various presenters and other participants as well as the Bank staff have also provided useful comments, as acknowledged.

This publication is produced for a broad readership, and reflects the continuing effort of the AfDB and the collaborating associations to encourage research and debate on the development of AVCs. On its part, the RITD and the AADFIs will continue to pursue their search separately but also jointly on how to finance AVCs for export competitiveness, as part of their broader agenda in supporting economic development in African countries.

The AfDB, AADFIs and the ADFIAP all believe in consulting widely, and we count on the support of all stakeholders for achieving our objectives. However, we expect that collaboration will not only stop at dialogue, but also result in the implementation of concrete actions in our client countries. It is our hope that through the results of our partnership with stakeholders, development prospects in our client countries will continue to be enhanced.

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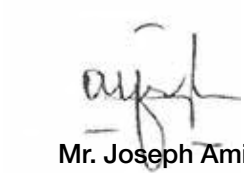

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Acknowledgements

This publication was prepared by the Regional Integration and Trade Division (ONRI) of the AfDB. The findings of this report, however, do not necessarily reflect the opinions of the AfDB senior management and board of directors.

The report was drafted by a consultant with the support of Dr. Jian ZHANG, Principal Macroeconomist, the AfDB, with inputs from the AADFIs. Dr. Michael Mah'moud, primary external reviewer also contributed useful inputs and comments and made editorial suggestions. Ms. Moono Mupotola, Manager, the RITD, NEPAD, the ONRI of the AfDB and Mr. Joseph Amihere, AADFI Secretary General, AADFIs provided overall supervision. The report is based on presentations made by invited speakers and session panelists as well as the open discussions by the participants. The AfDB and AADFI commend the work of the team of drafters and also wish to thank presenters, panelists and participants for the fruitful outcome of the workshop.

The organizers also appreciate valuable comments received from the following participants, who reviewed the report: Mr. Manoj Sharma, Director Asia and a Development Finance Specialist, MicroSave; Ms. Josephine Mwangi-Mutura, Manager, Agriculture Division 3, Agriculture and Agro-Industry Department (OSAN), the AfDB, Mr. Joseph Coompson, Chief Agricultural Economist, OSAN/South Africa Resource Centre, the AfDB, and Mr Gabriel Mougani, Chief Regional Integration Economist, the RITD , NEPAD, the ONRI of the AfDB.

Acronyms and abbreviations

AADFI	Association of African Development Finance Institutions
ADB	Asian Development Bank
ADBL	Agricultural Development Bank Limited
ADFIAP	Association of Development Finance Institutions of Asia and the Pacific
AfDB	African Development Bank
ATMA	Agriculture Technology Management Agency
AVC	Agricultural Value Chain
AVCF	Agricultural Value Chain Finance
BCEAO	*Banque Centrale des États de l'Afrique de l'Ouest*
CGAP	The Consultative Group to Assist the Poor
CFNA	Credit First National Association
DBSA	Development Bank of Southern Africa
DCCBs	District Central Co-operative Banks
DFI	Development Finance Institution
ECOWAS	Economic Community of West African States
ERRI	Economic Rate of Return on Investment
EU	European Union
FAs	Farmer Associations
FAO	Food and Agriculture Organization of the United Nations
FMCG	Fast-Moving Consumer Goods
FTO	Fair Trade Organization
GDP	Gross Domestic Product
GIIF	Global Index Insurance Facility
GIZ	*Gesellschaft für Internationale Zusammenarbeit*
IDC	Industrial Development Corporation
ICT	Information and Communications Technology
IFAD	International Fund for Agricultural Development
IFC	International Finance Corporation, World Bank Group
ILO	International Labour Organization
ISP	Institutional Strengthening Project
IT	Information Technology
ITC	International Trade Center
KfW	Kreditanstalt für Wiederaufbau
MADA	Muda Agricultural Development Authority
MADB	Myanmar Agricultural Development Bank
MDGs	Millennium Development Goals
MF	Microfinance
MFI	Microfinance institution
MNAIS	Modified National Agricultural Insurance Scheme
MSME	Micro, Small and Medium Enterprise
NABARD	National Bank for Agriculture and Rural Development
NACB	Nigerian Agricultural and Cooperative Bank
NACRDB	Nigeria Agricultural, Co-operative and Rural Development Bank
NBFI	Non Banking Financial Institution
NEPAD	New Partnership for Africa's Development
NGO	Nongovernmental organization
NFC	National Food Corporation
NUCAFE	National Union of Coffee Agribusinesses and Farm Enterprises
ODA	Official Development Assistance
ONRI	Regional Integration and Trade Division (ONRI) of the AfDB
OSAN	Agriculture and Agro-Industry Department
PACS	Primary Agriculture Co-operative Society
PCIC	Philippine Crop Insurance Corporation
PFA	Progressive Farmers Association of Thailand
PPP	Public Private Partners
PBSP	Philippine Business For Social Progress
RBI	Reserve Bank of India
RCBs	Rural Credit Banks
RITD	Regional Integration and Trade Division
RRBs	Regional Rural Banks
SBI	State Bank of India
SCARDBs	State Co-operative Agriculture and Rural Development Banks
SCBs	State Co-operative Banks

SCOPE	Strategic Corporate-Community Partnership for Local Development Program
SFDP	Small Farmer Development Programme
SLCs	Saving and Loan Cooperatives
SME	Small and Medium Enterprise
SPS	Sanitary and Phyto-Sanitary Standards
SSA	Sub Sahara Africa
TSIs	Trade Support Institutions
TSP	Technical Service Provider
VBARD	Vietnam Bank for Agriculture and Rural Development
VC	Value Chain
VCF	Value Chain Finance
UNDP	United Nations Development Programme
WBCIS	Weather Based Crop Insurance Scheme
WOCCU	World Council of Credit Unions

Executive summary

Globalization has moved the world from fragmented economies to a unit trading bloc that offers enormous opportunities but also heightens competition, with increasing demand on market players. However, weaker market players will be 'pushed' out of mainstream value chains and this is a present threat for small Africa's farmers. Indeed, in most African countries, agricultural export performance has not matched the encouraging economic growth records over the past decade. Overall, the continent is not benefiting from global tariff reductions that the World Trade Organization is promoting.

Africa needs to promote agribusiness to leverage its potentials in agriculture to enhance its export competitiveness. This is because the global market has become very demanding for high quality products, including ready availability, flavor, quality, freshness, convenience, environmental safety, and traceability, which can only be met through the value chain. Therefore, farmers need to be part of a chain in which everything can be identified to have the right information and sometimes even capacity building and technology to be able to tap into the growing global market. Agricultural value chain finance (AVCF), which promotes specialization and enhances productivity and investments and the application of modern technology, also supports the increasing transformation and commercialization of agriculture that underlies the sector's sustainability. Agricultural value chain development will also contribute to improving growth and reducing poverty by creating economic opportunities (through improved business environments and access to larger regional and global markets); enhancing the options for the poor and empowering them to be able to seize the opportunities (through availability of finance, access to technology and capacity building as well as increased productivity of the poor's most valuable asset, which is labor); and addressing the risks and vulnerabilities of the poor farmers that can wipe out their assets or affect their ability to work or run an enterprise. Another important benefit of AVCF is that it promotes financial inclusion. In particular, it offers an opportunity to expand the financing space for agriculture by improving efficiency, ensuring repayments, and consolidating linkages among participants in the value chain.

However, there are different models of agricultural value chain development. The AVC may be initiated or driven by the producer (such as by small or large-scale farmers associations), the buyer (processors, exporters or traders), a facilitator (such as an NGO or government organization), or an integrated model (led by a supermarket or multinational). While approaches and applications vary among these, most value chain approaches have several common characteristics, including: a market perspective; a focus on end markets; a recognition of the importance of relationships between different links in the chain, attention to improving value generation for the different participants in the chain and, empowering the private sector. However, they also have varying strengths, particularly in reaching new markets, achieving higher market prices, stabilizing the market, assuring supply, ensuring quality produce or making the market work for the poor. However, experience from various developing regions show that the value chain finance model itself is not a panacea in reaching a particular objective. Much depends upon the sustainability of the particular value chain, which in turn depends on the internal arrangements or linkages among the various operators. Hence, the stronger the links, the more secure will be the flow of products and services within chain. In this regard, it may also be said that the chain will be only as strong as its weakest link. Apart from the internal arrangements, the sustainability of the chain will also be driven by external factors such as the business environment, especially the availability of support services, including the policy and regulatory environment, and the legal and contractual systems. As AVCF grows in Africa, it is important to be aware of these varying weaknesses and strengths among the different models as well as the sustainability factors and how to engender them in order to maximize the opportunities within each organizational model.

There is also not one model for financing the value chain, and Africa's AVCs can benefit from the experiences elsewhere, especially India, a major global market player. In particular, agri-business operations in Africa need to build capacity and mobilize resources to improve their performance and profit from the drastic growth in markets. Many African agribusinesses are based on within-the-chain financing (provided mainly by the initiator or driver of the AVC) and are limited by the availability of this financing source. The Indian experience, however, shows that financial services access is a potent platform for product development, systematic business growth and business repositioning. Enhanced access to finance will provide the flexibility in pursuing various models of agri-business growth that will help harness the benefits of agricultural value chains for the continent.

Lessons from India and other developing countries show that there are many options for mobilizing financing from outside the value chain, ranging from the regular finance (term loans, overdrafts, and lines of credit) to less common finance options such as factoring, equity, joint ventures and commodity exchanges. There are also various instruments and methods for mitigating the risks (market or price risks, crop or weather risks, production-related risks, collateral risks, or human factors) that plague agri-business finance. There are encouraging African cases that have successfully applied some of these value chain financing models. These are documented here for the benefit of African DFIs as well as other businesses that want to involve in the development and financing of agricultural value chains.

The lessons from the various African and Indian case stories for African DFIs that wish to participate in or facilitate AVCF include the following:

- Ensure that there is market demand for the crops: Loans should be made only for crops with reliable buyers that have already been contracted.
- Create proper policies and procedures to address some common AVCF risks when establishing the policies and procedures for value chain financing.
- Assess real financing needs: Loan officers should use appropriate tools to evaluate the total cost of production and should also identify points along the value chain where providing access to finance could bring the greatest value to small producers and would represent a good investment for the institution.
- Establish appropriate guarantees on individual loans such as group bonds and warehousing receipts, which should make it possible to lend to small farmers without requiring traditional forms of collateral.
- Facilitate and leverage market linkage and direct relationships so that value chain participants can come together to identify problems, review their needs and commit to finding solutions.
- Design financial products and repayment schedules that meet specific needs and capacity to pay but competitive interest rates should be set to cover costs and provide a profit margin.
- Distribute loans in vouchers for the purchase inputs from pre-approved suppliers during different phases of the production cycle.
- Encourage farmers to diversify crops and procure insurance to avoid dependence on a single crop and to protect against crop failure and weather-related risks.
- Monitor crop performance to provide technical support and monitor production.
- Receive payment through the DFI for efficient recovery and seize the opportunity to encourage farmers to open savings accounts.

However, the development of agricultural value chains is not only dependent on the private sector that wants to be competitive in the global market place. Governments have a role to play in creating the appropriate policy and regulatory frameworks to level the playing field, increase the opportunities and reduce risks. Regulation should also aim at financial system stability; customer protection; effective and efficient use of investors' funds; the setting of minimum standards; and clarification of the legal position of certain financial institutions and instruments such as warehouse financing. Government involvement is also important because the pro-poor benefits of value chain development need to be engendered.

Africa's development partners – financial and technical – are already involved in providing catalytic financing and technical assistance as well as building capacity. Their experience has not been without blemishes and there are important lessons to be drawn for improved performance and fruitful partnership. The guiding principles for the effectiveness of donor support include the following:

- African countries have the primary responsibility for leading AVC development to accelerate the fight against poverty, enhance sustainable agricultural sector development and export competitiveness and financial inclusion,

- Donors should strengthen country systems, rather than bypass them;
- Donor support to AVCF development will be tailored to country circumstances;
- Donors consider weaknesses in AVCF and microfinance development as symptoms of broader agricultural and financial sector challenges;
- Donors should pursue strategies of constructive and systemic engagement, including in high-risk environments;
- Donors should strengthen transparency in their own operations and in the programs they support through enhanced information disclosure;
- Each donor's activities in support of AVCF must be focused on delivering results, demonstrating impact and adding value compared to other donors; and
- Donors should build strategic partnerships with each other to achieve common objectives.

Overall, the message is that agricultural value chain financing in Africa has a huge potential and can be harnessed to the benefit of both the agribusinesses and the financing institutions, besides enhancing the continent's export competitiveness. Progress will depend on fostering partnerships among the private sector, including the financing institutions, governments and external development partners.

1. Introduction

Over the past three decades, fundamental changes in international trade and investment have fueled a rapid increase in global economic integration. Cross-border flows of goods and services, capital, technology, ideas, and people offer great opportunities for African countries to boost growth and reduce poverty by improving productivity and efficiency, providing access to new markets, and expanding the range of consumer choice. However, economic globalization creates new challenges, too. The new challenges include the need to increase the quality and sophistication of African goods and services, implement regulatory reforms to take full advantage of global markets, and introduce cost-effective measures for structural adjustments and regional imbalances.

The new challenges are particularly significant in Sub Saharan Africa (SSA), where disadvantaged small farmers and Micro, Small and Medium Enterprises (MSMEs) are especially subject to supply-side constraints. Since 1960, trade in SSA has grown at three-quarters of the world's rate and at only about half of Asia's rate. Its share in world trade actually fell from 7-8% in the 1960s to 3-4% in the 2010s. Without market knowledge, particular expertise, and competitive products and services, SSA will essentially fail to take advantage of the potentially high benefits of global markets and the increases in global trade flows. Those SSA's economies that are unable to claim a more significant share of global trade will find it difficult to achieve the sustainable, and accelerated growth rates that are necessary to reach the Millennium Development Goals (MDGs) and significantly reduce poverty on the continent.

On sectoral basis, these new challenges are most serious in agriculture, the main export revenue source for many African countries and the largest income generator for their populations. An estimated 70 percent of Africa's population[1] depends on agriculture for full-time employment, and many others rely on agriculture for part of their household income. Two hundred million Africans live with food insecurity. Economic growth in SSA has averaged close to 3% over the past 25 years. However, per capita growth for the SSA population dependent on agriculture has been less than 1% over the last two decades compared to 2% per annum in Asia and nearly 3% in Latin America[2]. Farmers have been working harder, more people have taken up farming, but productivity has not increased. Most of the agricultural growth in SSA is related to increasing the land area under exploitation rather than to increases in productivity. At current rates, it is estimated that Africa will be able to feed less than half its population by 2015. However, with rising prices of food grains and increasing trend of inflation worldwide, there is a renewed interest in agriculture. There is an enhanced interest in using integrated VC approaches for agriculture to increase its effectiveness.

Not surprising, many developing countries are putting emphasis on agriculture and agribusiness. Moreover, agriculture in all developing countries is experiencing profound, fast-moving changes reflecting increased competition in the international markets. Globalization, although advancing more rapidly in some countries than others, has made it imperative for agricultural systems to progress from traditional, low-productivity systems toward modern and high-productivity ones. The resulting structural changes are having profound consequences on employment, methods of generating income, risk management, poverty alleviation, and the well-being of rural households in these countries.

Moreover, consumer demand in industrialized and middle-income countries[3] is raising the bar for food quality and safety. The trend among consumers, who have ample purchasing power and little spare time, is to purchase pre-cooked foods and prepared fresh fruits and vegetables but also commodities with certain quality standards. This means that many products acquire considerable value added in their passage from farm to table. Those who provide processing, logistics support and marketing are better able to add value to their produce and stand to gain the most from superior processing and logistics.

Competition has become fierce at the final stages of marketing, especially for acquiring and retaining clients, and buyers want information about the production process and the standards used and are getting used to a quality and consistency. The result is that those not linked in a chain, whose production standards can be certified, lose out on the competition and typically have to settle for lower price realizations and localized markets. African countries used to dominate

1 About one billion people live in Africa.

2 AfDB: Agricultural Sector Strategy.

3 The World Bank classifies a Middle Income Country as a country with a per capita Gross National Income between US$1,026 and US$12,475.

several commodity markets but not anymore[4]. They have been overtaken by countries in Asia (especially India, China, Thailand, Malaysia and Vietnam) and South America (especially Brazil) that are better able to meet consumer demand. Increasing the production of — and export revenues from — agricultural goods entail developing production and processing capacities and marketing channels and outlets. On this score, African agricultural and agribusiness systems from production to the markets need to be re-engineered, financed and upgraded so that it will become more productive, valuable to the consumer, and competitive in the global agricultural markets.

The VC is that sequence of value-adding activities in a supply chain – from production to consumption, through processing and commercialization. In agriculture, VCs can be thought of as the set of processes and flows – from the inputs to production to processing, marketing and the consumer. In that same sense, Value Chain Finance (VCF) is about finance with agriculture and agribusiness within a chain but also about aligning and structuring finance with the chain or because of it. In other words, VCF is the flow of financing within the agricultural sub-sector, among various VC stakeholders, for the specific purpose of getting product(s) to market(s). This is very different from the mere provision of conventional financing, where one of the chain stakeholders (for example, a specific firm/entity and often primary producers) gains access to financial services, independent of other stakeholders. Simply being a part of a secure market chain makes one a better credit risk. Therefore, the implications and benefits of VCF go beyond that of the financial flows within the chain; it enhances export competitiveness, promotes sustainable agricultural development, helps poverty alleviation and augments financial inclusion. It should, therefore, be an important aspect of African trade, regional integration and development strategies.

The advances by Asian countries, India in particular, and some African countries in Agricultural Value Chain Finance (AVCF) provide a basis for experience sharing in this area. India, for example, has accumulated a great deal of experience in financing AVC development in response to increasing global economic integration. This publication is based on the presentations and discussions at the knowledge-sharing workshop organized jointly by the AfDB, AADFIs and the ADFIAP, in collaboration with the hosts, IDC and the DBSA.

The report is put together to provide comprehensive knowledge on AVCF and its development, not only for non-professionals who might want to be informed about it but also, to some extent, other stakeholders who might want to learn more with a view to getting some suggestions towards improving their ongoing models. It covers the various dimensions of VC development in eight chapters, including this introduction section. Several case studies and boxes are used, as necessary, to emphasize certain issues and approaches.

Chapter two presents an "overview of VCF in agriculture" and, in that regard, formally explains the concept of AVCF and the key participants as well as its context and role in promoting export competitiveness, sustainable agricultural development, financial inclusion, and poverty reduction. However, there is no one model of AVCF. Chapter three presents the various VC models, with examples, and explains the key factors that underlie the success of any model. Chapter four discusses the financing of VC, which is significant not only in helping develop the supply chains but also ensuring that disadvantaged actors in the supply chains like small farmers are not left out. The chapter presents various strategies, instruments and institutions that help improve access of farmers and agribusinesses to financial resources by making use of the AVC to reduce the risks and improve transaction efficiencies. It also presents some new approaches and models for securing additional financial resources for the funding of agriculture and agribusiness investments. A special analysis of how African DFIs can participate in AVCF is taken up in chapter five. The chapter is based on a number of case studies of financing models — how they were arranged, the benefits and challenges—from which lessons are drawn on how African DFIs can participate in financing AVC. Chapter six discusses the role of government and the development of appropriate regulatory frameworks, which are important in ensuring sound application of VCF, while chapter seven discusses the role of international support, including the provision of catalytic financing, technical assistance and capacity building. Conclusions and recommendations are summarized in chapter eight.

4 World Bank: 1991 World Development Report, The Challenge of Development, and other World Bank sources.

2. The concept, context and role of Agricultural Value Chain Finance (AVCF) in Africa

2.1 The concept

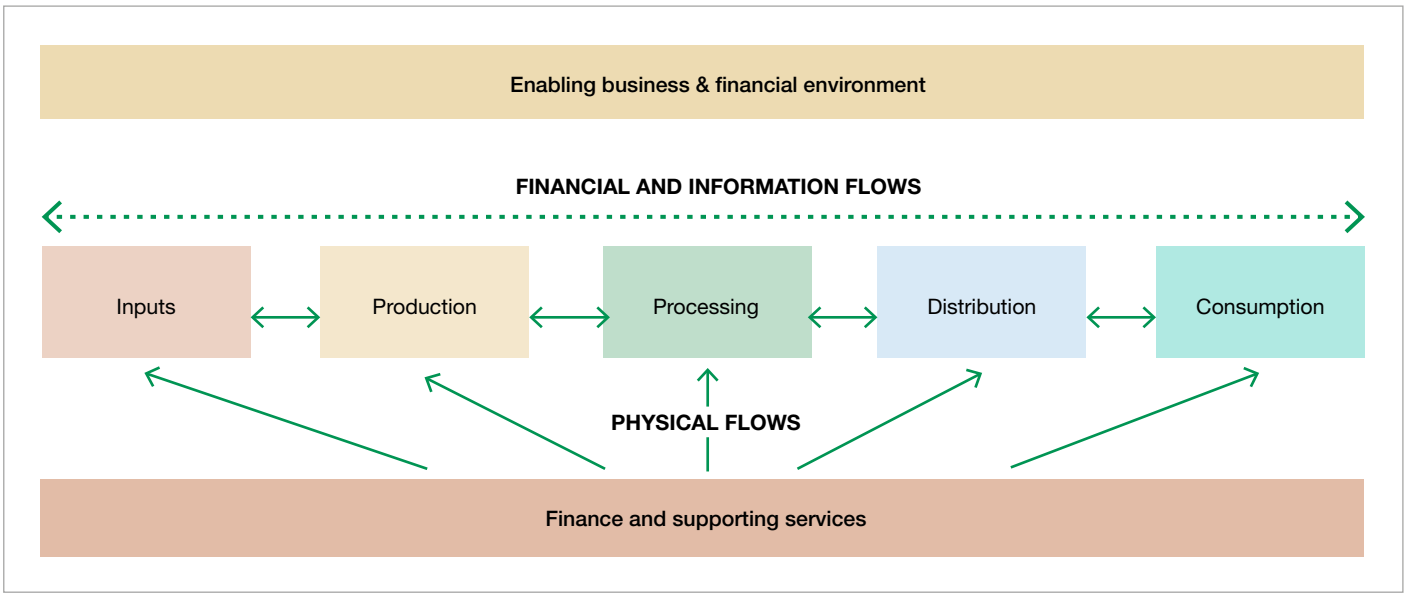
Value Chain (VC) involves the sequential linkages through which raw materials and resources are converted into products for the market. ***Agricultural Value Chain*** (AVC) identifies the set of actors (private, public, including service providers) and a set of activities that bring a basic agricultural product from production in the field to final consumption, where at each stage value is added to the product. It may include production, processing, packaging, storage, transport and distribution. Each segment of a chain has one or more backward and forward linkages (figure 2.1). Thus, with AVCs, we move away from a commercial, segmented form of agriculture in which many separate links operate in isolation, out of sync with each other, in which farmers produce in bulk, are exposed to price risks and capital needs and produce independently. The AVC is based on integrated systems, differentiated production, risk management, information needs and interdependent farmers.

Agricultural Value Chain Finance (AVCF) is thus, the flows of funds to and among the various links within the AVC in terms of financial services and products and support services that flow to and/or through VC to address and alleviate constraints, and fulfill the needs of those involved in that chain, be it a need for finance, a need to secure sales, procure products, reduce risk and/or improve efficiency within the chain and thereby enhance the growth of the chain (Fries, 2007). VCF is a comprehensive approach which looks beyond the direct borrower to their linkages in order to best structure financing according to those needs (AfDB, 2012).

2.2 Key participants[5] and other key components

There are five main components to consider in VC analysis, as depicted in Figure 2.1. These are the actors directly providing inputs, producing and distributing the product; the relationships and embedded services between these actors; the markets, the financial, general and specialized services coming from sources external to the production and distribution chain, and the enabling environment, including tax and trade policies and regulations

Figure 2.1
Finance flows within the value chain



Source: Madu, Workshop Presentation.

5 See Sharma, Workshop Presentation, Section 4.

Key participants

Apart from primary producers, several other players drive the AVCF and play important roles; these include dealers in agri-commodities and agri-inputs, food processors, retailers, support service institutions, banks and financial institutions. Each of these players may be operating in the AVCF at varying scales with investments of only a thousand dollars or even less or outlays of more than several million dollars. They operate along the VC, with linkages into one another. Key participants in a VC are: Producers, Agri-Input Dealers, Aggregators, Producers, Wholesalers and Retailers (see Table 2.1).[6]

Primary Producers/Farmers: The primary producers/growers in AVCs are very important actors and their position in the chain becomes the key driver to determine the sustainability of the VCs. Majority of farmers in African countries are single cash crop farmers supported by some food production, or vice versa. However, there are also specialized chain actors, who are able to produce quality cash crops for the AVC. Others may be multi-activity chain farmers, who are not only involved in production process but also in other activities of VC like grading, primary processing, and local marketing. The best actors are the market lined producers, who perform multiple activities (in terms of marketing, transport, production and processing), but such farmers are very few in developing economies.

Agri-Input Dealers are crucial to the AVCF as they not only provide seeds, pesticides, fertilizers and farm equipment (machinery) to farmers but also act as extension arms providing technical information to the farmer. This is a crucial input in the VC and its capacities and quality will determine to a large extent the quality and quantity of the end-produce. Just as with any other small trader, this player will be driven by the profit and a desire to increase sales volumes. Capacity building on this tier will ensure that the farmers get the right advice. In case of small holders, this tier may have to be supported by the aggregator (processor) to ensure that the farmer gets the right quantity and quality of inputs. Also, donor initiatives and credit

Table 2.1:
Impact of lack of access to finance on the value chain (VC)

	Impact on the processor	Impact on the producer	Impact on the input provider
Lack of credit for the processor	• Cannot secure sufficient volumes. • Cannot hold stocks in order to operate most efficiently.	• Delays in milling and processing, resulting in storage costs and potential sales losses.	• Producers cannot create high quality goods, so lack incentives to utilize inputs.
Lack of credit for the producer	• Volume shortfalls, resulting in running factory inefficiently. • Lack of economies of scale. • Difficulty in obtaining standard grades. • High cost of capital per production unit. • Limited capacity to absorb fixed costs associated with processing.	• Suboptimal production mix. • Adopts low risk, low yield production pattern. • Asymmetric price information causes producers to be price takers at the farm gate. • Limited use of inputs lowering yield and quality.	• Reduced demand for inputs by producers.
Lack of credit for the input provider	• Volume shortfalls resulting in running factory inefficiently. • Lack of economies of scale. • Difficulty in obtaining standard grades. • High cost of capital per production unit.	• Has to buy inputs expensively due to the high costs of inputs, uncertainty regarding sales volume, and high risk associated with selling on credit.	• Provide inputs expensively due to the high costs of inputs. • Difficulty maintaining adequate stock, uncertainty regarding quantity to be sold.

Source: Rural Finance Innovations; Topics and Case Studies, 2005, World Bank; See also Singh, Workshop Presentation.

6 Central Bank of Sudan, January 2011, Study for the Establishment of Pro-Poor Branchless Banking in Sudan.

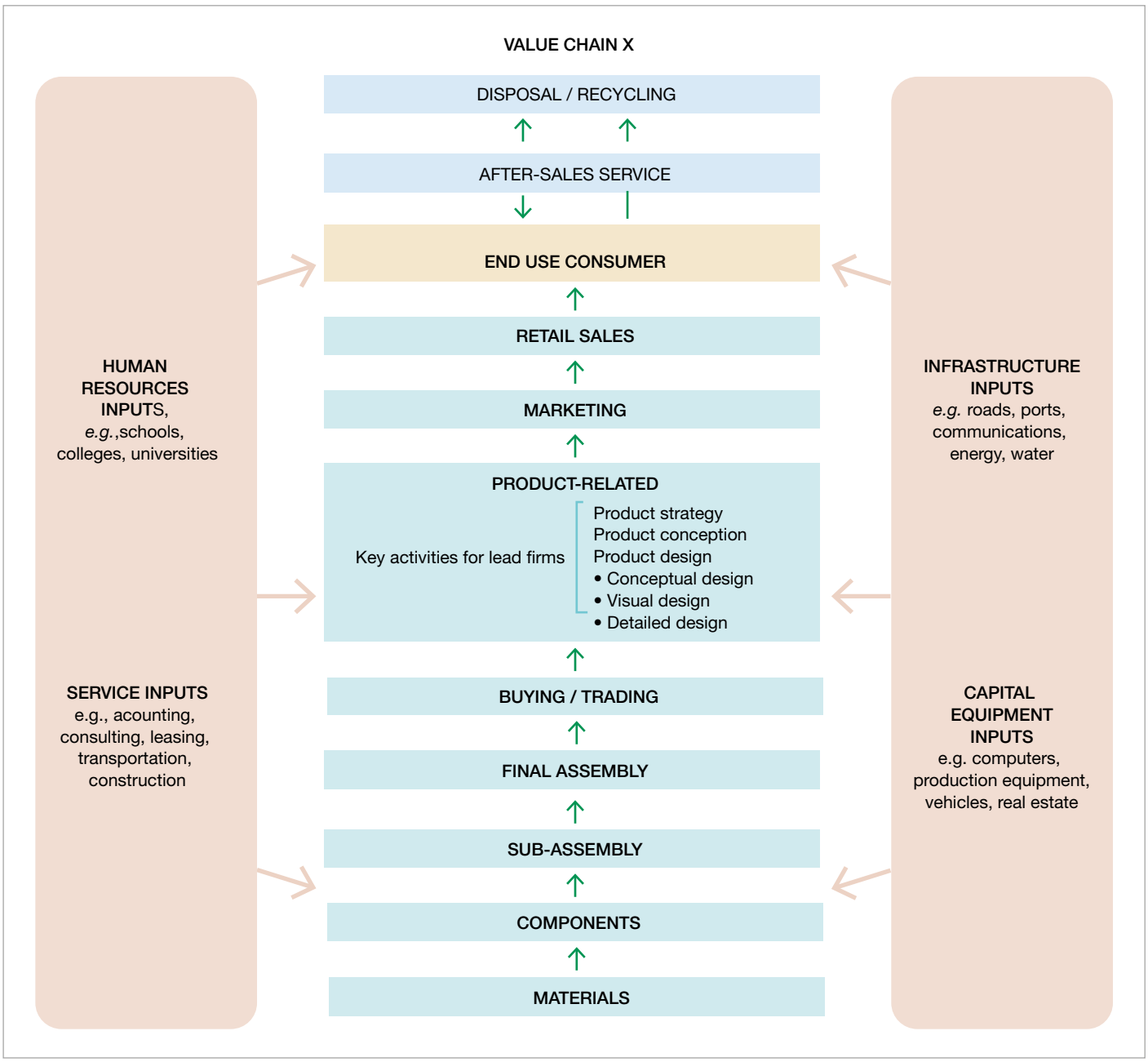
programs can support the farmer in getting the required inputs and can help agri-input dealers to enhance their businesses. In some instances, an agri-input dealer may also become an aggregator, supplying inputs and then procuring the produce. In this case of course, the agri-input dealer plays a major role at the producer end and can corner a larger share of the value leaving a minor share for the primary producer.

Agri-Processing Companies play a major role in adding value to the agri-commodity and in many cases will link up with wholesalers or retailers to market the product. Agri-processing companies can be small scale enterprises or can even be large corporations having multi-country operations. This is another important player in the VC which can spur rural development, ensure off-take of commodities from the producers and at the same time provide employment opportunities. Other roles that can be played by agri-processing companies include acting as a channel to provide market access to producers, providing agri-inputs and/or finance to enable producers to procure inputs, transfer of production methods / technologies etc. The challenges faced by small agri-processing companies that VCF can help to address include challenging policy environment, lack of availability of input material, cost of input and price fluctuations, lack of technology for processing, competition from multi-nationals and lack of credit availability.

Table 2.2:
Sample trade facilitation of regional groupings and possible opportunities for AVCs

Area	Possibilities of support
E-commerce	Provide common ground (such as standards) to enable interconnection among regional actors. Eliminate red tape in customs. Form business partnerships to enhance international competitiveness. Strengthen logistical and transport systems. Promote recognition of electronic signatures.
One-stop counter	Facilitate a central coordination entity at the national level and a regional centre for system recognition and interconnection. Promote coordination and consistency among national systems to facilitate interconnection. Make possible use of universally accepted systems for paperless trade.
Customs procedures	Help adoption of compatible administrative systems to enable interconnection and reduce the time and costs of procedures and dissemination of such systems in the private sector, particularly SMEs. Promote regional coordination to expedite procedures. Can promote use of pre-shipment inspections and other mechanisms to cut waiting times at border points. Can help strengthen the use of ICT for security purposes, in accordance with international standards.
Adoption of international and phytosanitary standards	Can ensure consistency with international standards and cooperation and training for the fulfillment of health and safety obligations. Can help put in place sampling and prevention techniques aimed at avoidance or early detection of risks in the production chain, thus forestalling large-scale health emergencies.
Interface between the public and private sectors	Can create regional systems for training for the benefit of SMEs. Can facilitate strengthening of regional export financing mechanisms, using e-commerce and e-government elements to deal with possible deficiencies in the supply of private financing.
Financial flows	Monetary unions facilitate financial flows and inter-country financing of AVCs.

Figure 2.2
A simplified representation of the wood furniture Global Value Chain (GVC)



Source: Abonyi, G: Integrating SMEs into Global and Regional Value Chains, UNEASCA, Bangkok, 2005.

At the end of the chain is the ***retailer*** (including the supermarkets, restaurants and exporters), who transmits the consumer demands to the processors and triggers the production process.

Without the finance, each of the participants would be operating at a suboptimal level (Table 2.1).

Markets: The markets for AVCs are local, regional and global for both inputs and finished products. However, the more competitive VCs are becoming 'global' or, at least, regional, as their component activities are geographically dispersed across borders to multiple country locations. In general, the proportion of products conceived, manufactured, and consumed entirely within the geographic boundaries of a single country is shrinking. Even services, such as financial, consulting, and customer support services are becoming mobile across borders. Globalization or regionalization of VCs has also given rise to international (or regional) production network – intra and inter-firm, which represents linkages within or among a group of selected firms in a particular GVC for producing specific products. In this regard, regional groupings can facilitate AVCs in a number of ways (see Table 2.2).

Services: AVCs rely on a number of services external to it in the form of farm extension, finance, accounting, leasing, market information, identification of end market, and promotion of collective organization, among others (Figure 2.1). The more efficient the provision of the services to the VC, the better it can perform and improve the position of the participants in the chain.

2.3 Value Chain Finance (VCF) approach enhances export competitiveness

International agricultural trade has been growing very rapidly. Food trade alone has been growing so rapidly that its value has increased by 50 percent over the past 10 years. This is partly due to inflation, but also has much to do with overall growth in global business flows. Within the global business, agri-business is becoming much stronger and more concentrated, and the agricultural sector is competing on a globalized market where there is more and more concentration (of processors and retailers/supermarkets) at the final end of the chain.

Table 2.3:
Changes in the world food agri-system

Traditional agriculture	New agriculture
Separate segments	Integrated system
Bulk production	Differentiated production
Price risk	Risk management
Need for capital	Need for information
Independent producer	Interdependent producer

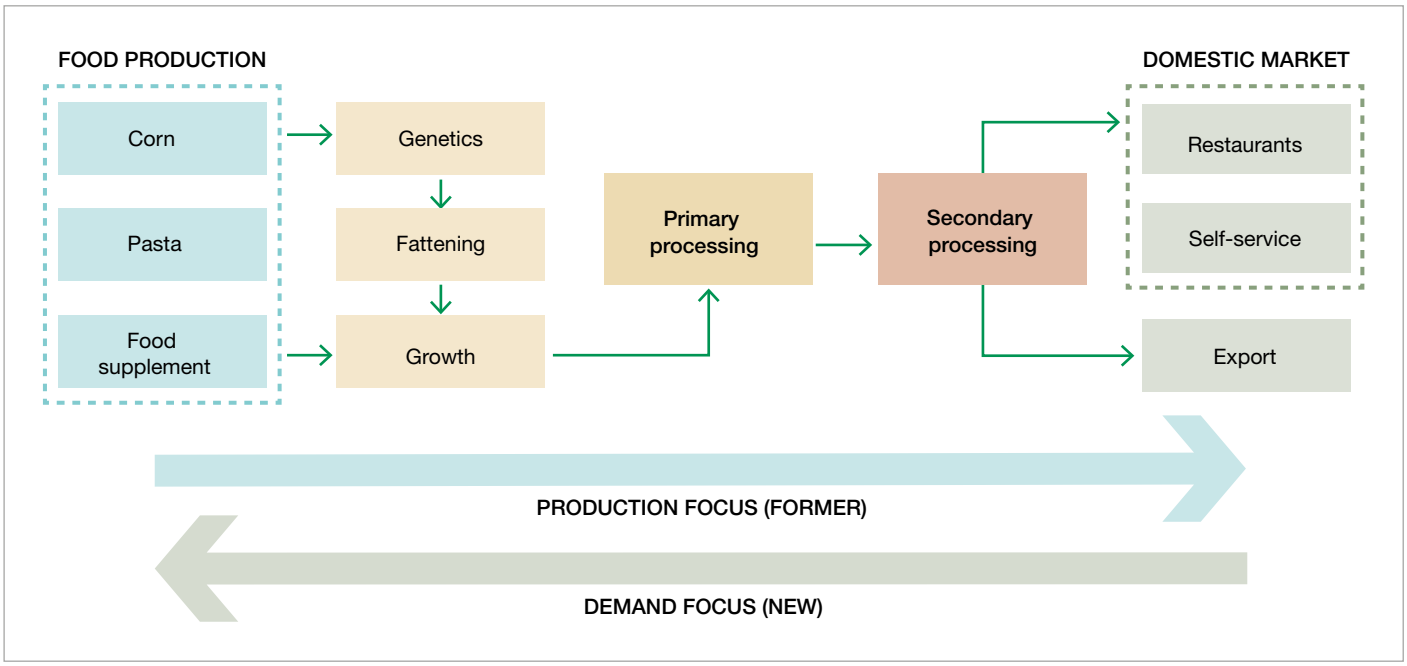
Source: Ken Shwedel, FAO Conference Presentation.

The domestic and international trade flows follow a chain process driven by the consumer (figure 2.3): consumers signal need for a commodity, the retailer notifies the wholesaler or importer, who in turn notifies the warehouses or aggregator in the exporting country about the need to buy a certain quantity of a commodity. The warehouse contacts the producers and finances them. Moreover, the consumer who is driving the chain or the commodity market has become very demanding for high quality products, including ready availability, flavor, quality, freshness, convenience, environmental safety, traceability, and in addition to all that, low prices. Thus, if the supermarkets and processors in the domestic and importing countries cannot verify the source of the commodity or that it has met certain Sanitary and Phytosanitary Standards (SPS) and consumer preferences, they will not buy. Therefore, the export VCs have additional requirements relating to quality, certification of different types, specialized storage and transport logistics[7]. Thus, apart from the heavy infrastructure requirements, farmers need to be part of a chain in which everything can be identified, to have the right information and sometimes even capacity building training and technology.

It is also worth noting that developing countries have cheap labor, and agriculture being labor intensive, accords them some advantage on this front. However, absence of structured VCF mechanisms would negate this advantage as farmers are not able to access seeds and fertilizers and other inputs and typically do not have the wherewithal to procure machines needed even for the most basic mechanization. This affects productivity and quality of the produce, and works against smallholders as they are neither able to tap export markets nor realize higher economic value from the sale of their produce.

7 In 2009, the GSMA launched the Mobile Money for the Unbanked (MMU) program, aimed at accelerating the provision of money services to those living on less than $2 per day. Please refer to CGAP Technology Program: India Focus Country, 2011, too.

Figure 2.3
The chain process is driven by the consumer



Source: Ken Shwedel: Value chain finance – strategy for an orderly, competitive, integrated market, FAO Conference.

VCF enables smallholders to move up the VC and increase productivity and quality of their produce. Aggregation of smallholders in a VC initially enables them to tap into the local markets with better quality and eventually with better feel and connectivity with the needs of the market, enables them to tap export markets. Thus, structured VCs with need based financial inputs increase export competitiveness. In fact, it is very difficult for individual farmers to tap into export markets on their own in a decentralized manner; the only way to enhancing export competitiveness is through being organized in VCs and delivering products as per the needs of the market.

Thus, VCF as an approach has tremendous scope of supporting the producers in the chain and enhancing export competitiveness[8]. VC approach enables players and stakeholders to enhance the value within any chain through improvement in its performance by enabling core business strategy development including core competencies, comparative and competitive advantage, outsourcing, vertical and horizontal integration, and utilization of acceptable standards or best practices. VC approaches help to carry out product and process innovations to enhance value of produce, thus, benefitting the stakeholders of the chain.

Continual nature of enhancements along the VC results in improved productivity and profitability, thus, making a firm more competitive. From producers to consumers, an integrated VC, with reduced risks and increased access to markets and information, helps the VC stakeholders to reduce costs and risks along the production chain, and thus, maximize the value of any given product, with the least possible cost to the producer, and become competitive in the global market.

8 See Singh, Workshop Presentation.

2.4 Value chain boosts sustainable agricultural development

Sustainable agriculture means an integrated system of plant and animal production practices having a site-specific application that over the long term will:

- Satisfy human food and fibre needs.
- Enhance environmental quality and the natural resource base upon which the agricultural economy depends.
- Make the most efficient use of non-renewable resources and on-farm resources and integrate, where appropriate, natural biological cycles and controls.
- Sustain the economic viability of farm operations.
- Enhance the quality of life for farmers and society as a whole[9].

In Africa and other developing regions, achieving agricultural sustainability is an important development objective. This is also important because agriculture is the backbone of economies of developing countries and is a critical tool for achieving one of the Millennium Development Goals (MDGs) which calls for halving the share of people suffering from extreme poverty and hunger by 2015[10]. Three out of every four poor people in developing countries live in rural areas, and most of them depend directly or indirectly on agriculture for their livelihoods[11]. Especially in Africa, agriculture employs 65 percent of total labor force and accounts for 32 percent of gross domestic product[12]. These millions of small agricultural producers are entrepreneurs, traders, investors, and consumers, all rolled into one; they run their businesses under difficult and constraining circumstances. Therefore, appropriate financial instruments to secure the best possible investment choices help to transform and commercialize agriculture and enhance the sustainability of the farmers' source of income. VCF supports the increasing transformation and commercialization of agriculture that underlies its sustainability in Box 2.2 and Table 2.4.

The structural transformation and commercialization of agriculture require supportive markets in order to enable a greater division of labor. Markets integrate the specialized producers and consumers, allowing them to engage in transactions involving an increasingly heterogeneous set of goods and services produced across space and time. As structural transformation begins, markets for land, labor, capital, and finance emerge, multiply in number, and become more complex in response to the greater variety of goods and services transacted. AVCF provides the necessary financial, logistics and market access support to promote transformation and commercialization of agriculture.

Table 2.4:
Characteristics of food production system with increasing commercialization

Level of market orientation	Farmer's objective	Sources of inputs (including labor)	Product mix	Household income sources
Subsistence system	Food self-sufficiency	Household generated (non-traded) inputs	Wide range agricultural	Predominantly agricultural
Semi-commercial system	Surplus generation	Mix of traded and non-traded inputs	Moderately specialized	Agricultural and non-agricultural
Commercial system	Profit maximization	Predominantly traded inputs	Highly specialized	Agricultural and non-agricultural

Source: Ken Shwedel, FAO Conference Presentation.

9 See Sharma, Workshop Presentation.
10 MDG: Goal 1; Eradicate extreme poverty and hunger. Millennium Development Goals Report: 2012, pg. 7, United Nations, New York, 2012.
11 World Development Report: 2008.
12 Fact Sheet: The World Bank and Agriculture in Africa.

Box 2.2: Path to sustainability—Structural transformation and commercialization of agriculture

Structural transformation of agriculture: The process is reflected in different stages involving a decline in the relative importance of agriculture, increased use of traded capital inputs in agricultural production process, a greater specialization in production on large farms, while small farms have diversified their sources of income, and the emergence of a heterogeneous and vibrant rural non-farm economy. These changes have created major new opportunities for rural financial markets and increased the demand for financial services.Guided by this vision, BA has expanded its operation across borders to other low-income developing countries. Followed by its successful cross-border operations in Bangladesh and Sri Lanka, BA acquired Zain Group's ("Zain") African mobile operations in fifteen Sub Saharan African countries with USD10.7 billion in June, 2010.

Commercialization of agriculture: Structural transformation has also been accompanied by an evolution in food production systems (Table 2.4). Initially, at low levels of economic development, most farms produce for subsistence, with food self-sufficiency as the primary objective. Most agricultural inputs are non-tradable, and a wide range of diversified products are produced. Income is derived largely from agricultural sources but, because production is low and mostly for home consumption, little cash income is generated. With new biological technologies, production has risen and marketable surpluses have begun to emerge. Semi-commercial farms regularly produce surpluses and use a mix of tradable and non-tradable inputs. Some specialization in production occurs at this stage, and farm households begin to earn larger amounts of non-agricultural incomes from non¬farm sources. Finally, in a commercial system farmers operate almost exclusively in a market economy, and employ the full range of financial instruments to facilitate transactions of goods and services.

Source: Manoj K. Sharma (Workshop Presentation).

AVCF's promotion of sustainable agricultural development can be identified through four channels[13]:

(a) *Productivity enhancement:* It plays a catalytic role in strengthening farm businesses and augmenting the productivity of scarce resources. When newly developed high-potential seeds are combined with inputs like fertilizers and plant protection chemicals in appropriate / requisite proportions, higher productivity is a natural outcome. Consequently, one can say that new technological inputs purchased through farm finance help to increase agricultural productivity. In India, green-revolution technologies, involving high-yielding varieties, application of chemical fertilizers and modern pest control methods, coupled with increased capital investments on farms and in institutional infrastructure, have fuelled structural transformation of rural areas. New technologies expanded agricultural production and induced demand for fertilizers, chemicals, and other purchased inputs. The rise in marketable surpluses led to increased marketing of agricultural inputs and outputs. More importantly, decisions about product choice and input use evolved from subsistence to a profit maximization orientation.

(b) *Enhanced farmers' income and investments:* Supply of reasonably priced loans and the creation of farm assets and farm supporting infrastructure by large scale financial investment activities can speed the adoption of technology, expand the production of food supplies, and increase farm incomes. Apart from leading to increased standard of living of rural masses, the increased farm income helps to protect the capital of the farm base from being depleted, as is often the case with poor farmers who resort to drawing down their farm capital to meet consumption. Moreover, when a reliable supply of formal finance is established, farmers may change their perceptions about the risks of investing in agriculture. They may also choose to invest more of their own funds knowing that their unused borrowing capacity will be available to meet future cash needs.

13 See Sharma, Srinivasan and other Workshop Presentations.

(c) *Balanced regional development:* Farm finance (financing of the farm as a production entity) can also reduce the regional economic imbalances and is equally good at reducing the inter-farm asset and wealth variations. Farm finance is like a lever with both forward and backward linkages to the economic development at micro and macro levels.

(d) *An Enabler of inclusive growth:* As agriculture is still traditional and subsistence in nature in many countries, agricultural finance is needed to create the supporting infrastructure for the adoption of new technology, building major and minor irrigation projects, rural electrification, installation of fertilizer and pesticide plants, execution of agricultural promotional programs and poverty alleviation programs.

2.5 Value chain finance (VCF) can enhance poverty reduction

Overcoming extreme poverty remains at the top of the development agenda in Africa and, according to the African Development Bank, this commitment is paying off but at a slower pace[14]. According to the Bank, recent evidence indicates that while poverty in Africa and in all the regions of the world declined over the period 2005-2010, there are disparities in the rate of decline between Africa and other regions. For example, between 1990 and 2008, the average rate of decline in the poverty headcount for Africa was nearly twice and three times lower at 9% relative to Asia's 15 percent and Latin America's 24 percent. Thus, despite the remarkable progress in fighting extreme poverty, Africa still lags behind other regions of the world and the decline in both absolute and relative poverty on the continent is considered too slow.

The poor are disproportionately concentrated in the rural regions of Africa with over 80 percent living in villages and peri-urban geographies (AfDB). Around 70 percent of the region's poor depend on agriculture as the primary source of livelihood (Food and Agriculture Organization of the United Nations - FAO), contributing to around a quarter of gross domestic product (GDP) in many African countries (AfDB). With the emergence of knowledge and service based economy, agriculture as a sector is losing its sheen across all developing economies, which are realizing a higher percentage of their GDP from the services and industry sectors. However, Governments across the world realize that enhanced focus on agriculture is required to make it an effective means of fighting poverty, as large masses of people in developing economies are dependent on agriculture for subsistence. Growth in agriculture GDP has a far-reaching impact on incomes of the poor as compared to growth in any other sector. There is an enhanced interest in using integrated VC approaches for agriculture to enhance its effectiveness, and to positively impact the poor.

Table 2.5:
Agriculture employment and its contribution to GDP in select developing countries*

Country	Population (millions)	% of population in agriculture	% contribution to GDP
India	1210	58.2	13.9
Bangladesh	152.4	54.0	18.4
Uganda	35.62	82.0	19.0
Tanzania	47.65	80.0	27.8
Kenya	42.74	75.0	19.0

*The figures in the table relate to the agriculture sector alone and not the entire Value Chain (VC).

Source: See Kumar, Workshop Presentation

Contribution to GDP (Table 2.5) is another factor to be considered. For example, there is a wide difference between the proportion of people depending on agriculture for their livelihoods and the agricultural sector's meager contribution to GDP. These figures indicate wide income disparity in these countries and the importance of agriculture in the equitable development from a policy perspective. Increasing production, processing, and export of agricultural products can be an effective way of reducing rural poverty in developing countries. According to the FAO, GDP growth from agriculture benefits the incomes of poor people two to four times more than GDP growth in other sectors of the economy. For a number of the poorest countries, particularly in Africa, the potential for export growth from the manufacturing and services sectors is still low. Therefore, for the short term, agriculture is the best hope for kick-starting growth and alleviating poverty.

14 http://www.afdb.org/en/blogs/afdb-championing-inclusive-growth-across-africa/post/poverty-is-on-the-retreat-in-africa-8996/

However, as argued by Amartya Sen (2000), poverty is not merely insufficient income, but rather the absence of a wide range of capabilities, including security and ability to participate in economic and political systems. The many poor who depend on agriculture lack access to affordable, quality and full-range of financial services that can be a potent means for them to move out of poverty.

The consequences of financial exclusion are far-reaching as lack of access to finance means that the poor deal entirely in cash, are susceptible to irregular cash flows and do not have access to any form of risk mitigation mechanism. For the poor producers, lack of avenues to borrow means recourse to informal sources such as local moneylenders and pawnbrokers, which results in the poor being charged exorbitantly high interest rates, limited funds available against security and difficult payments terms. Furthermore, as the poor do not have avenues to save, in cases of any lifecycle shocks, they are unable to repay the loans and lose on the property pledged to informal lenders. Thus, financial exclusion gives birth to the problem of credit inter-linkage with the few assets that are owned by marginal farmers and is a serious concern among low-income households, especially those in rural areas.

Lack of financing in agriculture is a vicious cycle, producers are not able to realize the full potential and hence produce much lesser than they can, and so, the total value creation is less. It impacts those who serve in the input stages as they will sell less seedlings, fertilizers and chemical; the processors as they will have less produce to process; and traders will have less to sell which spirals into the markets and consumption, thus, effectively adding to the inflationary trends. The net effect on the overall economy is reduction in GDP. Expanding access to finance to the financially excluded poor, dependent on agriculture, creates employment, causes economic growth, supports poverty reduction efforts and increases social cohesion, thus, impacting an increase in GDP and the condition of the overall economy.

AVCF supports national poverty alleviation efforts by (i) creating economic opportunities (through improved business environments and access to larger regional and global markets); (ii) enhancing the options for the poor and empowering them to be able to seize the opportunities (through availability of finance, as well as access to technology and capacity building as well as increased productivity of the poor's most valuable asset, which is labor); and (iii) addressing the risks and vulnerabilities of the poor farmers that can wipe out their assets or affect their ability to work or run an enterprise.

2.6 AVCF improves financial inclusion in the agricultural sector

Financial inclusion in the conventional sense aims to bring in those households and enterprises that are presently unable to transact their service requirements through the formal financial institutions. An examination of the African financial sector landscape shows that there is a significant financial intermediation deficiency (Box 2.3), and the excluded households are more likely to be in rural areas, despite the vigorous growth of the institutional infrastructure and outreach of services.

Small farmers who do have access to bank loans frequently find the terms to be too rigid, the amounts too small or fees too high to permit the kinds of investments that can significantly increase production. As a result, they often borrow from informal sources (family, friends or moneylenders) that typically charge high interest rates and have limited potential to expand.

Besides, most credits flowing to agriculture, whether from formal or informal sector, have been short-term and to some extent medium-term. Generally, short-term finance does not have significant impact on farm cultivation and, therefore, does not improve overall output and incomes. Low productivity, combined with very limited on-farm processing, forces farmers to sell their produce in unfavorable market conditions at low prices. At the same time, the smallest of farms do not have the resources to improve productivity and benefit from the different schemes of government. In many African countries, India and some other developing countries, availability of bank credit is the gateway to avail several benefits such as interest subsidy on credit, investment subsidies linked to credit, crop insurance and participation in VCs. Thus, inclusive growth is closely linked to financial inclusion for the farming community.

A more important part of inclusion is the design of products and processes that match the needs of the farmers. These needs reflect the compulsions of the crop sector in which they are engaged and consequently, the VC activities. Ordinarily, banks will not invest adequately in understanding the nature of demand and the nuances of the different VCs. This lack of information leads to the design of financial products that are not appropriate to most rural activities.

Box 2.3: Features of the Financial System in Africa

The key features of the financial sector in Africa, and which also impact on the provision of VCF, especially among the low income countries in Sub Saharan Africa, include:

- ***the small size of the sector,*** as measured by the absolute size of liquid liabilities and the ratio of liquid liabilities to GDP. Many African financial systems are smaller than a mid-sized bank in Continental Europe, with total assets often less than $ 1 billion. This, among other things, can prevent banks from exploiting scale economies or undertaking large investments into technology, especially those with high fixed costs;
- ***the shallowness of the sector:*** Financial depth and efficiency, as measured by credit extended (private credit to GDP) is low. Ratio of liquid liabilities to GDP average 32 percent in Africa compared to 49 percent in East Asia and Pacific and 100 percent in high-income countries, while the ratio of private credit to GDP average 18 percent in Africa compared to 30 percent in South Asia and 107 percent in high income countries. The low credit compels Micro, Small and Medium Enterprises (MSMEs) to rely less on bank financing than on internal funds and microcredit;
- ***the high exposure to economic and socio-political shocks,*** including crop failures, sharp changes in prices of traded commodities, civil unrest, and unexpected changes in government or government policies not only limit the time horizon of savers and investors alike, but also reduce the incentives of banks to lend long-term;
- ***the high incidence of informality,*** especially lack of documentation and formal contracts in personal, professional and business transactions, which also accentuates information asymmetries already prevalent in the system, excludes many households and micro-entrepreneurs from the credit markets;
- ***governance and regulatory deficiencies,*** including weaknesses in the contractual framework, high degrees of corruption, risks of expropriation, lack of capacity of the regulatory institutions and inefficient bureaucracies as well as information asymmetries limit the extent to which the benefits from financial sector reforms can reach the majority; they also explain the focus on short-term transactions rather than long-term commitments.
- ***intermediation deficiency:*** The inefficiencies, high risks and lack of effective competition result in expensive banking services, reflected by high interest rate spread and margins, high minimum deposit requirements, and high lending interest rates. Meanwhile, banks, which dominate the system, remain highly profitable and liquid.
- ***the dominance of the banking sector,*** which underlines the importance of encouraging banks to be involved in VCF. However, bank lending in general is still heavily geared towards the short end of the market for various reasons: bank balance sheets are dominated by short-term deposits; banks face acute problems of lack of information about creditworthiness of potential clients and difficulty of enforcing contracts and creditor rights that increase the risk of loan default. Weaknesses of the legal system (laws, registry, operation of courts), especially regarding property rights, limit the number of creditworthy borrowers and the capacity of financial institutions, and other deficiencies in the governance structure in many countries (high degrees of corruption, the risk of expropriation and inefficient bureaucracies).

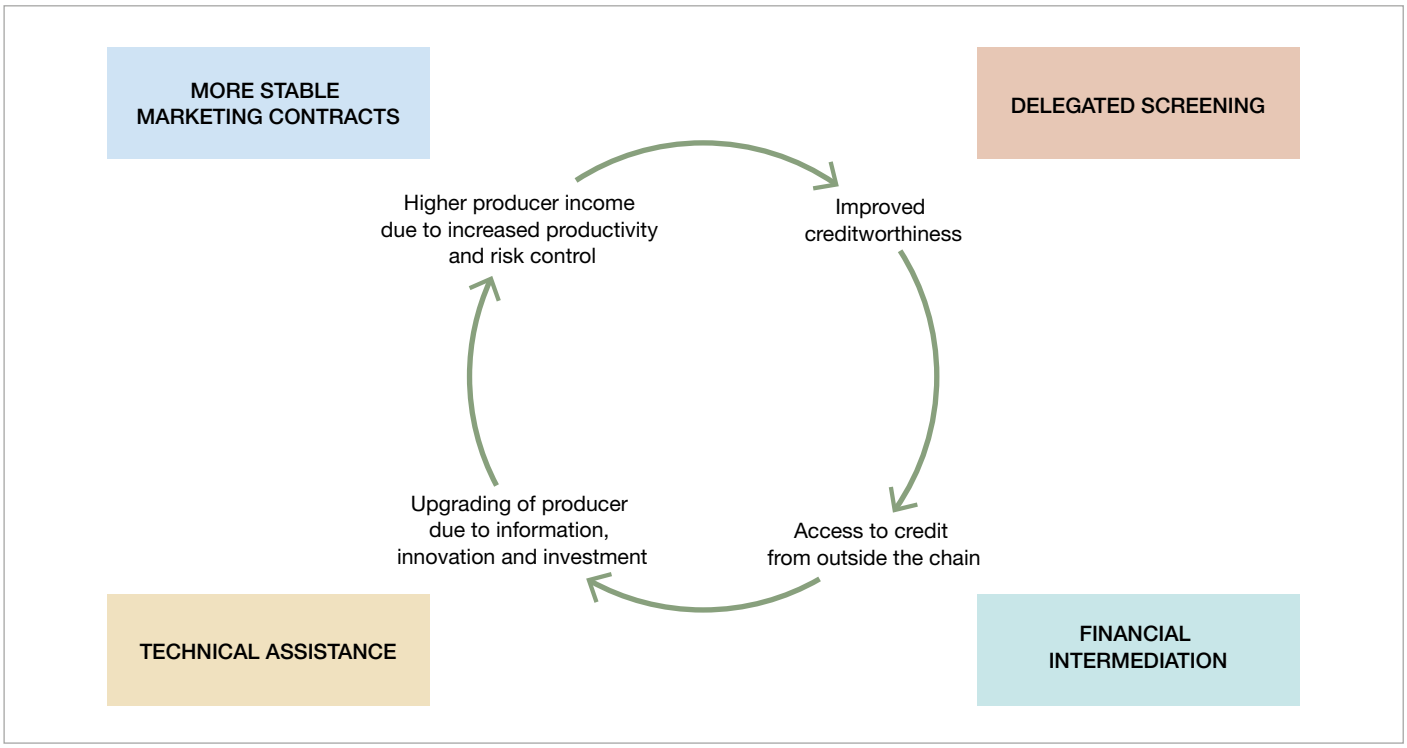
Source: AfDB: Financial Sector Policy, Tunis, 2003; Honohan and Beck (2007); and UNOSAA: Overview of Microfinance in Africa, New York, 2011.

Table 2.6:
Specific causes of financial exclusion for the small farmer

Demand-side	Supply-side
• Small sizes and unregistered formats, very little documentation, accounts not properly audited, incomes are suppressed to evade tax and a general state of records that will not give bankers the comfort to lend; • Weak organizational capacity, geographical isolation and lack of basic business skills, human resource management, and marketing for agro-based enterprises; • Complexity of businesses – agro-based MSMEs are complex to assess and appraise as they fall out of the pack of traditional businesses financed by banks; • Stagnating productivity, decline in cropping intensity and yield; ■ Fragmented base of producers; • Disguised unemployment and low labor productivity; • Lack of irrigation potential; • Inadequacy of post-harvest management practices leading to wastage of commodity; • Lack of considerable investment in infrastructure; • Inadequate integration of VC; • Insufficient cash flow information and poor recordkeeping by producer and poor financial management; • Seasonality in businesses leading to suitability of non-standard and irregular repayment schedules; • Lack of collateral due to lack of or poor quality of farm assets and non-enforceability of security due to lack of land and property rights; • Volatility in prices of commodities and poor market opportunities for crops; • Inadequate or lack of access to extension, seed, irrigation, fertilizer, etc.; • Inability of clients to prepare viable project proposals;	• High covariant risk correlation, when lending to farms: all borrowers are affected by the same risks, such as low market prices and reduced yield due to weather; • Underdeveloped communication and transportation infrastructure; • Small size average farm, low population density, higher loan servicing costs due to limited volumes and high information costs; • High cost of credit coupled with lack of collateral and collateral substitutes; • Lack of technical knowledge at the bank level to evaluate and analyze the creditworthiness; • No specialized product offered by the financial intermediaries to better meet the financing need of the agricultural sector; • Lack of a robust business model, flexible products and delivery processes which support agro-based enterprise financing; • Agriculture perceived as low-margin business by financiers; • Lack of availability of products that meet the needs of appropriate, adequate and timely credit; limited access to equity capital – venture financing in traditional agro-based MSMEs industries is non-existent and availability of risk capital is very difficult despite a plethora of government-supported schemes; • Lack of appropriate risk-mitigation measures and mechanisms; • Lack of infrastructure such as bank branches at the 'last-mile'; • No branches or limited network in rural areas; • High transaction costs due to wide client dispersion and less developed infrastructure.

Source: Langenbucher 2005; IBA 2011; as well as Sharma, and Madu, Workshop Presentations.

Figure 2.4
The virtuous circle of poverty



Source: Geoffrey Chalmers, FAO Conference.

Thus, agricultural finance is more than just finance; financial services need to be linked or integrated with other services including input supply, post-harvest and storage, processing, marketing, research and technology, training and extension, among others. VCs in agriculture play a vital role as an approach to minimizing costs and risks of financing the agriculture sector. Thus, VCF is a potent tool for banks and financial institutions to design tailor-made financial services needed by the agriculture sector. The benefits of VC financing approach to expand access to finance to the agriculture sector are, reduced transaction costs; improved product quality and delivery; safer, longer lasting relationships between players; and provision of a general framework to facilitate communication, problem solving, efficiency and improved market competitiveness. On the supply side, AVCF can improve the quality and efficiency of financing agricultural chains by: (a) identifying financing needs for strengthening the chain; (b) increased funding coming from suppliers and agribusinesses directly involved in the chain; (c) tailoring financial products to fit the needs of the participants in the chain; (d) increasing credit worthiness, since participation in the chain can enhance the security of loan repayment; (e) reducing financial transaction costs through direct discount repayments and delivery of financial services; and (f) using value chain linkages and knowledge of the chain to mitigate risks of the chain and its partners (Calvin Miller, 2011).

Thus, the AVCF offers an opportunity to expand the financing space for agriculture by improving efficiency, ensuring repayments, and consolidating VC linkages among participants in the chain (see Figure 2.4).

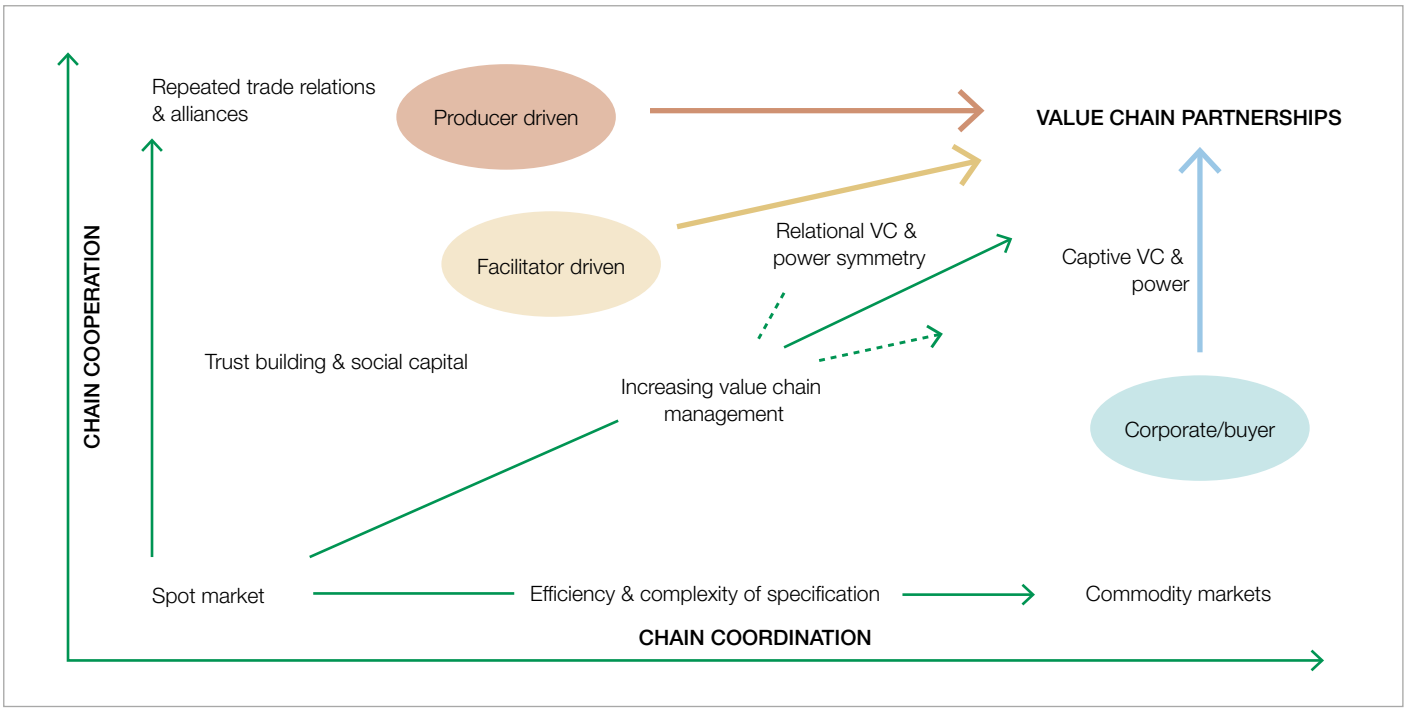
3. Models and drivers of Agricultural Value Chain Finance (AVCF)

3.1 Introduction

Although AVCF consists of different players, understanding of the business model is extremely useful in identifying how the benefits from VCF can be maximized. A business model is the way by which a business creates and captures value within a market network of producers, suppliers and consumers or "what a company does and how it makes money from doing it"[15]. In these cases, as in AVCF generally, the interest is on those models that improve the inclusiveness, fairness, durability and financial sustainability of trading relationships between small farmers and downstream agribusiness (processors, exporters and retailers). Critical to growth of inclusive agricultural business models is the ability to address costs associated with dispersion of small scale producers, diseconomies of scale, poor access to information, technology and finance; inconsistent volume and quality, lack of traceability and management of risk. Key to overcoming these costs and risks is cooperation and coordination – the two main features of VCs. The *cooperation* attribute puts emphasis on social and developmental goals and on equitable distribution of value along the VC. *Coordination* instead, is a concept that prioritizes the entrepreneurial capacity of chain actors in conducting a competitive business activity[16]. It emphasizes efficiency in resource allocation without necessarily factoring in distributional issues. These features of chain governance can be visualized in a bi-directional map as in Figure 3.1.

As agribusiness develops and the proportion of business

Figure 3.1
Trajectories of increasing cooperation and coordination chain coordination



Source: Muragu and Lydia Ndirangu, Workshop Presentation, an adaptation from Poole & de Frece (2010) and Guidi (2011).

15 http://process.mit.edu/Info/eModels.asp

16 This introductory section is based on Muragu and Lydia Ndirangu, Workshop Presentation.

transacted in spot markets declines, organizational and institutional innovations are necessary in order to mitigate the uncertainties arising through more complex contractual arrangements. Smallholders may move away from spot transactions along the vertical axis of cooperation in a process of transaction repetition with the buyers, building trust and strengthening social capital. Moving along this axis, the marketing related transaction costs of smallholders tend to be mitigated by the formation of collective farmer organizations. On the upstream side, the organization of collective farmer institutions reduces the transaction costs related to inputs, technology and procurement; on the downstream side, it reduces those of post-harvest and commercialization through economies of scale. The established trading relations decrease the transaction costs related to searching and screening market partners and those related to contract enforcement through peer pressure. By reducing risks and costs, cooperation can thus lead to the generation of sufficient demand for services, especially finance, to stimulate significant investment for the chain.

The focus along the horizontal axis is on a professionally conducted vertical coordination of the whole VC functions with the ultimate goal of reaching or maintaining a competitive advantage on the agricultural markets. The emphasis on efficiency streamlines the commercial chain activities. The primary motive for organizing the VC business model is related to securing a certain volume of supply, with specific quality grades and safety standards. At the same time, the coordination of production and commercialization functions allows the interface with intermediary institutions that reduce the transaction costs related to aggregating the supply from small and dispersed producers, monitoring compliance to quality standards. Moving along the coordination axis, buyers' transaction costs related to seasonal variability or consistency in quality and the related monitoring costs all tend to go down with the increasing complexity of transaction specification (Delgado, 1999). The smallholder farmers' business risk in terms of price volatility is also reduced through contracts and as a consequence, transaction costs related to market monitoring and contract negotiation, for instance, tend to decrease.

The move along the vertical axis can also be thought of as development of organizations and relationships, while the horizontal move represents development of institutions and regulations; that is, the rules (Poole, *et al*. 2010). Harmonization of both features would bring about a process of development along the diagonal axis of progressive VC partnership, according to a growth cum equity principle or inclusive growth. Various circumstances and constraints along the VCs lead to different business models positioning themselves in different parts of the cooperation-coordination quadrant[17]. It is such constraints that VCF is aimed at easing so as to aid the move towards the ideal balance of sustainable agriculture VC partnerships. The models above the diagonal axis tend to be characterized by high information symmetry due to relatively high levels of trust. Those below this axis have higher information asymmetry and can be described as captive models. Each case study highlights how organizational and/or institutional innovations have facilitated leveraging of financial and other business development services on VC relationships, thus, enhancing the move towards sustainable performance of the VC.

3.2 AVCF Models[18]

The models can be characterized by the main driver of the VC and the rationale for promoting the chain. The different models for VC business are represented in Table 3.1.

A. Producers' driven model

Producers driven model works on the rationale of reaping the economies of scale and bargaining power for higher price. Since small scale producers are always at the receiving end in the marketing system, it is in their interest to join hands with other farmers to market the bulk quantity. This model invariably leads to the formation of some kind of producers' association (co-operative or producers' company), where the association becomes the driver for VC promotion and its development. The association provides technical assistance, marketing, inputs and linkage to finance.

17 Vorley, *et al*. (2008) describes four types of organizational models for smallholders: Producer or the association driven model, buyer driven, facilitator driven and integrated models.

18 Based on Sharma, Workshop Presentation.

Table 3.1:
Typical organization of smallholder production

Type	Driver of organization	Rationale	Examples
Producer driven	■ Small-scale producers, especially when formed into groups such as associations or co-operatives ■ Large-scale farmers	■ New markets ■ Higher market price ■ Stabilize market position	■ Indian Organic Farmers' Producers Company
Buyer driven	■ Processors ■ Exporters ■ Retailers ■ Traders, wholesalers and other traditional market actors	■ Assure supply ■ Increase supply volumes ■ Supply more discerning customers	■ Hortifruti; ■ ARUDESI
Facilitator driven	■ NGOs and other support agencies ■ National and local governments	■ Make markets work for the poor' ■ Regional development	■ Technoserve
Integrated	■ Lead firms ■ Supermarkets ■ Multi-nationals	■ New and higher value markets ■ Low prices for good quality ■ Market monopolies	■ BRAC Integrated ■ Agave farming, ■ Chestnut Hill Farming

Source: Adapted from Miller and Jones (2010).

Box 3.1: Example of Producers' Driven Model: Indian Organic Farmers Producer Company Ltd.

The Indian Organic Farmer Producer Company Ltd. (Kerala, India) is a company of farmers producing organic products incorporated under the Indian Companies Act, 1956 (No.1 of 1956), under Part IXA at Kochi, Kerala, India on 10 September, 2004. They are the first company incorporated in India, which helps the producers with cultivation, warehousing, finance and procurement. They are dealing with farmers producing cashew, coffee, cocoa, coconut, and black pepper. Producers with organic certification are only eligible for membership of the company, where patronage for one share is fixed at INR 40,000 (US$ 850). Thus, the holder of one share can market his/her own organic products worth a maximum of INR 40,000 (US$ 850) through the company.

The company provides advice to farmers on mapping and assessing resources (mainly soil and water), sustainable resource utilization and scientific production methods. The company markets organic products after branding. 'Healthy People, Wealthy Farmer, Healthy and Wealthy Nation' is the motto of the company. One of the company's future plans is to attract environmental funds from farmer-friendly groups abroad who are interested in supporting fair trade.

Source: Manoj K. Sharma (Workshop Presentation).

Box 3.2: Examples of Buyer Driven Models

1. Case of Hortifruti. Costa Rica

Hortifruti is an institutional buyer in Costa Rica that consolidates products from many different small-scale farmers who are its suppliers and sells the bulked produce to supermarkets. It provides an example of a complex set of financing mechanisms that work together to support a VC. The agreements between the lead firm, Hortifruti, farmers and processors enable them to access finance from banking institutions such as BAC San José. Hortifruti also directly provides financing and/or guarantees in other VCs as shown below:

Hortifruti financing models

i. Bank financing for rice growers

Hortifruti: Guarantees purchase of crop under contract; contracts provide assurance to BAC San José bank for financing of rice growers.

- *BAC San José Bank:* Finances 60 percentof production costs; requires no collateral pledge; requires crop insurance coverage.
- *Suppliers*: Provide in-kind financing of 35 percent of the production costs in the form of farm inputs.
- *Processor:* Upon receipt and payment of rice, debits the farmers' accounts to pay first the bank and suppliers, with part of the sales proceeds of the crop.
- *Farmer:* Signs pledge to deliver crop to rice mill; thus becomes more creditworthy with BAC San José Bank.

ii. Non-bank financing for rice and bean growers

- *Hortifruti:* Guarantees purchase of crop under contract and (a) Provides assurance to BAC bank for financing of rice growers, and (b) Finances farmers directly, using company resources (30 percent of production cost); charges no interest (pays advance on purchase of the crop).
- *Suppliers:* Provide in-kind financing of 35 percent of the production costs in the form of inputs (agrochemicals, seeds, and small equipment).
- *Processor:* Upon receipt and payment of rice, debits farmer's account to pay the bank and suppliers, with part of the sales value of the crop.
- *Farmer:* Signs pledge to deliver crop to rice mill; becomes more creditworthy with BAC San José Bank.

2. Case of ARUDESI, Uganda

In Uganda, *ARUDESI* has been able to work with 8,000 farmers to organize 600 farmer groups, consisting of 30 farmers per group. These farmers were able to market a total of 1,200 metric tons of green coffee in the last 3 years, increasing income of an average of 40 percent over equivalent green coffee at farm gate price.

Source: Miller and Jones (2010).

Box 3.3: Examples of Facilitator Driven Model:
TechnoServe Facilitating Chain Development in Malawi and Tanzania

TechnoServe, a not-for-profit development agency demonstrates how an external agency, acting as a market developer, can facilitate the development of a chain through interventions at various levels. TechnoServe utilizes various business models to enhance smallholder incomes through: processing business, supply business and out-grower models.

1. **In Malawi,** TechnoServe is facilitating the seed industry VC in response to severe financing gaps in agribusiness in Southern Africa which is characterized by asset finance needs and working capital needs. The reasons for a lack of access to finance, especially by startup businesses and early stage expansions have mainly been shortage of risk capital and poor business management capacity.

   TechnoServe has developed the following three-pronged business model to address the needs in the seed chain:

   i. Processing businesses—facilitating enhanced value addition and farmer linkages.
   ii. Input supply businesses—facilitating access to improved seeds, fertilizers and production technology.
   iii. Farmer businesses—facilitating farmer integration into the seed production, processing and marketing chain through farmer organization, training and outgrower contracts.
   iv. By addressing the whole chain, TechnoServe is able to secure a market for the young seed businesses and a more secure repayment of the financing.

2. **In Tanzania,** TechnoServe helped to create Kilicafe, an organization that is now owned by 9,000 smallholder farmers. It works with local and international financial institutions to design financial products that serve those in the VC. These products range from short-term input credit and sales pre-financing to multi-year loans used by farmers to invest in centralized processing facilities. Credit is guaranteed through a variety of innovative ways, including private guarantee funds, warehouse receipts, forward sales to specialty coffee buyers. These included: Long-term financing for processing infrastructure, secured by fixed assets and marketing agreements. Short-term financing for working capital, advance payments to farmers and agro-input credit, secured by guarantee funds, warehouse receipts, marketing agreements and price risk management.

   However, initially, the local banks did not understand the business model and its risk mitigation measures, and they did not also accept coffee as collateral. The financial arrangements built according to the VC were only possible due to significant initial support from TechnoServe to both the banks and the clients; developing business plans, monitoring performance and providing operational assistance until credit worthiness is fully established.

Box 3.4: Examples of Integrated VC Model

1. *BRAC Integrated Services Model:* BRAC is the largest NGO in the world, At the centre of the BRAC approach are over 170,000 village organizations (VOs), each with 30-40 mostly women members, that are set up to provide social support and microfinance services. These village organizations meet weekly to receive training, distribute loans, collect repayments and savings contributions, and raise awareness on many social, legal and personal issues affecting the everyday lives of poor women.

Building on this model, BRAC is directly engaged in businesses, which were needed to support rural enterprises engaged in commercial agriculture production, input supply, marketing, processing and transportation. As an example, BRAC businesses include: 6 poultry farms for supplying day-old chicks, 3 feed mills, 2 seed production centers, 2 seed processing centers, 15 nurseries and 12 fish or prawn hatcheries also with the purpose of strengthening the respective VCs. Together, its business model aims at ensuring an integrated set of services for its clients. Key issues in agricultural activities for BRAC are:

- Creation of basic awareness and provision of training for farmer.
- Development of village-based technical service providers.
- Ensuring an adequate supply of quality inputs together with support of extension workers/agents.
- Assurance of market access of farmers.
- Provision of appropriate loan products to farmers to meet their specific demands.
- Development of linkages to and among different VCs.

2. *Processor finance for agave farmers, Mexico:* Agave is a raw material that is grown by smallholder farmers, and is a key ingredient in the production of tequila. Agave production is an interesting example of a VC, since it is a highly complex activity by comparison with the average farm commodity. It is highly cyclical, grown mainly by small-scale farmers with little access to formal financing, and affected by wild price swings. As such, a banker is unlikely to take on the risk of financing an agave grower. However, the same banker is willing to consider and handle financing for a tequila producer that will use the money to take on the six-year risk of financing a farmer, because he/she understands the VC and how it works. The banker does not take the risk directly, but provides financing to a company that will take the risk of lending money to the farmer. In other words, the banker will finance a client who needs to guarantee his supply of raw material to keep his own business running. In particular, most tequila producers understand the farming risk because most of them also have their own crops. In a case such as this, the financial institution understands that access to raw materials is a critical factor for the success of the end business. Nevertheless, the bank is not willing to take the risk of financing the primary producer. The flow of financing takes place, in the end, because the farming risk is held by the tequila distiller, who can manage it better than the banks.

3*. Marketing company finance, Costa Rica:* Chestnut Hill Farms market, and in some cases produce, asparagus, mangoes, melons and pineapples from Arizona, Brazil, California, Costa Rica, Ecuador, Guatemala, Honduras, Peru and Puerto Rico. Its customers are supermarket chains in the United States. Over the past five years, the company has also been selling to the fresh processed fruit and vegetable sector and supermarket chains in Europe, as well as wholesalers. Its main objective is to add value to production, packaging and marketing. The company began with pineapples in Costa Rica in 2002, when exports were running at one or two containers per week; by 2006, it had risen to 70 containers. One reason the company achieved this kind of growth was that it was in the right market at the right time. There was no overproduction, and in general, both production and market risks were low. Another reason is that the company gives financial advances. A budget is drawn up before planting begins, and the money is disbursed gradually as planting progresses. Chestnut Hill Farms also provide agricultural inputs and participate in investments in equipment, infrastructure and materials. Funds are delivered against shipping documents, once products have arrived safely. Each different case requires a separate analysis before partnering and financing. Chestnut Hill Farms is not a financial entity, but it has learned to read signals about where it can and should take risks with the farmers.

Although, producers' driven models act in the best interest for the small farmers, but the major limitations and challenges are:

- Lack of understanding of the producers about the market.
- Producers lack the organizational skills.
- Producers may lack technical and financial resources to produce the high quality and quantity required in the market.

A large number of failure cases of agricultural marketing co-operatives in India is a clear testimony of these limitations and challenges.

B. Buyer driven model

The buyers' interest to procure a certain flow of product is the basic foundation of the buyer driven model of AVC. Finance is used to get the commitment of the producers to sell the required quantity and quality of the agricultural commodity at the appropriate time, in an affordable cost price. This is achieved through developing suitable contracts between buyer and seller. Contract farming is the most common buyer driven VC model in agriculture commodities.

However, contract farming is also plagued with a serious problem of side-selling by farmers, if the prices in the alternative market shoot up drastically. Besides, the farmers are dependent on a single buyer who may later on become monopolistic or may lose the interest in the relationship with the farmers.

C. Facilitator driven models

The basis of the facilitator driven models is that development agencies (government or non-government) have a social mandate and can provide the required support to promote VCs integrating small farmers and agro-enterprises.

D. Integrated Value Chain (VC) model

The fourth business model is the integrated VC model, which not only links the producers to other players in the chain, but also integrates many of these through ownership and/or formal contractual relationship. Full vertical integration exercised by supermarkets is a classic example of this type of model. Other examples are integrated service models led either by a financial entity or by a facilitating agency.

3.3 Drivers of sustainable agricultural finance models

The VCF model is not a panacea. Much depends upon the sustainability of VC itself. While approaches and applications vary, most VC approaches have several common characteristics, including: a market perspective; a focus on end markets; a recognition of the importance of relationships between different links in the chain, attention to improving value generation for the different participants in the chain and, empowering the private sector. Thus, the sustainability of the VC depends on the internal arrangements or linkages among the various operators. Hence, the stronger the links, the more secure will be the flow of products and services within chain. In this regard, it may also be said that the chain will be only as strong as its weakest link. Apart from the internal arrangements, the sustainability of the chain will also be driven by external factors such as the business environment, especially the availability of support services, including the policy and regulatory environment, and the legal and contractual systems. However, it is important to recognize four key factors which determine the sustainability of the VC over a period of time. These factors are explained below:

A. Sustainability of the various operators, especially the small holders in VC

As explained above, the smallholder producers tend to be the most disadvantaged in the VC. They often constitute the weakest link. Therefore, their sustainability is very crucial in determining the sustainability of the AVC. However, they undertake various activities (as simple chain actors, specialized chain actors, multi-activity chain actors, or market lined) that confer different strengths and raise varying needs.

Majority of the farmers in developing countries operate as simple chain actors performing only production of the primary (or raw) agricultural commodity. As a result, they have negligible or no control over VC. These farmers do not produce as per the need of the market both in terms of quality and quantity (see Box 3.5). They require farm extension services and finance to improve their skill and capital resources, and be able to produce as per the market need by having more marketable surplus of required quality.

The farmers who act as specialized chain actors produce cash crops (for example, banana, mango, basmati rice, etc.), and because of the quality of their produce, they are better able to exert control over VC, due to better bargaining power. However, they may still not be linked to the end market and often depend on traders to dispose of their produce. These growers need market information so as to negotiate with the local traders for a higher income. There is a need to develop partnership between these growers and market intermediaries for mutual benefit.

Box 3.5: Some of the challenges of smallholder farmers in Africa

- The disadvantaged smallholder farmers in Africa have not been given the support they need to flourish.
- Donors and governments have neglected this group, both through their approach to agriculture, and the dramatic decline in public finance allocated to support agricultural livelihoods.
- African governments often do not give agriculture a high priority and tend to view rural areas as sources of political and economic patronage rather than as a focus for development efforts.
- Scientific research has generally been mono-disciplinary in its approach, mainly focusing on single crops. As such, it has failed to adequately address the complexity and diversity of small-scale farming systems.
- Farm extension services, which should engage with the needs of disadvantaged smallholder farmers in Africa and serve as a link to the scientific community, are underfunded and under-staffed and have failed to move beyond a top-down technology transfer approach.
- Governments have failed to prioritize policy and legal changes, financial support and institutional innovations that would turn small-scale farming systems into a commercially viable livelihood in the longer-term. Instead, they have assumed that agricultural growth in favorable areas will be sufficient to generate more employmentin agriculture and produce more food, which will compensate for the lack of progress made in disadvantaged areas and by marginalized farmers.
- The continuing miniaturization of small farms makes it difficult to provide viable farm incomes to support a family, especially from food staples and other low value products.
- Rapid integration and globalization of food market chains that have opened up new high value opportunities for some farms, but made market access more difficult for many disadvantaged smallholder farmers due to high transactions costs and the need to meet credence requirements.
- Globalization has exposed disadvantaged smallholder farmers in Africa to greater competition from international trade, and to lower prices. The small farms are being squeezed out of their traditional food crop markets in urban and coastal areas by cheaper imports, while being undercut in their traditional tree crop export markets by new competitors from Asia.

Source: Madu, Workshop Presentation

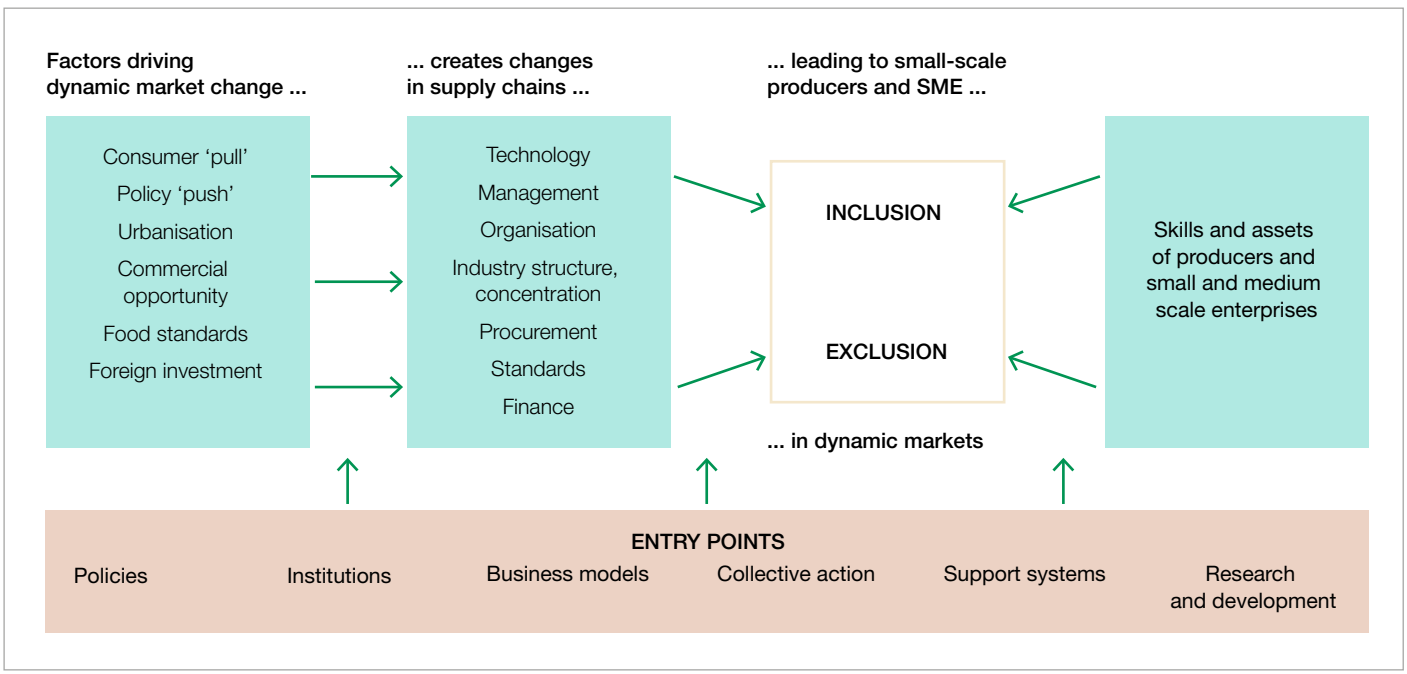
The multi-activity chain farmers are not only involved in production process but also in other activities of VC like grading, primary processing, and local marketing. Still, these farmers may not have much influence on the management and control of the chain. They mainly sell their produce to big traders and processing industries. These farmers primarily require group-based approach so as to increase their bargaining power with economies of scale in their operations.

Farmers who are market linked are the best actors in the chain as they perform multiple activities (in terms of marketing, transport, production and processing) and also enjoy large control over the VC. They understand the need of the market and are also directly linked to the market. However, the number of such farmers is limited particularly in developing economies.

B. Availability of support services

There are various external factors (push and pull factors, technology, regulations and standards) that may affect the challenges and opportunities of the AVC. The ability of the AVC to seize the opportunities or address the challenges will also depend on the support services such as in form of farm extension, finance, market information, identification of end market, promotion of collective organization etc. in addition to appropriate policy and regulatory frameworks if the VC will be sustainable (see Figure 3.2). Thus, the sustainable VC requires support and collaboration among different players like financial institutions, agriculture extension agencies, processing industries and government, non-government and international development agencies. It also requires engendering the benefits for all participants (Box 3.6), which would also depend on pursuing the right strategies in line with country circumstances.

Figure 3.2
Support services for inclusion of small scale producers in dynamic markets



Source: L. Digal: Linking small-scale producers to high value markets: the role of technical assistance and credit, in S.E. Asia Value Chain Conference

C. Contractual arrangements

Linkage between different players (both vertically and horizontally) also affect the sustainability of the VC – it determines not only how strong the internal links can be, but also to what extent the VC can benefit from the support services. The efficient linkages can, therefore, generate a higher value in the chain while reducing cost and inefficiencies. The contractual arrangements between these players are crucial in determining the kind of linkages that develop. These contractual relationships may be classified as spot market based, informal trust based, or contracts based relationships.

Spot market based relationships are prone to various risks (price, quantity, quality) as the transactions between different players are undertaken based on market demand and supply conditions. As spot market is highly volatile, a VC based on such market-based relationship cannot be sustainable. Moreover, both seller and buyer have to incur a lot of cost in searching the market particularly in the situations when market arrivals of agriculture commodities are not known or authentic information on quality and quantity of product are not available. On the other hand, informal trust based relationship between buyers and sellers are very specific to persons and cannot be generalized in all conditions. Therefore, the need to develop proper contracts between different players in the chain and, more importantly, to make sure that each and every player commits to the contract. Contract farming is considered as the best alternative, but there are risks associated with contract farming if the contracts are not honored either by growers or by the processors.

D. Exogenous factors

There are also several situations that particular AVCs may have to take as given, because the VC cannot change them and sometimes even the country cannot change them in the short to medium term. These are exogenous factors. They are important to know but are not often the subject of extensive discussions in knowledge exchanges. ‘Exogeneity’ prevails at a number of different levels. It prevails in initial conditions in the different countries which reflect many kinds of diversity—varying degrees of progress in increasing agricultural productivity, diverse levels of consumer income and preferences, and financial systems with varying degrees and patterns of development. These differences, in turn, reflect both the geographic conditions and the factor endowments that determine comparative advantages for certain types of products. They reflect cultural and historical determinants that shape the organization of production, and they respond to varying degrees of emphasis placed on developing human capital and on building infrastructures and institutions to facilitate communication and specialization. Finally, these differences are the result of dissimilar approaches to public policy and intervention in financial and non-financial markets.

Box 3.6: Engendering benefits for all

Gender inequalities affect the ways in which VCs operate at all levels. Women are important as producers, workers and traders in most VCs, supplying national and international markets with both traditional and high-value products. In SSA, women also dominate informal cross-border trading of the agricultural produce and manufactures. Yet, there is evidence that women are often excluded from the more profitable parts of agricultural and manufacturing chains. Women traders and women-owned businesses face many more constraints than those run by men, and have more limited access to financial and other services. Low incomes, lack of control over incomes and gender discrimination in access to credit and training reinforce a cycle, whereby women are excluded from enhancing their participation and benefits in VCs. Promoting gender justice can result in 'win-win' situations, benefiting the community, enterprises and national economies.

Promoting women's brands and co-operatives

Many VC analysis recommend setting up women's co-operatives in economic activities dominated by women such as cultivation and retail trading (including cross-border trading). Evidence shows that these are only likely to succeed if women's property rights, access to finance and training are paid due attention. Where this is done, it is possible to set up co-operatives, or specific women's brands, in order to establish women as effective and competitive producers and traders in their own right.

Addressing underlying inequalities

VC interventions will have limited success unless they address the underlying inequalities and discrimination that cause women's, and poor men's, lack of negotiating power and vulnerability within VCs. It is therefore increasingly argued that gender mainstreaming is needed at a number of interlinked levels, all of which directly affect the effectiveness of VC development.

- *Household and community:* to address gender inequalities in terms of power and access to resources, including rights to land and other assets, incomes, division of labor, violence and social constraints on women's mobility.
- *Markets:* to remove gender discrimination in access to inputs, land, employment and the ability to trade freely and participate in management of markets.
- *Policy level:* to reinforce all of the above through legislation backed by legal and regulatory systems, including for co-operatives, property, labor rights, gender-based violence, as well as improved social support through both market-based and public services, and taxation.
- *Institutional level:* to integrate gender analysis into all VC analysis, to remove gender discrimination in access to financial services (enabling women to graduate from small savings and loans) and training, to integrate gender issues into services for both women and men, and to increase women's meaningful participation in economic decision making and planning at all levels

'Win-win' situations

The benefits of a gender focus to producers and enterprises within the chain are considerable.

- At the community level, women and men can develop their visions of a happy future together, by analyzing the gender opportunities and the constraints that prevent them from achieving this, and developing personal and livelihood development plans to move forward.
- At the enterprise level, where women are empowered and organized, they are more able to produce high-quality goods and manage their livelihoods so that they are more flexible to market demand.
- At the national level, when over half the population is not able to work efficiently because of cultural, ideological and/or political constraints, economic growth is inevitably undermined. The productivity benefits of addressing gender inequalities in VCs for major commodities like coffee or cross-border retailing, where women do most of the work, should therefore be obvious.

Source: Adapted from article in Broker, Issue 16, 2009, by Linda Mayoux, global consultant for the Women's Empowerment Mainstreaming and Networking (WEMAN) program, the Netherlands.

4. Sources of funding and related support systems for AVCF[19]

4.1 Introduction

A typical AVC (Table 4.1) comprises of producers, traders or aggregators, processing/packaging, and marketing. Each VC actor has distinct characteristics and financing requirements. A producer will require finance for farm investments or inputs, while the requirement for those engaged in processing/packaging will require a large long-term credit and equity for investments in plant, machinery and buildings. The requirements will vary for different actors within each category as well. For example, the need for finance will vary between the large farmer and marginal farmer, depending upon the farm size. A large farmer will require higher credit to purchase heavy machinery, while the marginal farmer will require credit to purchase inputs like seed, fertilizer, and pesticide.

VC financing of the above finance requirements is not new; however, its application has now expanded significantly in new ways, reflecting certain characteristics of the AVC. Three of these characteristics are particularly important for the discussion of AVCF. Firstly, there is the growing integration and concentration of supply chains, giving some chain-linked partners the ability to provide some of the financing towards enhancing the overall health of the supply chain. The efficient mobilization of working capital within chain linked commercial structures in particular has, therefore, become an increasingly important competitiveness enhancing tool.

Secondly, the VC raises the creditworthiness of the various participants. Therefore, financial organizations can look beyond the past performance and balance sheets of individual participants for assessing loans and providing financial services. More importantly, such providers of outside-the-value chain financing must now consider themselves as part of the team with the chain-linked partners and their role as agents of structural change among chain-linked partners in order to assure that all of the parts of the chain are working together to create maximum value. Besides, when finance is linked with the chain, financial decisions can be made on the basis of a better understanding of the business competitiveness and risk. Moreover, new improvements in information and communication technology and the innovations in new financial and business models and approaches make outside-the-value chain financing more easily adapted with often significant reduction in costs of finance and in risk to financial institutions as well as those directly within the supply chain.

Thirdly, in spite of the VC, some risks of lending within the chain will remain, as agricultural finance has always involved higher levels of risk and high costs associated with lending than many other business activities. For this reason, the application of risk mitigation measures is even more important in agricultural VC financing.

Table 4.1:
Financing requirements of the different AVC actors

VC Components	Producer	Traders/Aggregators/	Processing/Packaging	Marketing
VC Actors	Small, marginal, and large farmers	Adhatiyas (middlemen or commodity brokers), buying house, large corporate houses, farmers collectives Warehouse, cold stores and transport	Processing and packaging plants Sorting and grading equipment	Retailers, Corporate retailers Export houses, exchanges
Type of financing requirement	Irrigation equipment, tractors, threshers, etc. and production loans for land and farm inputs	Processing and packaging plants, Sorting and grading equipment	Working capital against inventory and long-term capital Investment	Working capital

19 Mainly based on Singh, but with some tables and figures from Madu, Workshop Presentations and other sources. .

Reflecting the foregoing, this chapter will discuss issues related to (i) direct financing by other participants within the chain[20]; (ii) indirect financing by financial institutions not part of the chain; (iii) the related financing instruments; and (iv) risk mitigation measures to ensure sustainability of financing for the VC. The key elements in VC financing are summarized in Table 4.5 at the end of this chapter.

4.2 Direct "within chain" VCF

Direct VC or within chain finance refers to the financing arrangement, whereby VC actors finance the activities of chain. In such a financing mechanism, the input suppliers extend credit support to the producers in kind, such as seeds, fertilizers and equipments etc. The producer in turn repays to the input suppliers either in kind (grains, agricultural produce) or in cash (obtained from the sale of the produce) at the time of harvest. This kind of financing mechanism can be of intricately complex in nature where the aggregators and processors extend credit support to the input suppliers who further extend credit support to the producers. The direct VCF consists of short-term loans to ensure a smooth flow of products, to keep the activities going and the VC functioning. This arrangement largely rests on the trust between the input suppliers and the producers. More actors within the VC may become a part of the financing mechanism, depending on the market conditions and their ability to extend finance as also their risk-taking capacity. In such a financing arrangement, the VC actors are involved in financing players / activities in the chain, and hence, it is called "within chain" finance. As most of the financing can be of an informal nature, such a mechanism is also referred to as 'informal VCF'.

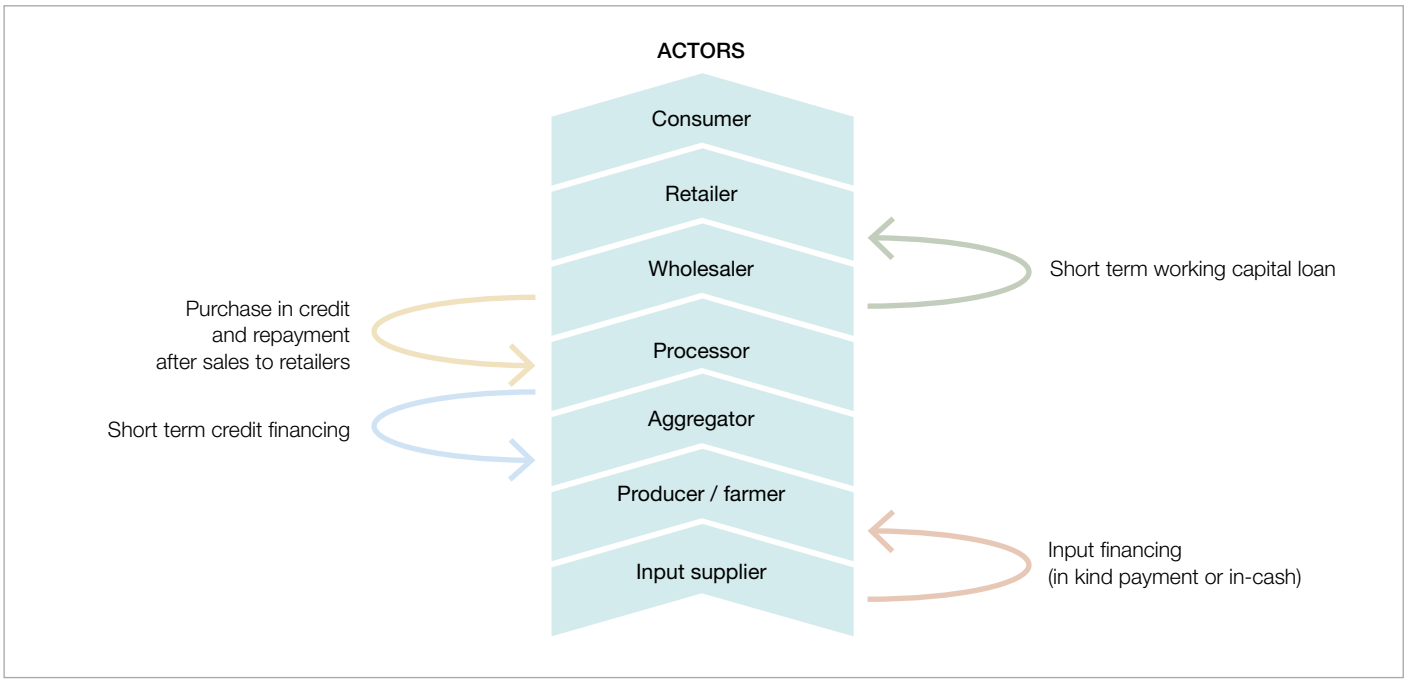
4.2.1 Mechanisms and instruments of Direct Value Chain Financing

The instruments or mechanisms for direct (within the VC) financing include:

- ***Aggregator Credit:*** Aggregator credit is a direct informal financing mechanism where the aggregator finances the production activity by advancing a loan to the producer that is repaid after harvest, in kind. Under this arrangement, the aggregator secures product procurement by financing the production. This is beneficial to the producers; they get readily accessible finance for production and have a guaranteed buyer for the agricultural produce. Usually, such a financing mechanism is for a short-term and is seasonal in nature. In more complex mechanisms, such as *Mentha Arvensis* farming in Uttar Pradesh in India, the processors have access to formal finance (being a large scale enterprise). These processors finance the aggregators with short-term working capital loans to secure a pipeline for raw material procurement. In such cases, the processors play a dominant role by infusing short-term capital as seasonal credit relationships in return for the first right to procure at harvest. The aggregators manage the risks associated with this kind of financing arrangement by tweaking the prices paid to the producer. As the producers are under obligation to pay, to a large extent the prices paid are lesser than the market rates. Although this model is exploitative to the producers, they agree to go with the aggregators due to the long-standing relationships with aggregators and an assurance of further advances for the next crop or production cycle. As aggregators are familiar with the producers, credit assessment is easy for the aggregators. Aggregators have greater understanding of the risks involved, awareness of business environment and market conditions to mitigate the risks of lending to the producers. The benefits of such an arrangement are, therefore, easy, flexible and timely access to credit by the borrowers, assured buyers for the produce, low requirement to borrow and efficient processing of loans. To the producers, however, the disadvantages are costs associated with borrowing, lower bargaining power in determining the sales price and short-term, seasonal nature of loans.
- ***Input Supplier Credit:*** This kind of direct informal financing mechanism rests on the trust equation between the input supplier and the producers. Under this mechanism, input suppliers advance agricultural inputs such as seed, chemicals and equipment to producers and agree to be repaid at harvest or any mutually decided point in time, either in kind (agricultural produce) or in cash (generated from the sales of produce). Towards the costs associated with such short-term loans, the input suppliers do not offer cash discounts to the producers on purchase of inputs.

20 Some researchers would include self-financing. While all enterprises, including VC participants, use this kind of financing, it is not very relevant to discuss when considering VC financing

Figure 4.1
Illustration of direct 'within chain' finance

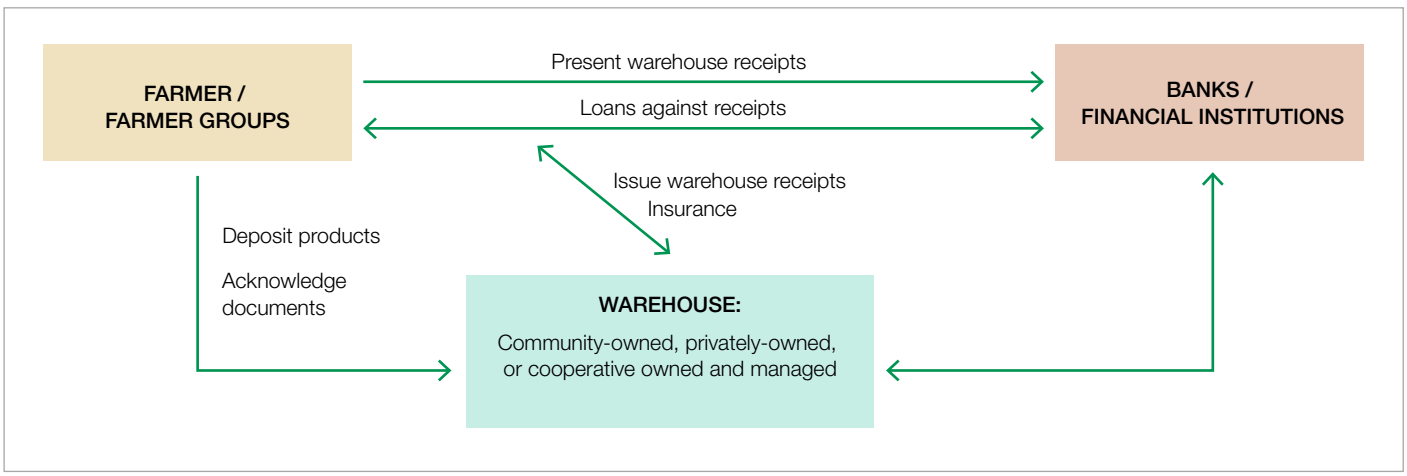


The benefits and disadvantages of such an arrangement are similar to the aggregator credit model discussed above. However, Input Supply Finance can also be done indirectly through a triangular relationship in which the supplier facilitates finance through a financial organization so the buyers can pay the input suppliers. This has the advantage of letting financial entities handle the financing using their expertise and systems in place to do so.

- ***Marketing company credit:*** Marketing finance is often the primary source of funding for many cash crops, even though the relative roles of each vary by country and by commodity. Under this financing arrangement, a marketing company, processor or other company provides credit in cash or in kind to farmers, aggregators or other VC enterprises with which, most likely, it has an established relationship. The mode of repayment is most often in kind. Upstream buyers are able to procure the produce and lock in purchase prices and in exchange, producers and others in the VC receive access to credit and supplies and secure a market for selling their products. In some arrangements, the marketing company may not directly manage the funding since they may choose to involve a bank or other financial institution to directly manage disbursements and collections are managed through receipt of the product.

- ***Lead firm financing (Contract/Out-grower):*** Under this arrangement, a lead firm either provides direct finance to VC enterprises including producers, or guaranteed sales agreements, enabling access to finance from third party institutions. These services differ from aggregator, input supplier and marketing company credit wherein the farmer produces crop or raw material under a buyback agreement and all requirements at the production stage are financed by the lead firm. Apart from inputs and working capital, the lead firm financing extends to other domains of the production cycle such as extension services, high quality crop seeds, technology transfer, training and supervision of production. The lead firm plays a more central role in the production cycle and has a strong grip on production. This is usually done as the lead firm is concerned about the reliable supply of good quality raw material. Lead firm financing model is also known as **contract farming**, as the arrangement is backed by strict contractual relationships that specify the type of production, quality, quantity and timing of the production to

Figure 4.2
Warehouse financing



Source: Madu, Workshop Presentation

be delivered. Finance and technical assistance provision, if needed, is written in to the binding contract[21]. The contractual commitments provide bankers with a signal of security and seriousness as well as a potential for ensuring repayment through discounting from sales income. Contracts can be formal or informal, even verbal when there is a sufficient level of trust and mutual interest. Less formal and less rigid forms of commitment between producers and buyers are called **outgrower schemes**, which can function similarly to that described above.

- ***Warehouse Receipts Financing:*** This is an innovative mechanism of direct informal finance, whereby producers or other VC enterprises in possession of produce may safekeep their produce at a certified warehouse. This certificate acts as collateral to access a loan from third party financial institutions (see Figure 4.2). The credit risk mitigant in such a financing arrangement is the marketable produce stored at an independent warehouse where the lender has a charge till the loan is fully repaid. Warehouse receipts financing is a highly sophisticated financing mechanism as compared to the aggregator credit, input supplier or lead firm financing models as the warehouse where the commodities are stored are neutral, independent and third party entity in the arrangement. The warehouse assures producers and lenders of security, safe storage and reliability of commodity on which the lender places a lien so that it cannot be sold without the proceeds first being used to repay the outstanding loan. Producers are assured of the ownership of the commodity unless they default on the loan and can use the mechanism to sell to buyers offering better prices by transferring the receipt to the buyer, repaying the loans; subsequently the buyer can take delivery of the commodity at the warehouse. Taxes, storage fees, loan principal and interest are deducted before delivery is made by the warehouse. Warehouses are also insured to protect depositors and lenders against losses due to disasters or criminal activity.

The main advantages of warehouse receipt financing from a risk management perspective are:

- The identity of the collateral is less contestable and the intention of the borrower to pledge it is clear, avoiding ownership disputes and competing claims.
- The collateral can be auctioned or sold promptly and at a low cost if there is a loan default

21 Contract farming can be defined as an agreement between farmers and processing and/or marketing firms for products under forward agreements and frequently at pre-determined prices.

Table 4.2:
Two channels, two results of VCF

Element	Direct finance	Indirect finance
Contract	The contract creates interconnections (interlinking) that facilitate the granting of credit.	The existence of a contract improves creditworthiness.
Cash flow	The flows of funds take place inside the agri-chain.	The flows of funds come from outside the chain, by means of financial intermediation.
Net cash flow	Net flows of funds for the chain are zero-sum (but the game is positive-sum).	Net flows of funds for the chain are positive-sum (and the game is positive-sum for society).
Impact of interlinking	The interlinking of the farmer to the chain creates a direct impact on access to credit.	The interlinking of the farmer to the chain creates an indirect and potentially powerful impact on access to credit.

Source: Claudio González-Vega, FAO Seminar presentation.

- A lender holding a warehouse receipt can claim against the issuer (the warehouse company) as well as the borrower in the event that the collateral goes missing
- In a bankruptcy scenario, a document of title can cut off the claims of competing creditors.

Warehouses may purchase insurance policies or build up an indemnity fund to cover the cost of such losses. The benefits of such a mechanism to the producer is the ability to increase both yields and average prices for the produce; access reliable, safe and quality storage, thus, reducing post-harvest losses (due to spoilage and pest infestation); and sell their produce some time after the harvesting season (during which prices are lower due to abundant supply) and get a higher price. The key disadvantage of such a model is the reliability of warehouse certification[22]. Besides, this kind of financing arrangement is difficult to access by small-scale producers due to high costs of warehouses and high minimum volume for storage. Also, under this arrangement, there is no provision of technical assistance as compared to lead firm financing. Therefore, this kind of arrangement can be implemented through strengthening linkages between buyers and producers through formation of co-operatives or producers' company and enabling smallholder farmer co-operatives to produce high-value crops as well as promoting financial institutions in designing complex financial transactions such as loans, based on warehouse receipts.

4.3 Indirect formal financial services "from outside the chain" VCF

Indirect formal financial services "from outside the chain" is a financing arrangement, whereby financial institutions, non-actors in VC, finance the chain, with different results (see Table 4.2 above). The financial institutions become supporters of the chain in one-to-one relationships with players in the chain. As different levels in the VC require varying scales of financial services, the nature/type of financial institutions involved in the chain also varies with the level of the chain. In such a financing arrangement, as external formal financial institutions are involved in financing the VC, it is called "outside the chain" finance or formal finance. The indirect finance may take various forms such as loans, savings, insurance and/or remittances. This mechanism usually is a longer-term financing mechanism as compared to direct finance and it generally involves larger amounts of money.

The key benefits of such a mechanism are that the financing is transparent in nature and risks of exploitation are considerably less. However, there are limitations in this mode of finance such as: high transaction costs, lack of information of creditworthiness of different players, lack of flexibility in designing tailor-made solutions and inadequacy of formal finance. Indirect VCF is a response of formal financial institutions to the limitations of financing within the chain, which offers limited opportunity of capital infusion to allow the chain

22 In 2008, ICICI Bank in India suffered huge losses due to connivance between warehouses and producers. In this case, warehouses issued receipts to the producers on poor quality commodity placed in the warehouses, which were used to borrow money from the bank. However, once the producers defaulted and the bank possessed the commodities, it found that the commodities were not even one-tenth of the market value as certified by the warehouses.

to grow and expand. Furthermore, as the informal financing is mostly short-term, seasonal, cyclical and focussed, the churn of capital is lower as compared to formal finance and hence does not allow the VC players to fully realize the potential. Lack of long-term loans limit the producers, processors and other actors in the chain to build assets. Thus, formal VCF offers the players access to external financing, whether from banks or from non-bank financial institutions to expand and strengthen the chain by freeing up resources. Formal financing may happen at any level or stage of the VC such as production, aggregation, processing and distribution.

In the Asian context, most of the financing by banks and financial institutions happens at the upstream level of the VC, wherein the financial institutions advance loans to the chain leaders such as processors and wholesalers who in turn bring in liquidity in the chain. However, of late, due to government and donor interventions, innovative financing mechanisms have been developed to cater to the needs of the producers as well.

4.3.1 Mechanisms and instruments of Indirect VCF

Structured finance: Based on the objectives, there are five classes of structured finance namely, regular finance, receivables finance, physical assets collateralization risk mitigation products and financial enhancements. Under each class, the mechanisms and instruments are as shown in Table 4.3.

Table 4.3:
Structured finance instruments

Class	Products
Regular finance	Term loans Farmers' finance cards Overdraft Credit line Equipment, assets and vehicle finance
Receivables finance	Trade receivables finance Factoring
Physical assets collateralization	Repurchase agreements (repos) Financial leasing (lease-purchase)
Risk mitigation products	Forward contracts Futures
Financial enhancements	Securitization Credit guarantee

Source: Claudio González-Vega, FAO Seminar presentation.

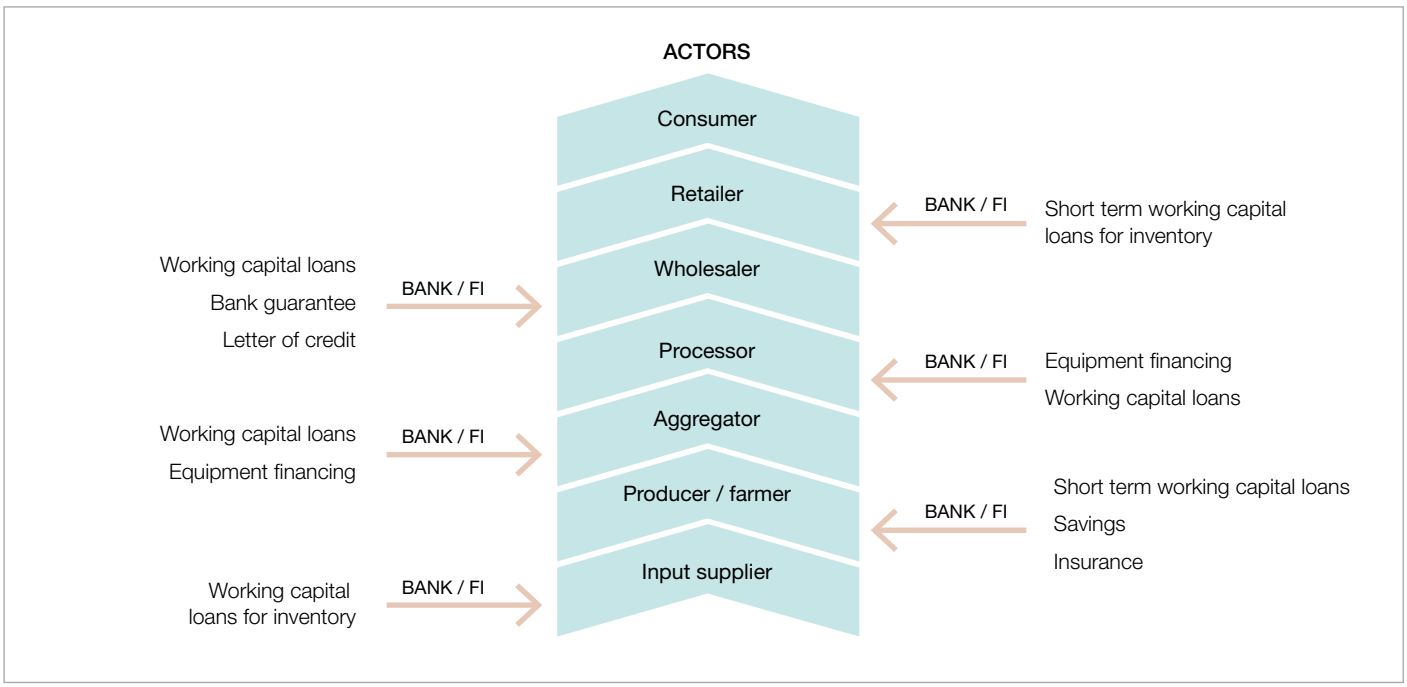
A. Regular finance:

Regular finance is the most widely used indirect mechanism to finance AVCs. The Government and financial institutions are normally involved in supporting the delivery of regular finance in various ways (see Annex—for the example of Institutional structure in India). The various products used to deliver regular finance to the AVC include the following:

- *Term loan:* Most agricultural finance is done using the instrument named as term loan. Term loans for agricultural finance are of short- or long-term duration, wherein the banks and financial institutions allow the borrower to repay regularly or in bullet/balloon payments. Term loans can support the necessary up-front costs to sustainable production practices, such as those related to new water systems and improved worker housing facilities. In the short-term, farmers need capital to make these changes, and in the long-term, producers need to be able to pay for the upkeep of facilities and make necessary improvements to keep pace with advancing sustainability requirements. However, land tenure and property rights constrain access to finance to producers under this mode of financing. Moreover, the producers' lack of accurate credit history forces banks and financial institutions to rely on collateral based lending.

- *Farmers' finance cards:* Farmers' finance card is a financial product similar to a credit card to facilitate short-term credit access to the farmers/producers from financial institutions. This financial product helps the farmers to finance the input and production cycle needs, such as seeds, fertilizers, pesticides and also withdraw some cash to meet their production related requirements. There are several other benefits to the producers, such as flexibility of borrowing, longer-term (3 to 5 years as compared to a one-year term loan), insurance for crops etc. thus, enhancing the export competitiveness of the produce. However, in India, banks and financial institutions have faced high (up to 60 percent) default rates in such financing mechanisms.

Figure 4.3
Illustration of indirect formal 'outside chain' finance



- *Overdraft:* An overdraft is a type of account where the accountholder is allowed to withdraw even after his account balance reaches zero. Banks often offer this account to producers to help them in managing their operating expenses. The limit of the overdraft is predefined by the bank. The borrower is charged interest only on the overdrawn amount. An overdraft account offers a very convenient option for managing liquidity requirements for running a business. However, overdraft is a complicated financing arrangement for the producers as the banks undergo an intense credit assessment procedure, which takes time. It is, therefore, more suitable for upstream actors such as aggregators and processors.

- *Credit line:* Credit line is a financial instrument offered by banks, which essentially provides the borrower with an entitlement to avail the required amount of credit at his/her convenience within a predefined credit limit. The borrower pays interest only for the amount actually withdrawn during the time period. This product provides very high flexibility to the borrower in managing his routine operational expenses. Credit lines can be both secured and unsecured, depending on the bank's policy and borrower's credit worthiness. However, there are certain constraints. In India, for example, line of credit is often provided by the banks to support short-term working capital loan and hence, it is not suitable entirely to the producers. Nevertheless, for upstream actors such as aggregators, processors, wholesalers, and such a product helps meet the cash needs.

- *Equipment, assets and vehicle finance:* Under this instrument, a business entity can pledge its balance sheet assets (equipment, property, receivables, inventory etc.) to avail quick loan from a financial institution. This is a very convenient method for meeting short-term liquidity requirements of a company. The assets work as a security for the lending organization. Furthermore, under similar arrangements, the borrower purchases an asset financed by the bank, which the bank owns as a security till the loan is repaid completely. However, usually, banks and financial institutions base the decision to finance the assets on the borrower's creditworthiness and hence, such a financing arrangement is suitable only to the upstream VC actors, such as aggregators, and processors etc.

Box 4.1: Commodity Exchanges in Africa – Approaches and Best Practices

Three Approaches

Producer or stakeholder driven: There are 2 strategies that this exchange approach can use to get volumes and become sustainable. (i) organize a significant percentage of producers and get them to sell their produce through the exchange, indirectly "forcing" buyers to use the exchange and promote transparency. This is generally extremely hard to organize for two reasons: Firstly, markets are so generally fragmented and very poorly organized, and to reach enough farmers to get a critical mass of produce is a daunting task. Structures, infrastructure and storage are lacking, making it very hard for most farmers to safely keep their produce; often making selling right after harvest being the only real option. It is predominantly a buyer's market and this structure is very hard for the producers to untie. Secondly, many buyers thrive on the lack of transparency that provides considerable margins, generating good money, even on fairly low volumes. They are reluctant to buy through the exchange as it would inevitably erode these big margins; and (ii) align with a pull factor, such as a buyer of large quantities (like national food agencies, donor agencies such as WFP and large traders/processors). The pull will support the exchange structures and the exchange; generate the interest needed and bring more parties to participate in an open system. There is more willingness for the market to open up when large buyers insist on using commodity exchanges. Market participants make strategies and implement structures that add value for all, which is what develops the markets and gives the structures long-term sustainability. It is responsible business.

Trader Driven: A trader driven exchange exists on the basis of trade concluded within a group of large traders and, quite naturally, the exchange will seek to service the interests of this group. If this group sees benefits in using the exchange, then it will, as a result, have good volumes traded across the Exchange floor. However, this cannot normally be an ideal model as it exists to serve the interests of a relatively small group of individuals and will not get the necessary buy-in from other potential stakeholders.

Government Driven: A good example is the Ethiopian Commodity Exchange (ECX), which is established as a demutualized corporate entity with a clear separation of Ownership, Membership, and Management. Thus, owners cannot have a trading stake, members cannot have any ownership stake, and the management can be neither drawn from the owners nor from the members. ECX is designed as a public-private partnership enterprise, in a unique institutional innovation for Ethiopia. The corporate governance of ECX maintains a healthy balance of owner and member interests. There are obvious advantages to an exchange set-up and operated with a large stake and interest from the Government, including the volumes of trade conducted across the Exchange and the "price discovery that goes with that. However, there are also some disadvantages, including the question of price discovery as, where you have a single marketing channel, which it is compulsory to use; one has to ask if this constitutes the best price opportunity or not, as the market has not really been tested. To leave market participants with no freedom of choice really just replaces previous single channel marketing systems with a new one. Transparency is compromised, true market values are probably not realized by producers and quality issues are likely to arise, as has happened in Ethiopia. Volumes are likely to be high, as there are no alternatives, but neither is there likely to be much incentive to increase production if there is only one market to sell through.

Best Practices

There continues to be much debate about commodity exchanges in Africa, not only regarding their need, but also their ability to make a difference in the markets in which they operate. Whilst this debate continues, a number of initiatives have been started, some of which have been more successful than others. However, it is crucial to understand the need for certain fundamentals to be existing to enhance the chances of a new commodity exchange succeeding.

(continued on facing page)

These include: -

- ***A Clear Objective:*** The need to know what you want to set up and why. This is necessary for potential participants and for the general view (inside & outside); a business plan (prospectus) is a good way to start; and, for a future exchange, the need to provide a price risk management facility.
- ***Enabling Policy Environments and Good Infrastructure:*** The building blocks are important. Enabling and consistent legislation must be in place: in agricultural policy; in financial policy; in trade policy; and in legal policy; and, all these need to be complimentary. Infrastructure (storage and transport) is also important.
- ***Market Support (Buy In):*** The best organization, people, systems, contracts might help, but without market support, it will be difficult to sustain an exchange. A mutual structure with monetary commitment has helped a number of exchanges. The commitment from the financial sector (banks) is very important. Market support is a function of value-added.
- ***Applicable and Good Trading System:*** In particular, an efficient and sound clearing system (usually Futures Exchanges) is needed. The trading system must be requirement driven, robust, and flexible and allow for growth in all aspects. The clearing system must be reliable and efficient and ensure confidence in the trading arena.
- ***Clear Rules and Consistent Surveillance*** to maintain integrity. Primary role of government is regulating the exchange (where there is the capacity). An exchange requires clear and balanced rules that are consistently applied. It also requires ongoing surveillance. Integrity is paramount and governments should act decisively to ensure it.
- ***The Correct Contracts (Products):*** The product traded must reflect the reality. It should be developed in consultation and conjunction with the market -- balance between market initiatives and exchange initiatives.
- ***Constant Education: Education*** should be a big part of marketing, and it should be ongoing. Education should aim at market participants, potential market participants, media, government officials, and educational institutions.
- ***Committed Staff:*** Exchange staff should not only be knowledgeable and good, but should also be committed and believe in the benefits of the exchange.
- ***Adaptability and Relevance:*** An exchange serves the market and must constantly re-evaluate whether it is in touch with reality. An exchange will make mistakes, but it should learn from them and adapt accordingly. However, it should not change for the sake of change!
- ***Value Addition:*** The basic areas where an exchange can add value is in transparent price discovery, guaranteed settlement and price risk management. If value can be added more efficiently in the absence of an exchange, it will (without an exchange). If an exchange does not add value it will not be sustainable.

Source: USAID: Commodity Exchanges in Africa, Washington, 2012.
Also available at www.competeafrica.org/Files/Commodity_Exchanges_Best_Practices.pdf

B. Other Indirect Financing Options

Structured finance covers a wide range of often complex loan transactions, which entail arranging for loan repayment and acceptable collateral under conditions that are tailored to the client's needs, yet build safeguards to minimize business and default risk. These products, such as secured transactions, factoring and joint venture equity finance can provide additional sources of finance that take advantage of the relative security of the VC system in order to provide additional alternatives for capital.

- *Secured transactions:* Structured finance instruments provide ways for greatly reducing the importance of borrower creditworthiness, for example, by securitizing payment streams before they are claimed by creditors. For example, international trade finance makes use of secured transaction financing such as Letters of Credit, which provide security of payment to the buyer upon delivery. These Letters are recognized collateral by financial institutions for advancing financing.

- *Factoring:* The use of factoring or accounts receivable financing is growing in use in agribusiness finance as in other sectors. In factoring, the business, such as input supplier, processor or marketing company with an sells its accounts receivable at a discount in order to obtain additional working capital. This form of financing will likely continue to grow as the financial world becomes more knowledgeable about the VCs and can calculate their risks.

- *Equity Finance and Joint Ventures:* Joint venture finance in which parties jointly provide the financing and share the risks is an age-old form of finance that remains important to the agricultural sector. The traditional "farming on share" is common for the poor and modern farmer alike. In Islamic finance, the financing organization takes a stake in the returns in lieu of interest. Agribusiness VCs and the growing integration within them depend upon the health and mutual interests of its stakeholders. This integration and strategic linkages and alliances serve not only for the flow of product and funds, but also for building the interest and confidence in contributing equity finance and having joint ventures.

- *Technology and Innovation:* Little mention has been made of the introduction and adaptation of new technologies. However, these have immense significance since many of the products would not work nearly as efficiently without these changes. The most dramatic technology innovations have been in information and communications technology such as cell-phone banking, internet kiosks for market information and transactions, and the proliferation of information making access easier.

- *Commodity Exchanges:* Commodity exchanges operate very differently: producer, trader or government driven approaches. The structure of the exchange is to a large extent determined by the approach and hence, also the focus and the direction of the exchange. There are advantages and disadvantages with all three approaches, but there are also general conditions for success of any approach (see Box 4.1).

- *Government Liquidity Support:* The role of Government in agricultural trade financing is crucial in African economies. In the presence of underdeveloped financial and money markets, traders have restricted access to financing. Governments can either play a direct role like direct provision of trade finance or credit guarantees; or indirectly by facilitating the formation of trade financing enterprises. Governments could also extend assistance to seeking cheaper credit, by offering or supporting the following: central bank refinancing schemes; specialized financing institutes like export-import banks or factoring houses; export credit insurance agencies; assistance from the trade promotion organizations; and collaboration with enterprise development corporations or state trading enterprises.

- *Others:* There are other obvious mechanisms, such as the money transfers and the improvements and roles of credit bureaus.

4.4 Risk management in financing VCs

With the expansion of access to finance, VCs tend to become complex in nature and expose all stakeholders to different types of risks. The key risks in VCs include price, production, and market and borrower risk. Poor management of risks may cause permanent negative effects on revenues and may result in disorganization of VCs. The risks can affect the VC and its actors in different ways and in varying degrees. Loss of production of crop due to flood may impact on the processors, wholesalers, retailers and consumers and may ultimately affect the economy. Risks must be addressed if AVCF is to be sustainable. Risks may be mitigated through a number of measures, including promotion of sustainable practices and certification, risk sharing, improved insurance, and income smoothing.

Increased sustainable practices, such as those mandated by certification (that the necessary investments in environmental, social and economic sustainability have been made), reduce risk by minimizing harmful effects of weather events, limiting land degradation, reducing costs and increasing crop yields. Certification also mitigates risk by requiring better business systems.

Risk sharing: As producers usually bear the most risk, some risk must be transferred and shared by others in the chain. This can be done in a variety of ways. Loans can be guaranteed by those parties in a position to do so. Also, a system can be developed wherein buyers take first loss in the case of crop failure. Risk-sharing facilities (loan contracts), which define risk per party, can also be created. Through such facilities, other actors in the chain could take on some of the risk usually held by farmers, traders or others. For example, GIZ (formerly GTZ) found success working with a risk-sharing facility in the form of a guaranteed risk fund in Kenya, which shared the risk of defaulting small enterprises between a bank and a GIZ project. Another good example of a risk sharing system is the one developed in Nigeria (see Box 4.2).

Insurance: Insurance is a normal form of risk sharing between the insurer and the insured. Generally, it is important to promote micro-insurance that helps low-income people to better manage risks and cope with crisis. The most common insurable risks relate to loan, life and burials, but health (such as was offered by MicroCare in Uganda, along with its other insurance services), and property insurance schemes are good examples. However, it is particularly important to provide insurance that more directly benefits farmers such as crop insurance (as offered by Opportunity International in Malawi to enable farmers cope with the impact of drought). Another good example is the International Finance Corporation (IFC)-promoted Global Index Insurance Facility (GIIF) that is working to encourage the uptake of index insurance, which better accounts for the natural conditions and events particular to agricultural production than does traditional insurance. It does this by covering the potential events causing crop failure, instead of to a particular property (traditionally land or crop). This insurance pays out after quantifiable risk events – for example, a certain number of days without rain, which could damage a crop – rather than at the time of crop failure. The GIIF is currently working to increase access to index insurance through technical assistance, data gathering, risk pooling and co-financing.

Income smoothing: Systems may also be developed to help producers save and smooth their income. Increased savings can also come from financial education and certification.

Common risks faced by formal financial institutions in financing VCs in and the mitigation techniques are as in Table 4.4

4.5 Financial Infrastructure

AVCF, like all financing, require an efficient financial infrastructure to facilitate the activities of the financing institutions. The financial infrastructure generally provides the following services:

- Payments and clearing systems, which increase efficiency and reduce transaction costs. Many countries are in the process of introducing secure, speedy and effective wholesale payments systems, while the application of information technology (IT) platforms have also facilitated mobile banking in a few countries (see Box 4. 3);

Table 4.4:
Risks in VC financing and mitigation measures

Risk	Examples of risk	Risk management mechanism
Market/price risk	• Cyclical and seasonal price fluctuations of agricultural commodities	• Market based price instruments • Asset accumulation and buffer stock • Price fluctuation risk built into loan • Contract • Portfolio hedging • Future, Swaps • Options • Forward contracts • Minimum price forward contracts • Back to back trading • Price to be fixed forward contract • Long-term fixed or floating contract • Warehouse receipt finance • Market information services • Contract farming
Crop/weather risk	• Major climatic events (drought, flooding, frosts)	• Index-based weather insurance • Traditional crop insurance • Farm level risk management • Tie-up with weather and crop insurers
Collateral risk	• Risk of loss, theft or damage of collateral • Failure to repay loan secured by collateral • Inadequate collateral	• Hypothecation and mortgages • Innovative structure using organized intermediate agencies to secure collateral such as warehouse financing • Cash flow based lending
Production risk	• Lack of irrigation • Loss, theft damage of equipment • Breakdown on machinery • Spread of pest and diseases	• Portfolio diversification • Drought-resistant varieties • Linking with insurance providers • Crop insurance • Financing irrigation • Input, supplies and equipment financing • Leasing
Human risk	• Illness or the death of family • Members • Poor agricultural, business and financial management skills	• Life/health insurance of borrower and family • Diligent selection of borrower • Collateral coverage • Savings services • Training and technical assistance
Other risks	• Side selling in contract farming	• Commitment savings • Immediate and emergency loans

Source: Anup Singh, Workshop Presentation.

Box 4.2: Nigeria Incentive-Based Risk Sharing System for Agricultural Lending (NIRSAL)

NIRSAL is a dynamic, holistic approach that tackles both the AVC and the agricultural financing VC. NIRSAL does two things at once; fixes the AVC, so that banks can lend with confidence to the sector and, encourages banks to lend to the AVC by offering them strong incentives and technical assistance. Unlike previous schemes which encouraged banks to lend without clear strategy to the entire spectrum of the AVC, NIRSAL emphasizes lending to the VC and to all sizes of producers. There are five pillars to be addressed by an estimated USD 500 million of CBN money that will be invested as follows:

- **Risk-sharing Facility (USD 300 million).** This component would address banks' perception of high-risks in the sector by sharing losses on agricultural loans.
- **Insurance Facility (USD 30 million).** The facility's primary goal is to expand insurance products for agricultural lending from the current coverage to new products, such as weather index insurance, new variants of pest and disease insurance etc.
- **Technical Assistance Facility (USD 60 million).** This would equip banks to lend sustainably to agriculture, producers to borrow and use loans more effectively and increase output of better quality agricultural products.
- **Holistic Bank Rating Mechanism (USD 10 million).** This mechanism rates banks based on two factors, the effectiveness of their agricultural lending and the social impact and makes them available for the public.
- **Bank Incentives Mechanism (USD 100 million).** This mechanism offers winning banks in Pillar four, additional incentives to build their long-term capabilities to lend to agriculture. It will be in terms of cash awards.

Source: Madu, Workshop presentation.

- Information infrastructure, including legal and regulatory framework for information exchange, the rating agencies, private credit bureaus, public credit registries, public sector databases such as property, vehicle collateral and asset registries, voter registration and national ID databases, and auditors that enhance transparency on institutional performance and transactions as well as creditor information, thereby enhancing risk mitigation;
- Technical support, capacity building and education services (research companies, universities, training and technical assistance providers, consultants), which enhance financial innovation;
- Associations and networks of retail financial service providers and other institutions engaged in advocacy and information dissemination;
- Financing infrastructure (wholesale or second-tier mechanisms, such as apex lending facilities, commercial banks etc.);
- Financial and capital markets (investment funds, bond issues and securitization).

The financial infrastructure and systems, therefore, enable risk mitigation, improve transparency, increase efficiency, and enhance innovation. A well-developed financial infrastructure is, therefore, important for the functioning and progress of the financial system generally and especially for supporting the AVC and access to financial services.

Box 4.3: Importance of mobile money in AVCs

For the AVCs, mobile money integration bring with it lots of benefits to the producers. Subsequently, the spillover effect will positively impact the rural economies as well. The players within the VC can transact information and money seamlessly and can derive much more benefits such as:

- Low cost of transaction: As the transactions are digital, real-time and cashless in nature, the cost incurred is lesser as compared to cash transactions.
- High security of the transactions: Digital mobile money ecosystems provide high security of the transaction and that of the money in high theft-risk countries such as Kenya.
- Solving the "last mile" problem: High presence of mobile money agents in Kenya ensures that the last mile problem is resolved in an efficient and effective manner.
- Seamless integration of buyers and sellers: Mobile money allows seamless integration of buyers and sellers for exchange of cash and information.
- Reduced leakages: In contrast to cash transaction, mobile money ensures more direct approach to payment and hence, reduces the opportunities for leakages along the VC.
- Enhanced immediacy and increased frequency of the transactions: Quick, low-cost and high security features of mobile money may trigger immediate payment from the buyer to the producers. As there is a direct channel of moving money, the payment from the buyer to the producer can be in tranches or more frequently than the cash where the buyer accrues to make one lump sum payment to reduce the cost of transaction.
- Improved economics for VC players: Overall, due to reduced cost of the transaction, frequent and immediate payments, the cost economics favor all the players of the VC.
- Accountability: Mobile money transactions have a digital trail and hence, offer higher accountability than the cash transactions.

The positive externalities of mobile money usage by the producers would result in development of rural economies. Local options for accessing liquidity ensure increased commercial activity as mobile money agents spread to smaller, more distant villages. The likelihood of money being used locally increases if the payment recipients (for sale of crop or from relatives from urban areas) can access their money locally.

Thus, mobile money will spur the fuller financial inclusion at the village level. The mobile money accounts can be used as a medium for financial service providers to offer higher-level financial services to otherwise unserved and underserved rural population predominantly engaged in agriculture. Mobile money operators themselves might in future provide these services, or banks linked to mobile money schemes may offer them.

Source: Anup Singh, Workshop Presentation.

4.6 Suitability of approaches and conditions for operations of main types of VCF

While there are options of financing any VC either by using a direct or indirect financing approach or a combination of these approaches, the selection has to be based on a rigorous, analysis based approach to identify and service financing opportunities on the basis of minimum risk and maximum return. Some of the determinants for identifying the suitable approaches are:

a) Input needs and extensions services ranging from specific (can only by supplied by specific shops) to generic (can be bought anywhere).

b) Product type based on whether the product is an unorganized local staple (plantain, maize and millets); organized local staple (wheat and rice from India); captive global buyer product (potato); or exportable cash crop (cocoa, coffee, and cashew).

c) Aggregation point based on whether the product is not at all aggregated or aggregated at the level of local traders and markets, agents, warehouses, processors, or co-operatives/associations.

d) VC power ranging from government regulated (no power) produce to buyer power and supplier power produce.

e) Number of producers ranging from widely dispersed small numbers to aggregated large number of farmers.

f) Market characteristics including limited formal markets, organized local markets, and export markets.

g) Crop characteristics as demonstrated by price incentives for quality, perishable post-harvest, durable post-harvest, and no price incentives for quality.

h) Financial attractiveness dependent on the creditworthiness of the stakeholders of the VC and the profitability of the investment.

i) Risks associated with the VC such as supply risks, production risks, sales/market risks, price risks and human risks.

j) Availability of finance as determined by existing funding sources and current funding practice in the VC, including formal and informal finance. When compared with financing requirements, this gives the financing gap.

k) Need for range of financial services as determined by the VC actors' needs for financing ranging from credit, savings to insurance and remittance.

To design approaches for VC intervention, *"build on what exists"* maxim rules as the market players have stabilized a system that however inefficient it may be, exists on the ground. Building new approaches from scratch may result in stakeholder dissent leading to market distortions and disturbing the existing trust-based relationship between the VC actors. It is also seen that the successful interventions in VC have built on existing situation, realities and relationships in product markets. Also, practically not every VC can be done away with the intermediaries, and thus, the key consideration in expanding access to VC should be the complementary role of financial services within VCs rather than solely within the context of financial systems.

4.7 Options for scaling up VCF in Africa

Alternative one: Expand access to formal finance to upstream VC players: To expand access to finance to the producers who produce unorganised and organised local staple, operate in informal, unregulated or organised local markets, the formal financiers can either support them through short-term trade finance, either to traders and aggregators or directly to the producer co-operatives/groups/association (if present). This model works for situations characterized by high levels of smallholder aggregation to traders and aggregators. To diversify, the formal financiers can choose several staple crops, replicate the financing model and scale.

Alternative two: Expand access to lead firms to establish and scale-up captive VCs: Several lead firms are working or are willing to secure procurement of quality raw material and are willing to invest in input supplies and production stage technology awareness to the producers. Financing such lead firms results in effective growth of VC as the markets are secured, lead firms pay fair pricing for the produce and the model is not exploitative. Also, commercial lenders can provide finance to smallholders through these lead firms financing schemes, focusing on markets where buyers already provide finance or technical assistance to smallholders and there is cash entrapment mechanism in place.

Alternative three: Innovate new financial products and services: The formal financial institutions can build on the existing VCs by innovating new products and financial services to meet other financing needs, such as working capital, longer-term financing of equipment, and warehouse receipt financing.

A*lternative four: Finance directly to the producer:* For the VCs, which are unorganized, such as that of local staples with dispersed producers and few points of aggregation, the demand for finance by the producers can be met by reaching the producers directly. Banks can employ services of micro-finance institutions to reach such producers. Alternatively, banks and financial institutions can develop technological solutions to finance unserved populations in rural areas efficiently and effectively using technologies such as mobile banking.

Table 4.5:
Typology of VCF approaches

VCF Approaches	Financing Purpose	Complexity to Implement	Advantage for Producer/ borrower	Advantage for Company/ lender	Disadvantage for Producer/ borrower	Disadvantage for Company/ lender	Application Potential
PRODUCT FINANCING							
Trader Finance	Commodity procurement Farmer finance for harvest/post-harvest	Low	Ease of transaction Well known May be competitive offers	Secures commodities and prices	Often high discounts on market price	Potential for side-selling Unsecured quality and quantity	Middleman" traders will remain important but will lessen in importance Tendency of traders toward acting as agents of wholesalers
Marketing / Processing Company Credit	Reduce transaction risk	Low	More secure product market Technical assistance Bulk input cost reduction	Secures procurement Contracts for finance, sales terms, and product specs	May not be directly accessible to small farmers	Increases financial outlay	VC control through contract farming is growing in importance VC approaches reduce transaction
Input Supplier Credit	Sell/purchase inputs	Low	Obtain inputs on credit	Secures sales	Input costs may be excessive	Lack of security in repayment	Quality and food safety are growing concerns
Contract Agriculture	Overcome lack of access to credit	Medium	Secure market and price Technical guidance for higher yields and quality	Fewer options due to closer monitoring Enforceable contracts	Less access for small farmers Restricts price rise gains	Side-selling Costs of management and enforcement of contracts	Growing use and strong potential to provide access to markets, technical assistance and credit
RECEIVABLE FINANCING							
Trade receivable financing (including bill discounting and letter of credit)	Reduces financial constraints for exporters and ease repayment urgency from importers	Medium	Can be cheaper than bank loan alternatives		Requires a proven track record of trader/agri-firm May be less suitable for perishable products Is most suitable for large transaction		Is used for import-export transactions by companies for durable commodities Increasingly used by input suppliers, equipment dealers and major commodity traders
Factoring	Obtain working capital	High	Buyers have more cash	Source of capital for operations	Not widely available	Lack of knowledge and interest by financial markets	Its use in agriculture is less common but is growing Is best used for processors and input suppliers where product flows and accounts are stable
Forfeiting	Like factoring, it makes capital available. Can be selectively used for specific project funding or accounts	High	Buyers have more cash	Source of capital for operations It takes care of collection risks and costs	Not widely available Forfeiting requires selling the accounts at a discount	Is complex and requires the presence of specialized forfeiting or factoring agencies Lack of knowledge and interest by financial markets	Is less common but similar in principle to factoring Invoice instruments are negotiable but complex, limiting their application potential

Table 4.5:
Typology of VCF approaches

VCF Approaches	Financing Purpose	Complexity to Implement	Advantage for Producer/ borrower	Advantage for Company/ lender	Disadvantage for Producer/ borrower	Disadvantage for Company/ lender	Application Potential
PHYSICAL ASSET COLLATERALIZATION							
Warehouse receipts	Overcome lack of collateral Secure repayment	Medium to high (depending on regulation)	Cash advance and/or credit guarantee upon deposit of commodity	Security of standards and inspection Secured, deposited product	Lack of available providers Fees charged	Often lack of regulatory structure Costs Uneven product flow	Is relatively well known with potential for increased use Can be used at various VC levels and growth potential
Repurchase agreements (Repos)	Overcome lack of collateral Secure repayment	Medium to high (depending on regulation)	Can reduce financial costs and has proven successful in selected commodities with well-functioning commodity exchanges	Security of standards and inspection Secured, deposited product	Lack of available provider Fees charged	Is complex and requires commodities to be stored with accredited collateral managers and requires commodity exchanges	Limited potential in the near future and used infrequently by exporters for some commodities
Financial lease (lease-purchase)	Overcome lack of collateral	Low to medium	Often are tax benefits	Provides more loan security and ease of asset repossession in case of default Is especially good where legal system for loan collection is weak	Only feasible for medium long-term purchases of non-perishables Often requires insurance	Requires coordination of seller, buyer and financier	High potential use for equipment if legislation allows
PRODUCER RISK MITIGATION PRODUCTS							
Crop/weather Insurance	Mitigate production income risk	High	Reduces production risk Evens income	Lowers procurement loss risk	High perceived cost	Added cost and added management	High interest by many donors and governments is increasing use Growth without subsidies will be modest for production insurance until sufficient data is available.
Forward Contracts	Secure price risk Provide loan collateral	High	Reduces income risk Can use contracts as loan collateral	Lowers sale and purchase price risk Secures procurement	Not widely available nor understood	Not widely available	Is frequently used by larger companies and for major commodities. Has potential to increase significantly wherever reliable market information is available
Hedging	Reduce price risk	High	Reduces production and income risk	Lowers purchase risk Evens farm income	Not widely available nor understood	Requires commodity exchanges	Has growing use and potential when commodity exchanges function Use is limited to larger producers, processors, farmer collectives and marketing companies

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Typology of VCF approache

VCF Approaches	Financing Purpose	Complexity to Implement	Advantage for Producer/ borrower	Advantage for Company/ lender	Disadvantage for Producer/ borrower	Disadvantage for Company/ lender	Application Potential
FINANCIAL ENHANCEMENTS							
Secured Transactions	Reduce transaction fraud risk	High	Opens market opportunities	Improves security	High cost	Time and paperwork Cost	Has limited potential for agricultural VC investments of similar tenor and cash flow
Loan Guarantees	To enhance the attractiveness of finance by reducing lending risks	High	Can facilitate investment needed in a VC	Improves security	Is costly and often subsidized in agriculture	Can reduce lender responsibility and accountability	Is occasionally used as incentive for stimulating capital flows to infrastructure, new markets and exports and occasionally production
Equity Finance and Joint Ventures	Increase investment Share company risk Increase borrowing capacity	High	Provides additional capital to VC	Increases capital and borrowing capacity Reduces risk to each investor Adds expertise and/ or markets	Hard for small producers to participate	Often a lack of investors Dilutes investor returns	Has growing potential in globalizing world Strategic partnership, including public and private, is increasingly important in VCs

Source : Asian Productivity Organization

5. Participation of DFIs in AVC financing: Lessons from African case stories[23]

5.1 Introduction

This chapter presents perspectives and experiences in AVCF in four African Countries: Ghana (Cocoa), Kenya (Tea), Rwanda (Rice) and Tanzania (Cashew Nut and Sugar Cane). The case studies presented, illustrate both the potential and challenge for VCF in addressing constraints and risks in delivering financial services to small scale farmers and agribusinesses and provide insights regarding how the DFIs could participate in VC financing. Successful VCF requires the parties involved, including the financial institutions, to have a deep understanding of the realities in the chain and of the need for timely and flexible finance as well as risk mitigation measures. Such an understanding cannot be acquired overnight; but by sharing experiences on agricultural VCF and increasing the capacity of players. To this end, the cases presented here have been especially selected to provide some pertinent lessons on VCF in Africa. Each case study highlights how organizational and/or institutional innovations have facilitated leveraging financial and other business development services on VC relationships, thus, enhancing the move towards sustainable performance of the VC. It is hoped that the lessons provided would also be insights for DFIs seeking to participate in AVCF.

5.2 Cocoa VC in Ghana: CNFA linking farmers to banks and markets

Organization and institutional arrangements and key achievements

The main players in the Ghana cocoa VC are farmers, Local Buying Companies (LBCs) and Ghana Cocoa Board (Cocobod) with LBCs being the most dominant institutional players in the internal marketing. A key feature of the cocoa marketing system in Ghana is that Cocobod fixes the floor price for all local purchases of cocoa, including transportation and marketing margins. Other players in the chain include various Government and business groups providing extensions and inputs to farmers as well as bank and credit facilitators. The Cocobod is able to raise substantial short-term finance on international markets, some which it distributes through the extensive network of private sector buyers, who then extend seasonal credit to producers. The Board also heavily subsidizes long-term investment into the industry.

In addition to organized finance, other factors that have contributed to the success of Ghana's cocoa sector include a favorable price regime and Cocobod's interventions to raise cocoa productivity. Nevertheless, cocoa producers do have problems. Farmers are generally liquidity constrained. So are the LBCs due to long delays in payment and fixed pricing regime. Constraints on input use and, to some extent, land tenure issues also limit extensive expansion and growth of cocoa farms.

Linking farmers to inputs, credit and output markets

CNFA launched a 3-year project — the Commercial Strengthening of Smallholder Cocoa Production project in 2009, aimed at stimulating capital investment in the cocoa industry while enhancing the lives of the farmers. CNFA's strategic collaboration with the National Cocoa Producer association, *Kuapa Kokoo,* and agricultural input suppliers aims at providing support to the private sector in piloting 20 integrated mini-warehouses where cocoa producers can access inputs, training and technical information on cocoa production technologies, certification programs, crop diversification, financing, and market their cocoa. The project helps to break the cycle of underinvestment and poverty by improving farmers' access to both the training and the credit needed to purchase inputs to sustainably improve yields. The project also aims at strengthening the land tenure so as to encourage long-term investment from smallholder farmers. More than 20,000 cocoa farming families in Ghana are expected to increase their incomes by 150 percent over the three years (2009-2012).

Risk mitigation

CNFA mitigate risks for banks in Ghana by first having the more motivated partner, the local input supplier, Chemico Ltd., guarantee the credit risk to a producer's co-operative in the first year, and then transferring the full risk to the bank in the second year. CNFA was also able to provide collateral by working with the Government and local chiefs to provide "Parcel Certificates," stating the producer's land size and ownership.

23 Based mainly on the analysis and cases provided by Muragu and Lydia Ndirangu, Workshop Presentation.

Benefits

The benefits of the VC include a substantial increase in income (equivalent to $21.9 million) accruing to 8,617 including 1,709 female smallholder cocoa farmers; the operation of 10 Business Development Centers (BDCs) in 10 districts; access of 10,313 cocoa farmers to $3.25 million worth of inputs under the input credit scheme resulting in yield increase of 1042 percent and corresponding income increase of 179 percent during the 2011/2012 cocoa season; certification of 268 agro-dealers to access trade credit from input supply companies using CNFA guarantee facility; and provision of technical training on improved cocoa production techniques and crop diversification to 5,852 farmers and 431 producer.

Reflections on the business model

The cocoa industry is clearly a facilitator driven VC dominated by the state-owned marketing monopoly, Cocobod. Although the chain has achieved high cooperation and substantial benefits for players, further growth may be impaired by the excessive market power exercised by the Cocobod. State monopoly is not the best long term option as it limits the entrepreneurial capacity of the LBCs. The CNFA, an external agent to the chain with a strong business development focus, strengthens the business management profile of the farmer organization and agro-dealers. The alliance created by CNFA with the producer association, Kuapa Kokoo, and agricultural input suppliers is a good illustration of the synergies that can be obtained in VC approaches when the private sector downstream operators can find the support of "doubly specialized intermediaries" (Vorley *et al.,* 2007). The extension of credit to agro-dealers from the large input suppliers is an important institutional innovation, in which the guarantee scheme is a powerful mechanism for enhancing sustainability of the VC performance.

5.3 Factoring and Trade Receivables Finance: Tea VC in Kenya

Like Cocoa in Ghana, the Kenyan tea is converted into highly visible and popular consumer products with generic and brand image in importing developed countries. Kenya is one of the world's top exporters of tea with the Mombasa Tea Auction (MTA) being the second largest in the world. About 60 percent of the country's tea is produced by smallholders, who earn an average of around $1,500 a year.

Organization and institutional arrangements

During the picking seasons, the tea is plucked every two weeks and delivered to collection centers from where they are taken to a processing factory. The processed tea is then taken to Mombasa for auction. Tea traders buy at the auctions, pack it and sell it to the local or export markets. Under this system, the Kenya Tea Development Agency (KTDA), a company that serves the country's smallholder tea growers, paid the farmers KSh 30 ($0.38) per kilogram of tea. However, the farmers waited for up to 3 months before they finally got paid. Instead, so many farmers sold their output to private traders, who paid immediately. Such payments (were however much less: only KSh 10 ($0.13) per kilogram. The farmers were in a poor position to bargain because they needed cash urgently, did not know the prevailing market rates, and had no access to alternative sources of finance.

Building a new chain and invoice factoring

This case involves a factoring service that Biashara Factors Limited, the microfinance arm of Kenya Gatsby Trust, developed to offer short-term financial services to the Kabianga Co-operative's smallholder farmers and other actors in the tea VC in the Kericho district in the Rift Valley province.

With factoring, farmers still deliver their tea to the co-operative collection centers, which then transport the tea to the Kapchebet tea factory that the co-operative had bought, which then delivers the processed tea to the Mombasa auction. Twice a week, the auction house sends a receipt to Biashara, listing deliveries of tea it has received from the factory. The factory provides Biashara with a list of farmers

and the amount of tea they have delivered. On the strength of this, within three days, Biashara pays out 70 percent of the money to farmers (or more, depending on the sales to the auction). Biashara makes payments into farmers' individual accounts with the co-op, local banks, or through money transfer—the M-*Pesa* or *PostaPay* services. The tea delivered to the factory acts as security for the loans.

When all the tea is sold (it takes about a month), the auction house pays the full amount to Biashara, which then deducts 10 percent of the total and pays this into the Kapchebet factory's bank account to cover its processing services. The bank deducts the loan repayment installment from the factory's account. Biashara then pays the farmers the balance of what is due to them, minus 2.5% interest per month. This interest charge covers Biashara's costs.

To ensure farmers fully understood the factoring process, Biashara provides business development services through the farmer's co-operatives. The costs of these services are deducted from its fees.

Biashara has adapted this service to other commodities in Kenya: cotton (in the Siaya area in Nyanza province), fish (Lake Victoria), and horticulture, coffee and dairying (Central Kenya).

Risk analysis

Tea is a risky business with a fragmented market structure and strongly fluctuating market prices. Nevertheless, Biashara has managed to develop a financing model which effectively mitigates the major risks through the following elements:

- *Triangular cooperation* — Before starting to finance the chain, Biashara conducted extensive research to understand the workings of the chain and to check the conditions of the companies in it. This phase of research and due diligence results in a contract agreement between the suppliers, the buyer and Biashara for the delivery of the factoring service. The agreement forms part of the collateral for the financing.
- *Lead firm model* — Though small farmers receive the factoring service, the repayment is done by a large lead firm (the auction house). Hence, Biashara's risks are not with the small farmers, but with the lead firm. Therefore, in the research phase, the due diligence focuses especially on the financial condition of the lead firm.
- *Partial pre-finance* — The international market price of tea fluctuates, so Biashara cannot know in advance how much to pay the farmers. It mitigates this risk by estimating the price beforehand and paying farmers a percentage of the price as a first installment. When the actual price is known, Biashara pays the amount remaining, minus interest and fees.
- *Alignment of interests* — The farmers have an interest in selling through the Kapchebet processing plant because they hold shares in it. The co-operative maintains good relations with the farmers by providing them with various services, including extension advice and fertilizers on credit.

Benefits

- The farmers are the main beneficiaries of the factoring system. They get prompt payment and higher prices at KSh 30 ($0.38) per kilogram of tea, compared to KSh 10 ($0.13) previously offered by the traders.
- A growth in culture of saving and borrowing among the farmers, and ability to leverage their savings to access other financial products.
- The co-operative is able to negotiate better terms for its members because they are corporate shareholders in the factory.

Challenges

- Sensitization — Factoring is a new financial service in Kenya, and many people shy away from it. Many view factoring as a kind of loan. Biashara tries to educate the public by organizing forums as part of its marketing work.

- Complexity of the groups — A lot of effort is needed to mobilize the producers into business groups before the factoring service can be introduced. This is costly and time-consuming. Most financial institutions do not have the patience to do this groundwork; they rely on NGOs to establish a relationship with the group.

- Lack of regulatory policy — Factoring can be abused. It is not regulated by banking laws, and so unscrupulous operators could use it to defraud clients. There are also concerns with regard to the tangible collateral guidelines to banks by the central bank. How would the purchase of tranches of accounts receivable be interpreted? Biashara is pushing for more factoring houses to be set up so as to have more power to lobby for regulations on aspects such as dispute-settlement procedures and licensing.

- Lack of investors — Because factoring is new to Kenya, potential investors lack information, and may be unwilling to put money into this form of financial service.

Lessons

- Factoring can be used to alleviate smallholder farmers' cash-flow problems. The factoring invoice provides security that enables the farmers to obtain funds.

- Factoring complements other innovative services such as M-*Pesa* and *PostaPay* money transfer. These enable financial services to reach large numbers of dispersed farmers who lack bank accounts.

- Factoring is flexible enough to be easily replicated to other commodities.

- Factoring builds capacity of farmers and other actors and strengthens the VC.

- A policy gap exists: A need to develop legislation to regulate and promote factoring.

Reflections on the business model

What makes Kabianga unique is the full participation in VC ownership by the smallholder tea producers who then enjoy the full benefit of cooperation and coordination. This is a remarkable governance outcome given the dominance of KTDA in small holder VC in Kenya. Another innovation is the way Biashara transfers its risk to the more financially able lead firm, — the Mombasa auction —, while the main beneficiary remains the small scale tea farmer. Moreover, Biashara incorporate the VC support costs as part of their overall pricing structure, thus, aligning incentives along the chain and increasing the possibility of success as a business.

5.4. Improving Chain Liquidity: Rice VCF in Rwanda

Background

The case study focuses on rice growing in Mukunguri, 75 km south of Kigali. The region has a short but eventful history in rice production. In the 1970s, Chinese entrepreneurs leased marshland in the area and turned it into irrigated rice fields. They encouraged local farmers to plant rice, and for over 20 years held a near-monopoly over all the rice they produced. They bought most of the paddy rice. The farmers made little money.

Struggling to raise their output, the farmers turned to local money lenders for loans so they could buy inputs. The interest rates were high; sometimes the repayments amounted to three times the original loan. The moneylenders took around 50 percent of the farmers' rice. Another 20 percent went to the Chinese in return for use of the land. The farmers used 10 percent for home consumption and sold the remaining 20 percent to local shopkeepers.

After the genocide of 1994, the Chinese fled the country, as did the farmers. After the genocide, the returning farmers decided to come together to bulk their rice, negotiate better prices, and seek new markets. In addition, being organized would grant them better access to inputs, extension services and credit. It took almost 10 years to set up a farmer organization, but in 2003, 280 rice growers established the Rice Producer Co-operative (COPRORIZ). The result is the VC shown in Figure 3-4.

COPRORIZ provides its members with a number of services. It supplies inputs such as fertilizers, seeds and pesticides before and during the season. At harvest, it collects and bulks their rice, takes it for milling, and sells it to traders or wholesalers. It also provides extension and training. Almost all the area's rice growers are members of the COPRORIZ; the few non--members are also allowed to sell through the co-operative.

Initial problems in the chain

Low productivity was due to lack of inputs (as the cash-strapped farmers could not afford to pay for fertilizers), and staggered planting, which allowed pests and diseases to spread from one field to another. Different harvest times also complicated marketing and transport.

There was slow payment, as it took 2 months for the buyers (in Kigali) to pay the co-operative. In need of cash, may farmers would sell their paddy directly to local traders who paid only one-third the price ($0.33 per kg, compared to $0.90 from the co-operative). By 2007, only 40 percent of the total rice produced was marketed through the co-operative.

The co-operative was loss-making. Although, the co-operative served many needs of its members, it was making a loss. Its operations were financed by membership contributions, but that was not enough to cover the full costs of the co-operative.

Smoothing the Financial Chain: Partnership with "Mfi Caf Isonga"

For the COPRORIZ to overcome the financial problems highlighted above, it sought partnerships with financiers. In 2007, it negotiated with a local microfinance institution (MFI), the *Caisse des Affaires Financières (CAF) Isonga,* which had experience in financing rice production in northern Rwanda. The agreements were all about farmers' mobilization to bank with the MFI and do all bank transactions through the MFI. On the other hand, the MFI decided to provide production loans to farmers and to set a credit line for the co-operative itself at harvest time. The co-operative also assisted in loan recovery by deducting the payments at source and to making follow up in case of default.

The co-operative screens each applicant for integrity and capacity to repay. It guaranteed the loan by co-signing the contract between CAF Isonga and the farmer. CAF Isonga transfers the money to the borrower's bank account. CAF maintains accounts for all the co-operative members, which farmers can use for savings as well as to manage their loans. The farmer repays the loan by delivering paddy to the co-operative. If the farmer defaults on the loan (for example, by not delivering to the co-operative), the co-operative has to repay the debt.

CAF Isonga also developed a "paddy commercialization loan". This is a credit line that allows the co-operative to pay farmers on the same day that they deliver rice to the co-operative warehouse. The co-operative bulks and stores the rice until it is a good time to sell. Once it has found a buyer prepared to pay a good price, the co-operative takes the rice to a miller and delivers it to the buyer. It then repays the loan, plus interest, to CAF Isonga.

A voucher system is used to speed payments to the farmers. The co-operative can give out vouchers up to the maximum amount of its credit line. The farmer presents the voucher to the CAF Isonga office and CAF Isonga pays the farmer the full value of the paddy delivered, after deducting the production loan and interest. This system works well because all payments are made through CAF Isonga, and both the co-operative and CAF Isonga are custodians of the warehouse and jointly control the flows of paddy into and out of it. The repayment rate is 100 percent, and the portfolio at risk is close to zero.

Lessons from the business model

The COPRORIZ case is one driven from the grassroots with farmers moving from a spot market along the cooperation axis described in Figure 1-1. Through a bottom-up empowerment process, the rice producers have established and tried to consolidate their collective organization. They have been able to move up the VC, primarily, because of the organizational structure they have chosen in order to respond to the market challenges. The creation of the co-operative results in the sharing of fixed costs, and economies of scale and access to credit. A number of lessons for VC financing can be drawn from the analysis of the partnership created by the farmers:

- To be effective, VCF needs to be coupled with chain empowerment: the chain actors need to be able to take their own decisions, based on good information and knowledge, and be better organized so they can defend their interests.
- Soft collateral can work as alternative guarantee mechanism for chain actors to access finance.
- Access to finance is important in chain development. Integrated efforts are needed to develop agriculture-based VCs, especially by the private sector. VCF works better when it is embedded in a holistic process of market, institutional and organizational development for chain actors. This requires a strong partnership between chain supporters (such as CAF Isonga, KCB etc.) and chain actors.
- VC development can work with little or no outside financial investment. When appropriate financial products are made available, the chain actors have the capacity to invest in themselves. The finance provider may have to walk an extra mile to support farmers' integration into the chain. This requires a thorough analysis, good preparation and alternative collateral systems to make farmers' access to finance a success.

5.5 Warehouse receipt system in Tanzania: cashew nuts

Cashew is the most important export crop in Tanzania after tobacco, coffee and cotton. The main product in the cashew VC is the raw nut. About 40 percent of these raw nuts are processed domestically into cashew kernels, which are sold on local markets or become exported; the rest is exported in raw form, mainly to India.

Trade-financing initiative

The marketing of raw cashew nuts in Tanzania has been organized through the warehouse receipt system, since 2007. The country passed a Warehouse Receipts Act in 2005 and Warehouse Regulations in 2006. The objective of the warehousing initiative was to enhance the efficiency of the primary marketing system for raw cashew nuts. Government was concerned that market liberalization had not delivered on its promise that the market was not transparent, and that buyers' agents were paying derisory prices for the raw nuts.

The system is a combination of the WRS, Government minimum pricing and an officially-sanctioned co-operative procurement monopsony, involving the same primary societies and regional co-operative unions that operated prior to liberalization, such that the exporters and local processors are not allowed to send their buyers into the field. The co-operatives deliver raw cashews to designated warehouses, where they are sampled and auctioned. Banks provide the primary societies with funding against WRs issued by designated warehouses. Most middlemen have been eliminated through the introduction of the system. Primary marketing and co-operative societies became the main link for farm producers to the warehouse buying system.

Risks and outcomes

A procurement monopsony does not have much incentive to work efficiently. There is a high risk of the WRS empowering elements with good links to the Government, *e.g.* co-operatives, and particularly unions and warehouse owners who have benefited from privatization, to the detriment of farmers.

Challenges

- The introduction of the warehouse receipt system did not go without stiff resistance from traders and was viewed as state interference.
- On the downside, the WRS halted the establishment of outgrower schemes linking buyers and farmers, and which helped the latter raise productivity and improve nut quality.
- The politically-sensitive system of minimum pricing does not sit well with a WRS, which seeks to be market-driven, and sometimes has resulted in a costly stand-off with buyers.

Shortcomings of the business model

The cashew nut case can be described as Government driven chain, where by the Government tries to stimulate the credit market by the adoption of a warehouse receipt systems. However, the setting of minimum prices reduces the capacity of the innovation to add value to the chain and instead, increases the risk for the Government.

This case demonstrates that intermediation is a delicate act. The facilitator, in this case the Government, must balance between the act of enhancing cooperation while not losing sight of promoting efficiency along the chain.

5.6 Contract farming through outgrower schemes: Sugar cane production in Tanzania

Kilombero valley has great potential for sugar cane plantation. The valley currently has two sugar plants owned by Kilombero Sugar Company Limited (KSCL). The KSCL plantations can only supply up to 47 percent of the two plants processing capacity. The outgrowers supply the remaining 53 percent.

To ensure smooth supply from the out growers, KSCL has an agreement with the Cooperatives and Rural Development Bank (CRDB) for supply of input credit to the farmers. The farmers are reallocated into block farms for easy of provision of infrastructure, supply of inputs and farm management perspective. Outgrowers under each block farming form an association, which enables them to get group loans from CRDB Bank with guarantees from KSCL who are actually the farm administrators and sole buyer of sugar cane from the outgrowers. This is achieved through the following steps:

KSCL arranges for the logistics of cultivating sugar cane farms, giving technical assistance and input supplies through the Kilombero Development Trust Fund. The Bank disburses loans according to achieved level of farm development. Payments are made directly to service providers like input suppliers and transporters. This controls diversion of funds by borrowers.

Loans for farm developments are usually repaid in 3 to 5 years, while that for inputs are usually repaid in one season.

Repayment structure is on multiple installments after realization of sales proceeds.

- The harvested cane is all sold to KSCL and payments are made directly to borrowers' accounts with CRDB Bank.
- An execution of a purchase agreement between KSCL and borrowers' assures a market for the farmers.
- To develop a sustainable future market and further value addition to the sugar cane, the Bank also financed another project for liquor processing in the area. The factory plans to use sugar molasses to produce industrial alcohol that shall be sold to local and international distillers. This expands the market base for sugar cane and mitigates future market risks.
- To make project sustainable and mitigate some of managerial risks, the Bank has invested in support to farmer groups and SACCOS, which include facilitation of training on financial, co-operative and production skills, office finance support, deposit mobilization support and stakeholders coordination through bank relationship managers.

Benefits

- Bank financing to sugar cane plantations project under block farming and VC financing has resulted in the following:
- CRDB Bank financing through sugar cane associations, SACCOs under block farming arrangement has made it necessary for small scale farmers to get easy access to loans and saving products.
- Enhance value addition through the distillery project and improved market for outgrowers' cane.
- The initial success of the project has encouraged other farmers in the region to venture into sugar cane farming, which will increase sugar production in the country.
- The Government and other stakeholders such as the National Economic Empowerment Fund have developed the confidence that the rural poor can be turned into active producers under a well-managed production system. This has necessitated negotiation for duplication of the same initiatives in other potential areas in the region.
- Other lenders have increased their risk appetite in agricultural finance by taping the potential in financing expansions in sugar production in the region aiming to adopt same financing model.
- Farmers who are members of SACCOS and Associations can access other financial services from CRDB, which include business and education loans through their savings and credit co-operative societies.
- Increased employment opportunities and empowerment of farmers through groups.
- The Kilombero district is expected to increase its revenue base due to levy collection from the sale of sugar canes by farmers.

Lessons learned by CRDB in risk mitigation in block farming.

- Bank financing to primary agriculture production focus on crops with less possibility for failure in areas with developed farming systems which include, reliability of water, farm mechanization and assured market linkages.
- Stock finance under collateral management or warehouse receipt systems. This mitigates challenges associated with production risks.
- Ensure financing arrangement with tailor-made product which match with crops production cycle.
- Disbursement of agricultural loan is made in tranches as per schedule of farming activities and for specified input finance.
- Adaptation of wholesale lending model through Co-operative Societies and financial NGO's for rural finance to manage transaction costs and network problems. For example, with a network of 70 branches, CRDB has been able to extend financing in rural areas through partnership with over 500 SACCOs. The SACCOs also assist in mitigating collateral and default risk since members know and guarantee each another.
- Financing in areas where forward contracts under tripartite agreements are possible.
- Working with clients who are within the VC.
- Developing strategic partnerships with interested stakeholders who can guarantee agricultural loans.
- Capacity building of borrowers through training programs via their co-operatives to develop entrepreneurship and promote productivity.
- In some circumstances, the Bank takes a leading role in negotiating or searching markets in favour of its customers.
- Capacity building to credit staffs through training, study visit as well as building specialization in product line.

Box 5.1: WOCCU Suggested VCF Scorecard

Core purpose: Loan officers use the scorecard tool at the end of phase I in the VC methodology. The evaluation provides FIs a framework for deciding whether or not to work with a particular VC.

Analysis: Loan officers use a weighted scoring system to evaluate each indicator based on pre-set criteria. They use the total score in combination with the qualitative information gathered during phase I to determine the viability of financing the VC.

Indicators

- *Market Demand*
  - Is the VC connected to a viable market?
  - Is there sufficient demand to incentivize production? - Can the producers compete with their peer group to successfully meet demand?
- *Producers' Technical Ability*
  - Do the producers have the appropriate level of technical ability to understand and meet demand?
  - Will the producers receive technical assistance from strategic partners who can ensure product volume and compliance?
  - How will technical assistance services be financed?
- *Producers' Organization*
  - Are the producers organized?
  - Do the producers need training to strengthen the association?
- *Market Access*
  - Does the local infrastructure allow basic market access, *e.g.*, public transportation for goods and people, modes of communication, etc.?
- *Environmental Factors*
  - Does supporting the VC encourage the employment of underage workers or interfere with the completion of their schooling?
  - Does supporting the VC encourage environmentally friendly practices?
  - Does supporting the VC encourage practices?

Source: WOCCU (2009): Integrated Financing for VCs – Technical Guide, WOCCU, Washington D.C.

The business model

While the business model is clearly buyer-driven with the chain anchor being the sugar factory, the CRDB also plays a critical role in facilitating the chain. This is a case of vertical integration with the smallholders being included through the out-growers schemes, organized by the buyer (the sugar factory) to increase both volume and flexibility of its production. The terms for participation of smallholders in the sugar VC and financing are regulated by a farming agreement contract.

According to Vorley, *et al*. (2008), cases of inclusion driven by private businesses are characterized by small farmers having less say in the governance of the chain and by less capacity building of small scale suppliers beyond production and post-harvest management. The partnership with CRDB, itself a co-operative development bank, mitigates such downsides. A key to success in finance is to "know the business". VCF is built not only upon physical linkages, but also through knowledge integration. Those who know the business, the best are those persons and companies directly involved in the VC. Both CRDB and the KSCL are active players in the chain.

5.7 Lessons for the DFIs[24]

The lessons from the above case stories for African DFIs for sustainable VC financing include the following:

- ***Ensure that there is market demand for the crops:*** Loans should be made only for crops with reliable buyers that have already been contracted. Crops to be financed should be selected according to objective factors, including crop value, market demand, availability of inputs, ease of transport, climate and growing conditions, farmers' experience and ability to perform labor.

- ***Create proper policies and procedures:*** The DFI should address the following risks when establishing the policies and procedures for VC financing: geographic distance from the borrower, weather, crop failure and the use of balloon payments at the end of the production cycle.

24 See also WOCCU (2009): Integrated Financing for Value Chains – Technical Guide, WOCCU, Washington D.C.

- ***Assess real financing needs:*** Loan officers should use appropriate tools to conduct pre-loan surveys that evaluate the total cost of production based on available land, expected yield, pricing of inputs and labor. In this regard, the DFI should also undertake a SWOT (strengths, weaknesses, opportunities and threats) analysis to identify points along the VC, where providing access to finance could bring the greatest value to small producers and would represent a good investment for the institution. The DFI may use a scorecard tool (see Box – for an example) to evaluate and rank each VC and create a map of potential financing options. Loan amounts should be based on the evaluation.

- *Establish appropriate guarantees on individual loans:* The DFIs should be able to lend to small farmers without requiring traditional forms of collateral, with the appropriate guarantees. The loans may be guaranteed by a combination of collateral and signed contracts with other VC participants. The DFI may also rely on group bonds to manage risks: group guarantees could be arranged for individual loans. If one farmer fails to pay, the other farmers in the group become responsible for repaying the loan. As a result, group members are made to monitor and help each other with farming activities. The DFI may also use crops or warehouse receipts as collateral.

- ***Facilitate and leverage market linkage:*** Direct relationships are very important.

Therefore, DFI should bring together all of the VC participants to identify problems, review their needs based on the evaluation undertaken by the DFI and commit to finding solutions.

- ***Design financial products and repayment schedules that meet specific needs and capacity to pay:*** The DFI should design a product that directly reflects the borrowers' financing needs and the specific characteristics of each commodity and VC. The disbursement and repayment schedules should be based on production cycles. Repayment should appropriately occur after harvest, once the purchase contract is fulfilled. Competitive interest rates should be set to cover costs and provide a profit margin. This step reduces the financial risk of granting loans with unrealistic terms and/or inadequate amounts.

- ***Distribute loans in vouchers:*** When possible, borrowers should receive the loan in the form of vouchers to purchase inputs from pre-approved suppliers during different phases of the production cycle. The farmers should also be able to borrow small amounts of cash to pay field laborers if necessary.

- ***Encourage farmers to diversify crops and procure insurance:*** Crop diversification helps ensure that small farmers will not become dependent on a single crop. It also encourages commercial production beyond the traditional crops they grow to feed their families. The DFI could also require the farmers (or arrange for them) to obtain insurance (drought/floods).

- ***Monitor crop performance:*** Agricultural loan officers and other technical assistance providers should visit the farmers throughout the growing season to provide technical support and monitor production.

- ***Receive payment through the DFI:*** Buyers should pay the DFI directly for crops they receive from the farmers. The DFI should deposit the remaining profits into the farmers' savings accounts after deducting the loan amount, thus promoting savings while recovering the loan.

6. Policies and regulations for AVC financing and development[25]

6.1 Introduction

AVCF and development in many countries enjoy proactive policy and regulatory support from Government, reflecting the contribution of AVCF to sustainable agricultural development, food security, financial inclusion and poverty reduction but also largely in view of market failure (see Box 6.1 for causes of market failure concerning small farmers) in key economic sectors, such as agriculture and finance. However, the AVC involves the participation of various institutions and agents that work under different policy and regulatory frameworks (mainly agriculture, finance and trade but also environment; infrastructure, including transport, energy, water and sanitation, and ICT; land, and labor). Therefore, through its various ministries, the central bank, and sector policymaking, regulatory and supervisory agencies, government provides the enabling environment for the growth of AVCF. In particular, the government is responsible for ensuring the existence of an appropriate policy framework, effective legal, regulatory and supervisory system, and a conducive investment climate.

Until the 1990s, the approach adopted by policymakers (and donors) towards fostering agricultural growth and inclusive finance consisted largely of dirigist measures or direct interventions through a blend of targeted programs, price controls and interest subsidies, establishment of specialized institutions and other donor and government instruments. The case for the direct interventions was based on the arguments of market failure. However, these programs generally had a limited outreach and resulted in huge costs, with little identifiable impact on sustainable agricultural development and financial inclusion for the poor. Furthermore, many of

Box 6.1: Causes of Market Failure Concerning Small Farmers

- Transactions costs in rural areas are high due to such factors as a non-conducive business environment, low - population density, long distances and inadequate infrastructure, which reduce the profit margins of rural enterprises.
- Small farmers and other rural entrepreneurs often lack information on prices, VCs, competitors and consumer preferences.
- Relations between actors in VCs can be greatly asymmetric, leading for example to considerable dependence of small producers on intermediaries and traders.
- Competition is weak or non-existent in rural areas of developing countries, and it generally protects consumers, not producers, from buyers' abuses and dominant position.
- Corporate concentration sometimes results in only one or a few large buyers operating in rural areas, creating a situation where buyers have command over prices and other delivery modalities, which typically exerts downward pressure on the price of the rural product, as well as the incomes, profits, and working conditions of rural producers and workers.
- High value added activities and decision-making power in VCs tend to occur outside rural areas.
- Small enterprises in rural areas often do not achieve economies of scale and scope; they have insufficient bargaining power, due to their size and lack of organization in co-operatives or other producer organizations.
- Producer organizations or co-operatives can link farmers directly with retailers, exporters, traders and agribusinesses

Source: ILO Policy Brief on Rural VCs, 2011

25 Based on Kumar, Workshop Presentation and other sources.

Box 6.2: Responsible Finance: Mobilizing Stakeholders at the Micro, Meso and Macro Levels

Responsible finance is concerned with the delivery of retail financial services in a transparent and equitable fashion. Focus on products, processes, and policies that appropriately balance customers' interests with those of providers' and avoid harmful or unfair treatment. Responsible finance is promoted through measures that may include consumer protection regulation, industry or provider codes and standards, and improvements in consumer financial capability.

- **Regulation.** The first pillar focuses on the role of governments in setting legal and regulatory frameworks that protect consumers and establishing effective and efficient mechanisms to enforce these standards while supporting financial inclusion at the same time. The main challenge is the trade-off between risks and potential over-regulation. There is a need to set priorities that are proportionate to actual risks on the one hand and safe, sound and sustainable access for low income clients on the other.
- **Self-regulation.** The second pillar focuses on industry self-regulation initiatives by actors in the financial industry—including investors, financial institutions, commercial banks, MFIs and umbrella bodies. Self-regulation initiatives may include voluntary codes of conduct on transparent or responsible practices by the financial industry. One of the main challenges seen is in the cost of adherence to standards and potential conflict of interest in associations supervising implementation of members.
- **Financial Capability**. The third pillar entails empowering stakeholders and facilitating behavioral change through various channels. Financial capability is the combination of knowledge, skills, attitudes and especially behaviors which consumers need to display in order to manage their money well and take the best decisions possible, given their economic and social circumstances.

Source: CGAP Sources.

the programs and institutions sponsored by Governments and donors from Tunisia to Malawi, Senegal to Tanzania collapsed under the weight of losses generated by the interventionist strategies manifested by subsidy dependence, low recovery rates, inadequately diversified portfolios, inadequate credit targeting and rent-seeking by credit officials. In the area of finance, for example, private, for-profit financial institutions were crowded out of the market by state and donor-supported microfinance institutions. Despite the enormous resources directed at subsidized credit interventions and frequent bail-outs of state-owned credit institutions, the approach failed to provide access to financial services for the poor and microenterprises.

African countries adopted market-based economic management programs, including liberalized prices, interest rates and exchange rates with the economic reforms that were launched in the late 1980s. They also promoted competition in the various sectors implicated in AVCF development.

However, while most governments have shifted policy paradigm towards market-based principles and the promotion of private sector, they are also paying attention to the soft infrastructure, including issues of capacity building, transparency and accountability as well as institutional efficiencies and improvements in the investment climate, all of which are important for sustainability and development of AVCF (see Box 6.2 on elements of responsible finance, which also impacts positively on AVCF). Some governments have incorporated support to AVCs directly or indirectly in their overall development policies, the poverty reduction strategy and other sector strategies such as the agricultural sector development, financial sector development and rural development strategies.

In the second generation financial sector development reforms that many countries launched in the mid-1990s, governments are focused on improving financial governance and financial infrastructure, including the regulatory,

supervisory and payments systems. Governments are, therefore, adopting several significant changes such as a push toward transparency and more rigorous standards, as well as the adoption of important reforms on the regulation front, which also impact on AVC financing. However, while a deep regulation specifically targeted at AVCF would contribute to enforcing international financial standards and making AVCF safer, it could also make it too complex to operate; and the net effect could be a reduction in AVC financing, which is the consequence that regulation would want to avoid (see Box 6.2). Furthermore, a too strict regulation usually limits the capability to innovate, therefore policy makers deciding which regulation to implement must consider the overall soundness of the financial system, but also innovation.

The objectives of regulation should include: financial system stability; customer protection; effective and efficient use of investors' funds; the setting of minimum standards; promotion of industry growth; and clarification of the legal position of certain institutions and instruments such as warehouse financing (see Box 6.3 below).

The combination of all the considerations implies that it is not possible to imagine a single regulatory approach suitable for AVCF continent-wide. The rest of the section presents the case of India to identify some examples of policies and regulations that helped or hurt AVCF as well as draw lessons for African countries.

6.2 Case Examples from India

The Indian government has initiated several measures to galvanize various institutions, policies and regulations to make them more responsive to the needs in AVC. Some of these measures are discussed below:

6.2.1 Institutional Support Measures

Multi-Channel funding approach

One of the approaches used is to promote as many players as possible. Today, India has public and private scheduled commercial banks, co-operatives, rural banks and non-banking financial institutions. This is in addition to a plethora of Government channels through the department of agriculture and rural development, and export promotion department who implement several subsidy-based agricultural development and export promotion schemes. This has also meant that each of these categories of entities is targeting specific segments within the AVC (see Table 6.1). It also meant that there are several financing options available along the AVC, both for the small and large players.

Reforms in Co-operative Credit Structure

Short-term co-operative credit structure is of vital importance to reach out to the small and marginal farmers. India had approved a Revival Package for Short-Term Cooperative Credit Structure (STCCS) aimed at making it a well-managed

Table 6.1:
Institution categories, their customer segments, and loan size range

Institution category	Target customer segment	Loan size-range
Public sector banks	Medium and large farmers, companies	No limit, but most of the loans are below USD 7,000
Private sector banks	Medium and large farmers, companies, farm equipment finance	No limit, but most loans are between USD 2,200 to 11,000
RRBs	Small and marginal farmers, agri-labours, agri-allied households	Normally below USD 1,100
Co-operative banks	Small and marginal farmers, agri-labours, agri-allied households	Normally below USD 1,100
NBFCs	Large farmers, farm equipments	No limit, normally between USD 6,500 to USD 11,000

Source: Kumar, Workshop Presentation.

and vibrant structure to best serve the credit needs of Rural India. The Revival Package seeks to; (a) provide financial assistance to bring the system to an acceptable level of health; (b) introduce legal and institutional reforms necessary for their democratic, self-reliant and efficient functioning; and (c) take measures to improve the quality of management as an integrated package.

Computerization of land records:

The centrally sponsored scheme on Computerization of Land Records was started in 1988–89 as a pilot project in eight districts. It was decided that efforts should be made to computerize core data contained in land records, to assist development planning and to make records accessible to people, planners and administrators.

The broad objectives of the scheme are:

a. To implement a comprehensive and transparent land information system, capturing the entire workflow of land records maintenance with a provision to store, retrieve and process land records data containing ownership, tenancy rights, crop details, land revenue, source of irrigation, mutation, its updation and dispute resolution.

b. To provide computerized copies of Record of Rights to the landowner at reasonable charges with the provision of an online mutation module for ownership changes, seasonal crop updation etc. at tehsil level, on demand.

c. To provide legal sanctity to computer generated certificates of land records/title documents after authentication by authorized revenue official.

d. To generate and integrate various levels of data for purpose of planning, monitoring, evaluation of developmental programs.

Several states have digitized the land records and in a few states, the landowners can generate ownership documents through facilitation centers. This enables easy collateralization of land for loans, easy renting, leasing and sale of land in case of need.

National Seed Policy

The Government enacted a law in 1996 to ensure certification and minimum quality standards of seeds of notified kinds/varieties. Licenses are issued to enforce the checking of the supply of inferior seeds and of notified and un-notified seeds to the farmers. All persons carrying on the business of selling, exporting and importing seeds had to be licensed and should abide by terms and conditions of license. A new Seed Bill (2006) was introduced to accommodate new innovations in the seed sector, entry of private industry and introduction of varieties of seeds and its importation into India. The legislation regulates the quality of seeds and planting materials, curbs the sale of spurious and poor quality seeds, increases corporate private sector participation in seed production and distribution, and liberalizes imports of seeds. However, there are some concerns that the Bill could throw the peasants out of business of seed production and hand over the critical input to seed companies.

Risk management

After a series of attempts to introduce an insurance cover to farmers, the Government promoted the establishment of the Agriculture Insurance Corporation of India (AIC) in 2002, to provide insurance core to farmers. The AIC currently offers two major— and a number of small area and crop specific insurance products. The two major products are the National Agricultural Insurance Scheme (NAIS) (now in its modified form called Modified NAIS or MNAIS) and Weather Based Crop Insurance Scheme (WBCIS), offering coverage of crops and weather risks to farmers and is available to both borrower and lender.

Technological Innovations

Information Technology has enabled a unique way for empowering farming communities and benefitting the overall AVCs through the use of internet and cellphones. There have been some unique initiatives – both private sector and Government led that have increased the options in AVC financing, including:

- E-Choupal, introduced by ITC, leverages the Internet to empower small and marginal farmers by providing them with farming know-how and services, timely and

relevant weather information, transparent price discovery and access to wider markets, thereby enabling economic capacity to proliferate at the base of the rural economy;

- Kisan Credit Card, an innovative financial product aimed at providing adequate and timely credit support from the banking system under a single window to the farmers for their cultivation and other needs, including short-term credit requirements for cultivation of crops, post-harvest expenses, produce marketing loan, household consumption requirements, working capital and investment credit requirement for agriculture and allied activities;

- Kisan Call Centre was launched by the Government in 2004 to deliver extension services to the farming community. The purpose of these call centers is to respond to issues raised by farmers, instantly, and in the local language. There are call centers for every state which are expected to handle traffic from any part of the country. Queries related to agriculture and allied sectors are being addressed through these call centers. This call center number is available for help any time in 22 regional languages, which will help farmers to know how to grow crops, depending on the type of soil, monsoon condition, pesticides and insecticides to use, according to the season, and loan arrangement with different banks. This is a toll free number and they can call from their cellphones as well, at no costs.

6.2.2 Regulatory enablers

India has been able to evolve and implement some regulations over the last several decades. Some of these regulations have been quite enabling for the AVC. These regulations are discussed below.

Bank branch networks and financial inclusion

The Reserve Bank of India (RBI), as a regulator of the banks, oversees the opening of new branches by the banks. In doing so, RBI uses what may be termed as a 'carrot and stick' policy. The objective is to incentivize banks to open branches in areas which are underserved, for example, rural and semi-urban areas. RBI's guideline on branch licensing states that, "the RBI will, while considering applications for opening branches, give weightage to the nature and scope of banking facilities provided by banks to common persons, particularly in under-banked areas (districts), actual credit flow to the priority sector, pricing of products and overall efforts for promoting financial inclusion, including introduction of appropriate new products and the enhanced use of technology for delivery of banking services."In practice, this policy was aimed at ensuring that the banks first open branches in rural/underserved areas before tapping the banking potential in urban areas. However, '100 Small Steps' a report of expert committee on financial sector reforms suggests that branching as a strategy to improve inclusion itself seems to have reached diminishing returns. The poor have no more access in the richly branched urban areas than in the rural areas. Inclusion has to be more than the opening up of more branches. In this regard, the Government took other steps. In particular, banks have also been advised to simplify the procedure for documentation for agricultural loans and to cover all eligible and willing farmers under the Kisan Credit Card. Banks have also been advised to open "No Frills" accounts and issue simple overdraft facility against such accounts and to issue General Credit Cards up to Rs. 25,000/- without insisting on security and end use of funds.

Agricultural Inputs

Following the green revolution in the mid-sixties, India's seed, fertilizer and pesticide industry grew at a rapid pace and began competing with the world players. There was, therefore, the need for legal support from Government to ensure quality and fair play. The Government of India enacted the Essential Commodities Act, to control the production, supply and distribution of, and trade and commerce in certain commodities, which included fertilizers, in the interest of the general public. The Essential Commodities Act also empowers the Central Government to regulate or even prohibit, if necessary, the production, supply and distribution of any essential commodity, so as to maintain or increase its supply or for securing its equitable distribution and availability at fair price, etc. The Government also regulates the import, manufacture, sale and distribution of pesticides under the Insecticide (Amendment) Act, 2000.

Labor

Important sections in the rural population that can benefit from welfare measures are agricultural laborers, an overwhelming majority of whom live below the poverty line. The practical method by which they can be helped to achieve a higher standard of living is only by improving their levels of income. For this purpose, the Government of India has enacted a series of laws, including the Minimum Wages Act, 1948, which empowers the states to fix the minimum wages for various categories of agricultural workers; and several other acts applicable to farm and plantation workers since then[26]. The implementation of the various acts is beset with considerable difficulties in the agricultural sector because of the nature of work, fragmentation of holdings, payment of wages in kind, borrowings by the agricultural labor, vagaries of weather, traditions and customs, lack of adequate organization among the agricultural labor and illiteracy among the employers and the employees alike. To a large extent, minimum wages and improved farmer conditions have been secured more on account of migration-driven scarcity of labor and the Government's employment guarantee program in recent times.

Warehousing (Development and Regulation) Act, 2007

The Government introduced the Warehousing (Development and Regulation Act (2007) to help farmers avail better credit facilities and avoid distress sale and also to safeguard financial institutions by mitigating risks inherent in credit extension to farmers. The Act enabled pledging/collateralization of agricultural produce with a legal backing in the form of negotiable warehouse receipts has led to increase in flow of credit against commodities and in development of chain of quality warehouses. Before the act, the receipts issued by the warehouses were not negotiable and did not enjoy the confidence of the bankers. There were impediments in the negotiability of the warehouse receipts creating difficulties for the farmers. The Warehouse Act enabled warehouse receipts as negotiable instruments and facilitated financing against the warehouse receipts helping the lower end of VC, *i.e.* the farmers and traders. Banks, on the other hand, improved the quality of their loan portfolio. The Act has enabled financing against the agricultural commodities, lowered the cost of finance, shortened the VC and enabled better price risk management at the farmer level.

Agricultural produce marketing

In India, agriculture marketing is a Provincial (State) subject and most of the states have their own Agriculture Produce Marketing Committee (APMC) Acts to regulate agriculture marketing. The Acts obliged the farmers to take their produce to a `market yard` and sell it through middlemen. The chain of middlemen might consist of up to ten links, each eroding the producers' income. In view of the above, reforms in the agricultural marketing sector were considered necessary to move away from a regime of controls to one of regulation and competition and to bring about professionalism in the management of existing market yards and market fee structure. While promoting the alternative marketing structure, however, the Government needed to put in place adequate safeguards to avoid any exploitation of farmers by the private trade and industries. For this, there was a need to formulate model legislation on agricultural marketing. Accordingly, a new model act was drafted, providing for the establishment of Private Markets/yards, Direct Purchase Centers, Consumer/Farmers Markets for direct sale and promotion of Public Private Partnership in the management and development of agricultural markets. It also provides for a separate constitution for Special Markets for commodities like onions, fruits, vegetables, flowers etc. The model Act also has provisions for contract farming. The new Model APMC Act is adopted by 16 States.

Forwards/Futures

The Government also enacted Acts to regulate the futures and spot markets in agricultural commodity trading. Forward/Futures trading in a commodity is a mechanism for price discovery and price risk management, useful to all sectors of the economy, including farmers and consumers. The prices of agricultural commodities are generally at their lowest at the harvest time and increase substantially in the lean season when the demand exceeds supply. This adversely affects the farmers (as they realize lower prices of their produce in the harvest season) and consumers (as they have to pay higher prices in the lean season to meet their requirements).

26 Payment of Bonus Act (1965), Employees' Provident Fund and Family Pension Act (1972), Payment of Gratuity Act (1972), the Industrial Disputes Act (1947), the Trade Unions Act (1926), and the Workmen's Compensation Act (1923)

Box 6.3: Regulation of Warehouse Receipts

Warehouse receipts must be functionally equivalent to stored commodities. They must specify the quality and quantity of the goods stored. The rights, liabilities, and duties of each party to a warehouse receipt (producer, bank, warehouse, and so on) must be clearly defined. Ideally, receipts should be freely transferable by delivery and endorsement. Holders of receipts must have the right to receive stored goods or their fungible equivalent if the warehouse defaults or its business is liquidated. And the lender should be able to determine, before granting the loan, if there is a competing claim.

However, the term warehouse receipt means different things to different groups of people around the planet. For example, in the United States, the term warehouse receipt is used for a document evidencing storage of a commodity in a warehouse. Unlike elsewhere, it is a document of title, supported by legislation; in this case, the US Warehouse Receipts Act of 2000, which replaced a piece of legislation enacted in the US in 1916. By contrast, in the United Kingdom, a warehouse receipt is a non-negotiable instrument simply notifying that at a certain moment in time, a certain amount and quality of a commodity was delivered into a warehouse. In the UK, a negotiable form is represented by a warehouse warrant of the type issued by London Metal Exchange-nominated warehouses. Herein lies the potential for some degree of confusion and need for legislation and regulation, making warehouse receipts negotiable or non-negotiable.

A non-negotiable warehouse receipt is made out to a specific party (a person or an institution). Only this party may authorize release of goods from the warehouse. He may also transfer or assign the goods to another party, for example, a bank. The warehouse company must be notified by the transferor, in this manner before the transfer or assignment becomes effective.

The non-negotiable warehouse receipt in itself does not convey title and, if it is in the name of, for example, a trading firm, it needs to be issued in the name of or transferred to the bank in order for the bank to obtain more than just a security interest. A security interest is much less attractive to a bank than if it has what is called possessory collateral, *i.e.* it has direct recourse to the warehouse where the goods are stored and in the event of a default or similar, it is easy for the bank to sell the commodities in a shorter time frame.

Regulation is critical to the success of warehouse receipts, and government must be committed to finding the correct balance of regulatory oversight. There are two main approaches to regulation: the minimalist approach, which involves low regulatory oversight, and the maximum approach, which involves high regulatory oversight.

- The **minimalist approach** allows banks to individually screen and oversee warehouse operators without government oversight. It is typically an efficient process, but it usually works when there are large clients in ports or other urban areas. Because of the high cost of maintaining and overseeing this system, MFIs cannot sustain the system. Very rarely does this system reach into rural areas.
- The **maximum approach** advocates for national government oversight to oversee warehouses and institute a national grading system. This system takes the oversight burden off the MFI and often allows for the spread of inventory credit into rural areas. This system, however, needs an efficient and non-corrupt governing body to provide appropriate oversight.

Sources: USAID: Bamako 2000 – Innovation in Microfinance, World Bank, Agriculture and Rural Development website.

Forward/futures markets provide a market mechanism to balance this imbalance of the supply –demand pattern of agricultural commodities. Futures trading provide a means of appraising the supply-and-demand conditions and dealing with price risks, overtime and distance. Trading in futures not only provides price signals to the market of today, but also of months ahead, and affords guidance to sellers (farmers/ growers/ processors) and buyers (consumers) of agricultural commodities in planning ahead.. Futures markets therefore are beneficial to both the consumers and farmers.

6.2.3 Regulatory and Policy Weaknesses/Disablers

Despite recent policy and regulatory advances, there are still areas that should be improved from the perspective of healthy development of AVCs. In fact, enabling policy development and regulations is always a work in progress. The governments and regulators learn from the experiences and work on developing a favorable policy and regulatory environment for agriculture. For the last few years, India has seen an almost decline in the growth rate of agriculture GDP. Sections below discuss some of the reasons that led to such a slow performance of agriculture:

Inadequacy of investment on productivity enhancement and rural infrastructure

The share of agriculture in the total gross capital formation in real terms has been on a decline in recent years mainly on account of steady reduction in the share of public investment. There are concerns owing to inadequacy of private investment in meeting the capital requirements of agriculture, more particularly rural infrastructure, which might pose constraint to agricultural growth. Instead, public money is spent to finance subsidy on agriculture. Almost 80 percent of the public expenditure that goes into agriculture is in the form of input subsidies (fertilizers, power, and irrigation) and only 20 percent as investments in agriculture subsidies in agriculture have apparently crowded out public investments in agriculture, and have rather dis-incentivized private investments. It is likely that lower public investment due to more emphasis on the provision of subsidy will further deteriorate the quality of public services such as power supply. Besides, subsidies of inputs increase demand (including spurious demand), lead to rationing of inputs and distortion in use.

Over-regulation of domestic agricultural trade and excessive protection of customer

While economic and trade reforms in the 1990s helped to improve the incentive framework, over-regulation of domestic trade has increased costs, price risks and uncertainty, undermining the sector's competitiveness. Customer protection from scarcities and high prices has been achieved through country wide initiatives that do not discriminate those who can afford to pay higher prices from those who cannot. The overall price effect of customer protection measures on sugar, food grains, edible oils, etc., have been such that farmers are unable to gain higher returns necessary to remain in farming. Policy should target those who need protection and design welfare schemes that are specific to the needy and avoid the use of economic measures that distort demand, supply, prices and incentives in agriculture.

Institutional issues in credit delivery to the poor

Co-operative institutions that include a large number of Primary Agriculture Co-operative Society (PACS) dominate credit delivery at the grassroots/village level. There are about 100,000 PACS in India, which practically means there is a co-operative outlet for every 6 villages in India. However, the PACS face serious problems of governance, solvency and operational efficiency. A large segment of the Co-operative Credit structure is multi-layered, undercapitalized, overstaffed and under-skilled, often with mounting non-performing assets, coupled with the erosion of public deposits in certain cases. The institutions are also saddled with problems like low resource base, high dependence on external sources of funding, excessive Governmental control, huge accumulated losses, low business diversification, low repayment rates, etc. Around half of the PACS, a fourth of the intermediate tier, *viz*., the DCCBs, and under a sixth of the State-level apex institutions, *viz.*, the State Co-operative Banks are loss-making. The task force on the revival of rural credit operations noted that the co-operatives in India are largely focused on credit and the concept of mutuality (with savings and credit functions complementing each other) that provided strength to co-operatives elsewhere has been missing there. The "borrower-driven" co-operatives are struggling with conflict of interest which has led to regulatory arbitrage, recurrent losses, deposit erosion, poor portfolio quality and a loss of competitive edge for the co-operatives.

Land title and lease laws

While land distribution has become less skewed in India, land policy and regulations to increase security of tenure (including restrictions or bans on renting land or converting it to other uses) have had the unintended effect of reducing access by the landless and discouraging rural investments. Leasing out land is difficult in India as it is either legally prohibited or made difficult in most provinces. The laws governing sale, purchase and lease of land are governed by the respective state laws. Practically, this has left the landowners to resort to informal leasing agreements practically leaving little security with the tenants. This has dis-incentivized the tenants to make any long-term investments in the land, thus affecting agricultural productivity. Studies have found that restrictions on land leasing have proved to be counterproductive and effectively anti-poor. As it is, the linking of small and fragmented farms with large-scale processors and retailers remains a challenge, which is further compounded by restrictive land (lease) policies. It is a challenge to allay the fears of a farmer regarding possible alienation from his own land because of leasing it out to the agri-business firms —corporate farmers, retailers or processors. Moreover, since credit is intricately linked to land, access to credit is affected in case of marginal farmers who resort to informal means of leasing, since institutional credit requires the pledging of collaterals.

Post-harvest losses in the VC

According to a study by Global AgriSystem of Fruit & Vegetable supply chain in four metros (Delhi, Mumbai, Bangalore and Kolkata), on an average, there are 5-6 intermediaries between the primary producer and the consumer. The total mark up in the chain added up to 60-75 percent. As a result, the primary producers receive only 20-25 percent of the consumer price. One of the reasons why this high mark may be added in the VC is that there are wastages in the process of multiple handling in the range of 15-25 percent. The food ministry has stated that food grains of USD 6 billion have gone waste in 2010, most of it in state warehouses. With a production (in 2010) of around 80 million tons of food grains and the combined storage space of the Food Corporation of India, State Warehousing Corporations and other agencies of just 60 million tons, some 20 million tons of food is left out.

6.3 Recommendations for improving AVC policy and regulations in Africa – Lessons from India

Financing VCs in agriculture is perceived to be a great challenge that requires vision, policy orientation and re-channelization of resources for success. For Africa, the lessons from India are noteworthy as India and large parts of Africa share a common starting point as far as agricultural development is concerned. Discussed below are some good lessons that African Governments can learn from the Indian story towards policy and regulatory improvements to meet the challenges of AVC financing and development:

Measures to enhance sustainable agricultural development

The major constraints facing the Agriculture sector in many African countries include:

- The falling labor and land productivity due to application of poor technology.
- Dependence on unreliable and irregular weather conditions. Crops are adversely affected by periodical droughts.
- Unreliable markets for the farm produce, affected not only by the principles of demand and supply but also by the Government policies on food security.
- Poor road infrastructure for supply of farm inputs and transportation of farm produce to the markets.

African policies towards improving AVCs must also aim at tackling these challenges. In this regard, the following would be priority:

Food security should be the first priority

India focused on food security in the decades of 60s and 70s and ushered in the green revolution, which largely focused on rice and wheat, the principal food crops. Eventually, India was able to achieve food self-sufficiency. Africa should

ideally implement appropriate agricultural strategies towards achieving food security and meeting the feed requirements of the poor. However, these above mentioned constraints need not be construed as an 'either or' choice between food staples and commercial crops. In fact, as a strategy, a fine balance between basic food and commercial crops will have to be struck so as not to lose focus on developing VCs of commercial crops that have a market potential. The success story of Ghana is worth noting in this context[27]:

- Ghana's agricultural sector has grown by an average of about 5 percent per year during the past 25 years, making it one of the world's top performers in agricultural growth, according to the Overseas Development Institute.
- Ghana cut hunger levels by 75 percent between 1990 and 2004.
- Reforms in the country's most important cash crop, cocoa, along with rising yields in staple crops such as cassava, yam, and sweet potatoes, helped increase incomes in the rural areas, reducing the percentage of the population living in poverty from 52 percent in 1991-92 to 28.5 percent in 2005-06.

Improve agricultural productivity

Related to policies to improve food security would be the need to improve agricultural productivity in general. Agricultural productivity can be improved through improved inputs and methods such as improved seeds, fertilizers, improved ploughs, tractors, harvesters, irrigations etc. along with appropriate extension service. This will help in the transfer of technology from the lab to the field. Field-based demonstration on the latest production techniques as well as easier access for interaction with experts will help the producer in enhancing the farm productivity.

Enhance infrastructure development

India has been and still is far behind in terms of infrastructure required for agriculture development. While India has made quite some progress in terms of rural road network, other areas such as electricity, storage /warehousing, marketing yards and agro-processing all require significant focus. This is especially important for Africa where a typical farmer is 5 hours away from market area and transport costs are among the highest in the world (as much 77% of the value of exports)[28]. Africa could focus on these vital levers of growth early on since presence of infrastructure itself incentivizes investments and establishes good value chains. Affordable physical infrastructure is, in fact, a major source of competitiveness in agricultural value chains[29]. Rural infrastructure, which includes agriculture research and extension, transport, electricity, and storage structures, is also important, as it not only enhances the productivity of physical resources, but also helps in supply chain management and value addition in agriculture. While national and local Government could clearly keep this as a focal area, the financing institutions could also significantly participate in creating enabling infrastructure to support agriculture growth.

Encourage public private collaboration

Indian experience with PPP-based models, especially in infrastructure development, has been mostly positive. The model is still not widely prevalent in AVC per se, but is gaining ground. For example, many states in India have relaxed the agriculture produce marketing act to involve private sector players and to establish infrastructure in wholesale markets. PPP is a widely prevalent model in national highways and logistics parks projects, which have immensely reduced the transport costs and time for inter-regional trade and movement of commodities meant for export. Africa could adopt these early on and consider private sector participation in areas where possible, keeping in view, however, public interest through a balanced regulatory oversight.

27 Gates Foundation website: "Profiles of Progress: Ghana" ¬ http://www.gatesfoundation.org/agriculturaldevelopment/Pages/facts-about-agricultural-development.aspx

28 Agriculture Sector Strategy 2010 – 2014, African Development Bank Group.

29 Michael Warner and David Kahan, Market-oriented agricultural infrastructure: Appraisal of public–private partnerships, ODI, Project Brief NO 9, 2008.

Box 6.4: AVC Development in Fragile and Middle Income Countries

Many Fragile States possess significant resources of arable land and labor, which potentially give them a comparative advantage in agriculture and agribusiness more broadly. Despite this, very few Fragile States have been able to fully harness these potentials. Agriculture remains largely under-capitalized in these countries, with little mechanization and scant use of yield-enhancing practices and technologies – and, therefore, low-value addition. Overall, agricultural productivity has been persistently low.

In addition to weak agricultural productivity, the majority of Fragile States also have limited agro-processing activity and capacity. Relatively low agricultural output is made worse by large post-harvest losses, particularly for perishable commodities. Weak agricultural productivity and limited processing capacity limit the scope for value addition and the creation of decent employment, which are crucial for development and peace in these countries. However, the convergence of strong demand for food and non-food agricultural products with favorable supply conditions—such as abundant arable land and labor—make agriculture and agri-business development a viable option for most Fragile States.

In fragile and post-conflict states, there are special challenges in development management. At the same time, post-conflict contexts and "turnaround" countries provide the greatest potential for progress. Restoring basic services and strengthening public institutions (of governance, finance and infrastructure) and their open and sound management is essential for rebuilding government capacities, delivering essential services and restoring public confidence in the state. In particular, the potential for VC development in agriculture can be tapped if the factors inhibiting productivity and private investment in agriculture are relieved. Raising productivity would require, among other things, improving physical infrastructure, increased funding for agricultural research, increasing use and promotion of yield-enhancing and environmentally-sustainable technologies and practices, and improving institutional and regulatory frameworks. Promoting risk-taking and innovation —hence private investment —in agriculture and agri-business would require the exploration of innovative financing tools, particularly given the high perceived risk in this sector, in these countries.

Middle-income African countries should adopt most of the approaches learned from India. The approach to AVCF should focus on building synergy with its broader governance promotion and private sector development activities to create enabling environment for private sector development, including through macroeconomic, regulatory and financial governance reforms; improving economic competitiveness as well as SMEs and women entrepreneurship.

Source: World Economic Forum, Fragile States Global Agenda Council, 2011-2012 Report.

Information technology to bridge the information deficit

Information technology has to be used to facilitate information at various levels of VCs. This might for example, mean information about crop prices, weather information/forecast, and use of banking services through cellphones, through calls or text messages, as for example, through the Kisan Call Centres. However, it needs to be ensured that the users/farmers know about such facilities. As of now, there are very few users of Kisan Call Centres, since not many people know of this service.

Legalize Land lease markets

Legalizing lease markets also protects the interests of the retailer/processor, and encourages arger investments. In this context, it may be helpful to ensure the registration of land deeds and the computerization of land records for bringing about greater transparency and reliability. Some states have made a beginning in computerizing the land records, but most others have a long way to go.

Judicious use of subsidies

Sustainable agricultural development need to be based on market based development, clubbed with 'smart subsidies'. India has been struggling with getting its subsidies to become smart and targeted. In fact, subsidies have been proven to benefit large farmers and input dealers both in India and Africa (for example the case of Zambia)[30]. Therefore, a key lesson for Africa is to use subsidies judiciously and design them with sharp targeting and result orientation.

Measures to enhance Financial Inclusion

Market-based approach: The lessons from India support a paradigm shift in the credit market. First, it is advisable to move away from a focus on subsidies to timeliness, adequacy, quality and scope. Pricing of credit needs to be market-based to ensure effective flow of credit to all sections of the agricultural community. Emphasis has to shift from subsidized credit to timely and adequate credit at reasonable cost, especially where credit delivery system is very weak and complex. It is also important to carefully monitor the usage of credit right from the input to the output stage so as to ensure proper utilization. Monitoring of credit should not only be limited to crops but also to related activities that are funded by financial institutions like NABARD.

Harmonization with the real sector development: There is a lot of focus on agriculture credit to develop the agriculture sector. However, a working group of experts constituted to study 'outreach of institutional finance, co-operatives and risk management' notes that "...for enhanced productivity of credit, financial sector initiatives must be harmonized with the real sector initiatives. When the real world is characterized by constraints such as low seed replacement rates, uncertain input quality, yield fatigue, virtually non-existent extension services, problems relating to land laws and tenancy related issues, weak prices, need for better and more affordable productivity risk mitigation initiatives etc., merely enhancing the flow of credit will not yield the expected results. The working group, therefore, believes that support services including infrastructure, storage, processing, marketing etc., should be reinforced and regulatory mechanisms for ensuring quality of inputs and reorienting extension services to enhance the impact of credit be put in place".

Diversify attention to credit direction: The direction of credit (quality) is equally important. Historically, agriculture growth strategy has been driven by concerns of increasing production and productivity. While in many ways, this strategy may still be relevant, it may be necessary to give lay thrust on the downstream VC functions, including storage, processing, distribution, marketing, etc.

Strengthen core credit delivery institutions – co-operatives and banks: While the banks still dominate the financial markets, the co-operative credit institutions hold a lot of promise to deliver financial services to the farmers at their doorsteps. Enhancing credit through these institutions is recommended. Firstly, steps must be taken to revive the short-term co-operative credit structure which is facing challenges. These steps would include enhancing the member shares and deposit safety for the members; launching financial literacy, especially campaigns to enhance member awareness of their rights and responsibilities towards increasing their participation in running the PACS; taking steps to enable the co-operatives become one stop solution for the members' farming needs, including insurance, leasing and information products. Secondly, measures should be taken towards improving skills of rural- and commercial banks, so that their outreach to the rural areas increases. Moreover, it is recommended that a level playing field is provided to the public sector banks, for example, to enable to them to compete more effectively. This can be done by reducing government holding (perhaps by retaining control), bringing independent professionals on the Board, and reducing excessive Government oversight (vigilance and parliament). The banks will be able to compete more effectively and serve better by using modern technology, mobile and electronic banking.

Bring down the cost of banking services through increased use of technology

Despite some progress made, India's poor are still largely excluded from the formal financial system. According to the report '100 Small Steps' (Raghuram Rajan), only 34.3 percent of the lowest income quartile have savings, and only 17.7 percent have a bank account. Discussing credit, the report states that the poor borrow predominantly from informal sources, especially moneylenders and relatives/friends. In the lowest income quartile, over 70 percent of loans taken were

30 World Bank: World Development Report, 2008.

from these sources. While competition needs to be enhanced by creating a level playing field between the banking institutions, the focus should also be on reduction in the cost of banking services, which may require improved delivery mechanisms and increasing use of information technology. The costs of banking transactions need to be dramatically reduced as has happened in many other fields such as telecom, after the advent of technology. However, it is observed that, in banking, the transaction costs continue to be high, particularly in agriculture sector, which include costs incurred in appraisal of borrowers, processing, documentation and disbursement charges, loan monitoring/supervision and collection. It is essential to bring down such transaction costs to make credit available to the farmers at affordable price. The transaction costs for borrowers to access banks should be brought down through the redesign of processes for dealing with credit proposals.

Regularly review and revise policies and regulations to reflect current realities

Developing countries tend to have excessive regulations over a period of time. While, most of the policies and regulations are framed to keep public interest and priorities in view, they need to be reviewed regularly to reflect current and emerging economic realities, trends in domestic and international trade, and technology and to encourage private sector participation. For example, ECA in India made more sense when food security was a major concern, but not in the current context. Today, with food security not such a grave concern, the Act only discourages the participation of the private sector so important for the economy. Similar is the fate of APMC Act, which inhibits the free sale/purchase of agricultural commodities. In Africa too, similar Acts would have to be reviewed and be done away with or amended in view of current realities. AVC development would also have to reflect country realities (Box 6.4).

7. Role and experience of external development partners[31]

7.1 Introduction

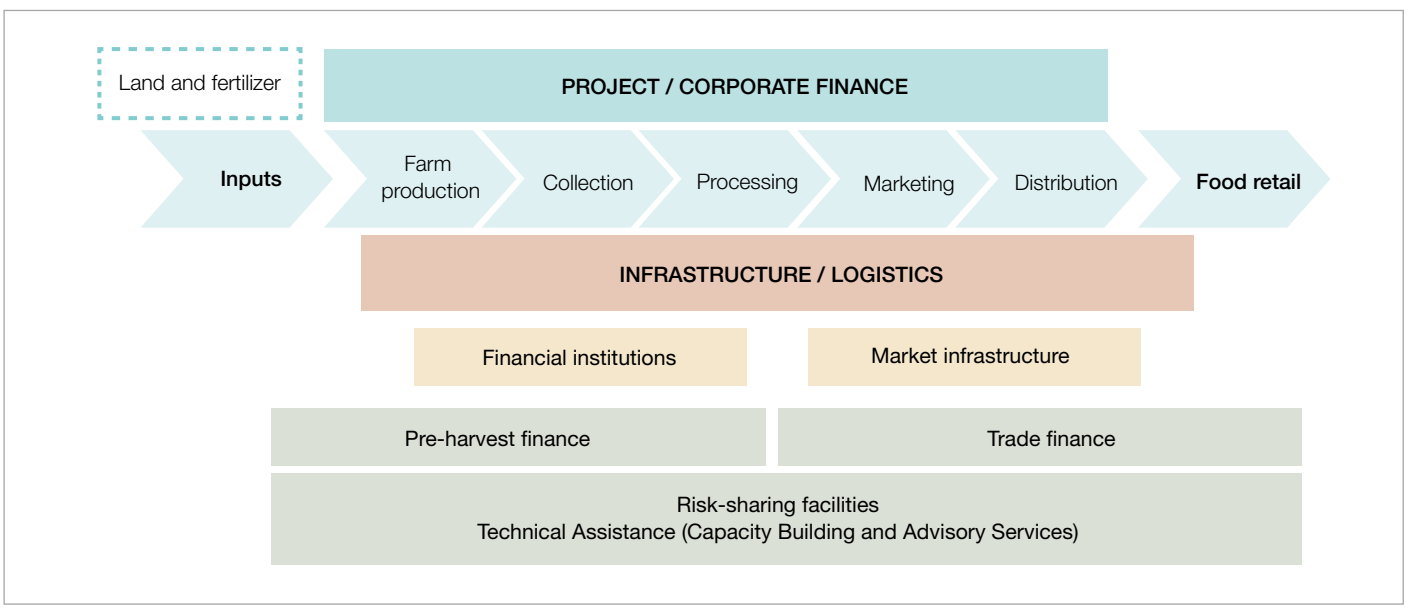
Many international development partners, multilateral and bilateral, financial (DFIs) and technical, provide financial and/or technical assistance to AVCs in Africa. Many of these international development partners provide support to AVC as part of their support to development and poverty reduction, sustainable agricultural development, trade competitiveness and integration and/or promotion of financial inclusion in African countries. The development partners deliver such development impacts along (points in) the AVC from inputs (such as land and fertilizers) to food retail. The support may be provided through investments (grants, project or corporate finance), capacity building and advisory services to the public or private sector towards developing infrastructure or logistics, providing catalytic finance (pre-harvest or trade) or developing some risk-sharing facility (see Figure 7.1). Most development partners also provide support that is in line with the international agenda for achieving development effectiveness (alignment and development outcomes) but their private sector entities may add other criteria such as commercial viability and additionality (see Box 7.1). Their experience provides some useful lessons for government and even private sector participation in VC financing. This chapter will glean these lessons from the experiences of the AfDB (a multilateral development finance institution), the KfW (a bilateral development finance institution) and the International Trade Center (a multilateral non-bank -- technical -- development partner).

7.2 The African Development Bank Group

7.2.1 Approach and Models

The Bank's approach to VCF is demonstrated through its various projects targeting different productions, for example, rice, fish, livestock, sugarcane, coffee and SMEs etc. To support these production VCs, the Bank plays different roles meant to be catalytic to the development and growth of the targeted sectors and country economies. These include

Figure 7.1
Overview of international development partners' support to AVCs



Source: Adapted from Vipul C. Prakash: Financing Agribusiness in Turbulent Times, IFC, 2009.

31 Based on the Workshop Presentations on the AfDB, KfW and ITC experiences.

Box 7.1: Selected Features of AfDB Private Sector Support to Agriculture

Eligibility Criteria

Strategic alignment:	Development outcomes:
Country's economic and social priorities	Employment and gender effect
Development Partner's strategic fit	Local content
	Economic and social impact
	Macroeconomic resilience
Commercial viability:	Additionality
Market fundamentals	Deal structuring
Financial viability	Attracting commercial investors
Sponsor's experience and financial strength	Political and financial risk mitigation
	Rate of return

Financial Instruments:

Senior debt:	Adapted maturities (up to 15 years) Foreign /local currency loans African Financing Partnership– DFI co-financing platform A-B Syndication Program– leveraging the AfDB Preferred Creditor Status
Guarantees:	Partial risk guarantee Partial credit guarantee
Subordinated Loans:	Subordinated, convertible
Equity:	Private Equity funds Direct, maximum of 25 percent
Technical Assistance:	Capacity building support for financial institutions SME Linkages programs

Approach

■ *Direct investment*	Supporting large projects that promote linkages between commercial players and MSMEs and Smallholder Farmers
■ *Through intermediaries*	Supporting the development of strong financial intermediaries to reach MSMES and agricultural stakeholders..

The AfDB Private Sector strategy for Agriculture is to focus on transactions which:

- Contribute to food security,
- Feature transfer of skills and technologies,
- Address the needs of local and/or regional markets,
- Fosters inclusive growth with local communities through outgrower schemes and SME business linkages,
- Comply with the highest and most sustainable environmental and social practices.

Example: The Ghana Oil Development Company

■ *Project:*	A EUR 7 million senior loan committed in 2004, to develop the palm plantation, invest in processing facilities and develop a 5,000 ha outgrower scheme,
■ *Sustainability::*	first certified producer of organic palm oil in Africa,
■ *Infrastructures :*	electrification, water supply, education, road establishment and maintenance,
■ *Gender effect:*	women represent 30 percent of the permanent workforce and 80 percent of contract employees,
■ *Local linkage:*	8500 farmers, making it one of the biggest outgrower scheme in West Africa,
■ *Upscaling:*	Some outgrowers have now emerged as medium-size entrepreneurs operating over 20-ha farm each.

Sources: Airtel (http://www.airtel.com) and Wikipedia (http://en.wikipedia.org/wiki/Zain

support structures (*e.g.* infrastructure, policy development, capacity building etc.). To achieve this, the Bank uses different instruments:

- ***Project Loans***, which are a major instrument of the policy of the Bank for the socio-economic development of member countries and poverty reduction;
- ***Grants*** to governments in order to invigorate development and create enabling environment for projects and specific business activities;
- ***Lines of credit (LOC)***, mostly through national Development Banks;
- ***Private Equity,*** where the Bank places equity investments to transform financial institutions into viable businesses and effective VC actors;
- ***Guarantees***, to encourage lending and spur growth in certain sectors, especially agriculture.

In terms of approaches, the Bank has used:

- ***Stand-alone approach*** to finance MF projects. Where agriculture is concerned, farmers are given access to credit through commercial banks, national development finance institutions (DFIs) or MFIs and SACCOs. In terms of reaching the rural areas, some projects *e.g.* Small Entrepreneurs Loan Facility II (SELF II) in Tanzania where 57 percent of the MFIs have accessed credit to on-lend to farmers and entrepreneurs have had good results.
- ***Integrated approach,*** where the large infrastructural and agricultural projects have a credit component within them. Integrated approach poses some challenges to MF, especially where MF scope is stifled or discontinued, or where MF delivery channels are not readily available or do not function efficiently. In such cases, credit resources are either cancelled or reallocated to other activities.

From a project point of view, several VC areas are funded; for example, agriculture development, financial services, capacity building, Infrastructure development and project management. In some of the projects, there was a credit element to MFIs to on-lend to the farmers. In some cases, this existed on paper since there were no financial institutions (Case of the Fisheries Development Project in Uganda) with rural outreach, while the available ones had stringent lending conditions prohibitive to the target beneficiaries.

To illustrate the Bank's experiences in MF aspect of VCF, a few cases studies are presented here, while the lessons learned from the same are discussed in section 3.4.

Komati Downstream Development Project (KDDP), Swaziland (Closed): The objective of the project was to reduce poverty through increased household income of the rural population of the KDDP. This was to be achieved by creating the conditions for the transformation of subsistence level smallholder farmers into small-scale commercial farmers, providing support in: (i) **Agriculture development:** Through the use of credit funds under the AfDB financing as well as Government of Swaziland and European Union financing (a total of UA23 million), the project was able to develop 3,983.03 ha of sugar cane and 590 ha of other crops including maize, vegetables and bananas out of the planned total of 4,200 ha, exceeding the planned target by 9%. The Development Financial Institutions had on-lent SZL139.4 million to the Farmer Associations (FAs). The development of sugar farms brought about new lending opportunities for the other activities in the VC *e.g.* transport and haulage, weeding, input supply (*e.g.* fertilizers); (ii) **Infrastructure development:** A total of 34.7 kilometers were constructed out of the planned 40 kilometers. Eight communities in the PDA had access to potable water, as a result of this project. A ninth scheme (Njakeni) was constructed; Two electricity grids were provided (66/11KV lines); Three river crossing (two low level and one high level crossings) and three canal crossings were constructed under the project.; 27 river pump stations and 22 booster pump stations were constructed as well; and (iii) **Project management and implementation:** project execution was done by Swaziland Water and Agriculture Development Enterprise (SWADE) and project implementation at field level was well organized and adequately staffed. The overall physical implementation of the AfDB component stood at about 97 percent. Achievements of the project were **commendable** with an addition of an annual tonnage of 64,000 to Swaziland's sugar output (sugar is among Swaziland's key exports) and loan recovery rates were above 95 percent due to contract farming; **Sustainability was uncertain** in the short- to medium-term because the FAs had not acquired the capacity to run the huge investments that had been made with significant external professional assistance;

- **Financing changes** for the project led to an **increase in the cost of the project.** By 31 October, 2011, the total project cost rose to UA41.59 compared to the appraised UA17.12. The increased cost for the Agriculture Development Component was necessary to make the farms owned by FAs viable; and

- Expected Economic Rate of Return went down from 27 percent to 13 percent as a result of increased cost of financing.

Inland Valleys Rice Development Project (IVRDP), Ghana (Closed): The project objective was to increase the incomes of smallholder farmers, women and men traders and processors in the country by increasing the production of good quality rice. To achieve this, the project was designed to focus on the following areas: (i) **Land management:** By the close of the project (*i.e.* June 2011), only 2,500 ha out of the planned 4,500 ha had been designed; and out of the designed 2,500ha, only 1,235ha had been partially constructed in 48 valleys/schemes. Some key civil works, mainly land leveling, terracing and construction of flood water control works were yet to be done; (ii) **Credit for crop development:** As a result of incomplete land development issues, most farmers were *unable to pay back their loans* in full, owing to the high labor costs they incurred in manual land development. This, in turn, made it difficult for the AfDB to roll out further credit to new farmer groups because of their *low recovery rate*, which stood at between 37.90 percent and 25.79 percent. The Bank demanded that a 95 percent threshold should be met before repeat loans were given; (iii) Capacity building; (iv) Adaptive research and surveys; and (v) Project co-ordination.

On the overall, there was f**ailure on land development** below 4,500ha originally planned. Subsequently, this component's low performance adversely affected the performance and sustainability of the other components in the VC.

- **Medium-term loans could not been accessed** due to the l*ow level of production* and also due to local entrepreneurs' inability to meet the 30 percent minimum requirement and other security conditions for capital asset purchases.

- It was **unattractive to invest in capital assets** for agricultural production because prevailing production volumes could not sustain or guarantee a good return on investment.

Rural Income and Economic Enhancement Project (RIEEP), Egypt (Ongoing): The RIEEP in Egypt has demonstrated a thorough design implementation strategy as far as VC approach is concerned. The project seeks to improve the socio-economic livelihood of the economically active rural smallholder farmers engaged in the production, processing and marketing of selected agricultural commodities. The project intends to reach 4,800 small scale agribusiness enterprises and 20,000 micro-enterprises. The approach is to use a USD 70 Million LOC and USD 3 million for Technical Assistance; to fund (i) participatory VC *analysis for horticulture and dairy;* (ii) create *business linkages* between the farmer associations and the private sector agribusinesses in the VC, through improved information on market opportunities, value addition (processing), entrepreneurial and business skills development and reliable trade relations; and (iii) developing the *capacities of financial intermediaries* to develop and introduce new and innovative financing instruments for business. The results so far are promising:

- A total of 8384 jobs have been created and below are the total volume of loans disbursed and disaggregated per sector.
- Under small enterprise lending, one on-lending contract for LE 150 M has been signed with the National Bank of Egypt, giving priority to Upper Egypt. LE 103 M have been on-lent to NBE, from which LE 70 M have been disbursed to end beneficiaries, resulting in 1404 loans, of which 75 percent are to new enterprises. Two other banks are being considered for on-lending.
- Under micro-entrepreneurs lending, 7 NGOs have been contracted, and have issued 329 sub-loans worth 1.8 Million. LE Capacity building activities are ongoing; (i) raising awareness of PFIs and end-beneficiaries on agribusiness lending needs, constraints and opportunities. Workshops for micro sector have been conducted in 2 governorates and the third is soon to start. For the small enterprise sector, a consulting firm is under recruitment; and (ii) a dedicated consultancy firm to develop an agribusiness lending strategy for the NBE is under recruitment.
- Plans are under way to develop a micro-insurance product.

Institutional Strengthening project (ISP) for Nigerian Agricultural and Cooperative Bank (NACB), Nigeria (Closed): The project's goal was to contribute to overall Gross Domestic Product (GDP) growth through sustainable agricultural production, while the objective was to enhance NACB's ability to administer its lending program in support of increased sustainable agriculture production. The Bank supported the project through a Line of Credit (LOC) amounting to UA 4.6 (only 3.083 million (70 percent) was disbursed, while UA 1.521 million (30 percent) was cancelled). The project focused on the following areas: (i) Strengthening of Management Systems; (ii) Strengthening the capacity of Data Processing; (iii) Reinforcing Project Management and Loans Recovery System; and (iv) Human Resource Development. On the overall, the project was well conceived and the proposed institutional strengthening measures put in place were appropriate to meet NACB's needs at the time. However, the performance of the project in achieving its objectives and that of NACB management in the implementation of the ISP were rated unsatisfactory due to:

- Delay in the installation of the computer hardware, which would have strengthened the credit management aspects of NACB.
- Only about 60 percent of the project activities were completed, and 70 percent of the loan amount disbursed. In view of the institutional capacity shortcomings that had been identified during the implementation of the first LOC, the ISP should have been implemented prior to the release of the funds under the second LOC. This would have ensured that the institutional capacity required to effectively administer the line of credit were in place.
- The objective of the ISP at appraisal, to assist NACB attain the goals of the two lines of credit was not achieved.
- The ISP did not therefore succeed in improving the quality of NACB's loan portfolio, which still remained weak at the time of project completion, with an average loan recovery rate of 65 percent.
- NACB had challenges of **low lending rates** coupled with **high administrative costs**, which affected its profitability and sustainability.

Table 7.1:
Case examples of KfW support to AVC in Africa

Regional level: Africa Agriculture and Trade Investment Fund (AATIF)
■ Directed production credit ■ A debt investment fund focusing on investments into the agricultural sector for the benefit of the poor ■ Target: agricultural farms as well as agricultural businesses along the entire AVC, which will be financed indirectly (through financial institutions) or directly. A dedicated effort is to support contract farming arrangements ■ A public-private-partnership working on market-oriented terms
National levels: Nigeria and Uganda
■ Interventions still in the planning phase ■ Focus on AVCs with the potential to reach out to small farmers ■ Support to the agricultural sector through the cooperation with financial institutions
Outcomes
■ Increase small farmers' productivity, incomes and capacity to repay ■ Help financial institutions mitigate risks in agri-finance ■ Provide financing for small farmers and VC companies

Source: KfW: Workshop Presentation.

- The Federal Government of Nigeria decided to merge NACB with the Peoples Bank of Nigeria to form the Nigeria Agricultural, Co-operative and Rural Development Bank (NACRDB). The intentions were to wind-up the activities of the Family Economic Advancement Program and transfer its assets and liabilities to the new bank, which was to be given a new mandate to provide financial services to the agriculture and rural sector in the country.

7.3 German Development Bank (KfW)

Founded in 1948, KfW is a promotional bank of the Federal Republic of Germany. In addition to its domestic promotional activities focused on Germany, the bank undertakes international financing with two objectives: promoting international business activities (project and export finance) and development (business promotion in developing and transition countries). The bank's international business provides advice for reform processes and investments in the recipient developing and transition countries. The key areas of concern include climate and environmental protection, promotion of the financial sector, and sustainable improvement of economic and social conditions. The bank uses lines of credit, equity, guarantees and technical assistance as the main instruments in its financial sector promotion. It may also use structured finance, (*e.g.* microfinance investment funds, issuance of local bonds, local currency exchange funds, or deposit insurance schemes) as an additional instrument, especially to catalyse other investments.

KfW's support to AVCs is in the context of its new approach to the promotion of agricultural development and food security. In this regard, the bank's approach supports financial institutions leverage emerging trends in the agricultural sector in African countries and to identify progressive farmers in specific VCs, learn farmer's investment needs towards improving value addition (equipment, processing, irrigation), and provide mid- and long-term loans and accompanying technical assistance to structure adequate financing products.

- ***Additionality:*** Avoid crowding-out of private sector (subsidized lending does not bring additionality); and address specifically (but not exclusively) the needs of smallholder farmers and SMEs.

- ***Address Social and Environmental Issues:*** Its important to have a clear stance on land issues (involve people on the ground); ensure proper guidelines on social and environmental issues; and monitor compliance to guidelines.

- ***Manage Financial Risks:*** Cooperation with "aggregators" within the VC; ability to structure more complicated financing contracts is important.

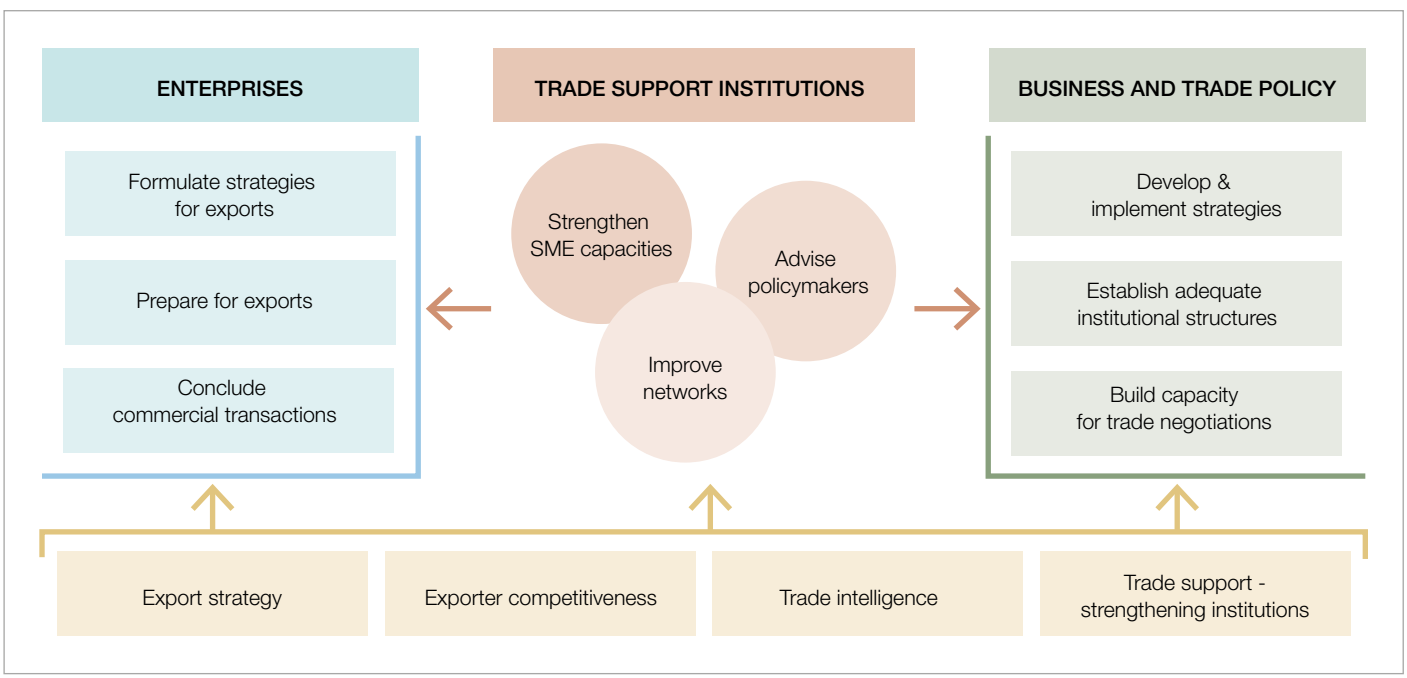
7.4 International Trade Center (ITC)

The ITC is a joint agency of the World Trade Organization and the United Nations established with a mission to enable small business export success in developing and transition-economy countries, by providing, with partners, sustainable and inclusive development solutions to the private sector, trade support institutions and policymakers. Its strategic objectives include building awareness and improving the availability and use of trade intelligence; strengthening Trade Support Institutions (TSIs); enhancing policies for the benefit of exporting enterprises; building the export capacity of enterprises to respond to market opportunities; and mainstreaming inclusiveness and sustainability into trade promotion and export development policies. The kinds of support extended by the ITC to SMEs, the trade support institutions and Governments are shown in figure 7.2 below.

From July 2010 to May 2012, ITC implemented a project that was aimed to help organize the pineapple VC and assist MSMEs and co-operatives export to neighboring countries (such as Burkina Faso and Niger), Maghreb and Turkey through improved, appropriate financing and access to market information using mobile phones and a website. The ITC has also partnered with other organizations to support sector development, primarily in agro-produce, by strengthening institutions and enhancing effectiveness of the sector VC in Senegal and Uganda. Since 2011, the National Union of Coffee Agribusinesses and Farm Enterprises (NUCAFE) and 100 of its member Farmer Associations (FAs) in Uganda are benefitting from Technical Assistance (TA) in quality, business management and access to finance. This TA improved the quantity and quality of their exports to Europe.

ITC's Asia-Pacific Regional Centre has also launched a project to deliver training, coaching and technical assistance in four pilot countries. ITC, with the support of ADFIAP, is looking for interested donors to partner with to take this initiative forward, implement planned activities and achieve key results. The expected results of the project are that over 700 exporting SMEs will improve financial management skills with bankable business plans; and at least 12 TSIs will be equipped to train and coach SMEs and other TSIs in financial management.

Figure 7.2
ITC builds SME capacity at three levels



Source: ITC presentation at the workshop.

7.5 Challenges and Lessons Learned

7.5.1 Need for all chain actors to perform well:

Failure brought about by any chain actor can adversely affect the success of the VC. For example, the AfDB's Inland Valleys Rice Development Project in Ghana suffered a major setback when delays were experienced in hiring technical personnel and contractors to facilitate the development of the land. The cost of implementation went up and only a fraction of the targeted land was prepared. This has thus made the Economic Rate of Return on Investment (ERRI) negative. Clients also defaulted on loans advanced to them since land preparation and rice production was below expectation.

Lesson learned: *A chain is as strong as its weakest link. A thorough VC analysis should be done and subsequent implementation done with precision to spur other chain processes for sustainability.*

7.5.2 Need to ensure that adequate resources are earmarked for project design:

A well-designed project saves difficulties at the implementation stage. Therefore, there is a need to provide adequate resources for the project preparatory teams to clearly identify all the key building blocks in an AVC (*i.e.* from Inputs, through Production Processing Distribution and Consumption), to put financing arrangements in place for the implementation of each of the components in tandem, which will ensure the achievement of the overall objective of the VC.

Lesson learned: *Good project preparation costs time and money. Both Governments and Donor Partners should be called upon to show more commitment to the project preparation phase. Special Funds (*e.g. *the AfDB's Project Preparation Facility) should be set up for such purposes, and beneficiary countries encouraged to make use of them. Countries should also be reminded of the importance of the project preparation phase, so that they may also consider putting up their own resources for this purpose.*

7.5.3 Lack of appropriate skills mix for implementation of projects with AVCs can negatively affect success of the AVC.

In implementing agricultural projects, one also requires other skills outside Agriculture. Agricultural projects with large infrastructural component cannot be successfully implemented without engineering and Micro-finance support of (see case of Fisheries development Project in Uganda) some projects.

Lesson learned: *The omission of, for example, an Architect/ Civil Engineer, a Quantity Surveyor, a Procurement Specialist and a Micro-finance Expert from the implementation of a project is an error in project design. Their inclusion would greatly enhance the project implementation, procurement processing and increase the level of success and sustainability of the project.*

7.5.4 Delays in procurement and requisite preparation of project site, processes and equipment (*e.g.* NACB case):

In project implementation, a key factor is project management, which as observed from the Bank's is left to implementing agencies that sometimes may either lack capacity or are not effective drivers of the implementation.

Lesson learned: *In cases where weaknesses in the implementing financial institution have been identified, development partners' interventions should consider implementing institutional capacity strengthening activities prior to providing lines of credit. This would ensure that the ideal institutional framework and capacity is in place to effectively deliver the intended services, as well as implement the project.*

7.5.5 Within the AfDB, loans provided to MFIs through the public sector have sometimes underperformed because of poor capacity of implementing agencies and design issues.

Initially, lending was done through governments which were expected to on-lend to MFIs. Though disbursements to governments were high, funds were very slow to actually reach MFIs, as implementation capacity of governments or project implementation units was limited. In addition, channeling funds through governments increased the risk of political interference and perception that the funding was free. This resulted in higher default rates. Channeling through governments also increased the risk of unnecessary low pricing, reducing incentives to achieve sustainability. In some cases, however, private sector institutions lack the capacity to provide credit for agriculture (e.g. case of the Uganda Fisheries Development Project, where funds for credit to the fish farmers had to be reallocated since no credible MFI with outreach in the project area was found, and besides, there was lack of agricultural sector credit products and inadequate capacity of the MFIs).

Lesson learned: *Design of MF projects should be robust and akin with viable public-private partnerships for sustainability. A thorough analysis of the whole VC project should be done to ensure weaknesses and gaps are addressed in the design and in the subsequent implementation. Where possible use of financial intermediaries must be encouraged and the on lending arrangements must be well designed so as to prevent market distortions.*

7.5.6 The Bank's relatively low risk appetite:

The low risk appetite of the Bank makes it difficult for it to invest in not-for-profit MFIs and unregulated for-profit MFIs. These however constitute the majority of MF projects. In addition, those who are eligible are still rated as "very high risk" by the Bank. Furthermore, the Bank does not take foreign exchange risk, while MFIs require domestic currency funding.

Lesson learned: *Low risk orientation towards lending limits development partners from developing a more robust approach to creating or requiring linkages that help reduce financing risks and ensuring that the development partner's bottom-line objectives and the borrower's goals are achieved.*

7.5.7 The absence of a business plan has limited accountability and reward for performance.

A business plan for MF activities is essential for clarifying targets for each department and therefore for providing a way for the Board to monitor results.

Lesson learned: *A business plan is crucial for any substantial implementation and impact in the ground. The absence of targets also makes it difficult to monitor the project's achievements. Importantly, without a business plan, there is no ground for estimating the adequacy of resources provided to the MF.*

7.5.8 Public-Private partnership for sustainability:

Governments can be used to create the enabling environment and foster the establishment of any public good for the benefit of the projects and the beneficiaries. For example, the government can provide input subsidies to invigorate food production with a market linkage to encourage continual growth in the production once the target groups are food secure (Case of Malawi Farm Input Subsidy Program). Where effective PPPs are not established, the risk of failure is high since the government agencies would be both the facilitators and be the implementers but would lack the crucial link of private enterprises.

Lessons learned: *A private enterprise approach needs to be initiated in every project to ensure sustainability. Where this is lacking, project continuity is threatened when development partner's support ends.*

7.5.9 Pricing

In some cases MFIs or DFIs charge very high interest rates. While this could be due to the high cost of doing business, in some cases (*e.g.* the Mozambican Rural Financial Intermediation Project), MFIs have tended to charge rates with wide ranges *e.g.* annualized rates of 64 percent to 130 percent even while operating in the same area. Clearly this pricing cannot be sustainable for borrowers within the VC and can result in business failure and high default. To prevent market distortions, the interest rate for on-lending arrangements, Government, the Bank and other Development partners should continue efforts in promoting competition in the provision of VCF. In the some cases however, Governments may need to consider regulation *e.g.* pegging interest to some fixed rate (after careful analysis of future trends in macroeconomic factors), *e.g.* the reference or base rate of a Central Bank. This may assist the end beneficiaries to benefit from downward trends in market interest.

Lessons learned: *Leaving market forces to fix interest rates works well in perfectly competitive environments. In the other cases, it may be important to consider some minimum form of regulation of interest rates, for sustainability. However, the cost of such regulation as well as its impact at MFI or enterprise level must be carefully analyzed before this approach is adopted.*

7.5.10 Enabling infrastructure and services

The costs of doing business for microfinance or rural finance operations used in VC financing are sometimes very high, due to absence of roads, telecommunications, internet, security etc. This means MFIs need to travel long distances to access some services or can have them at very high costs which are passed on to borrowers.

Lessons learned: *When considering VC financing, it is important to work with Government and other development partners to ensure an integrated approach e.g. VC financing as part of "development corridors". Absence of basic infrastructure and services can result in very high costs of doing business and uncertain sustainability.*

7.5.11: Overall development effectiveness:

Donors' support to AVC should also aim at overall development effectiveness and should be in line with best practices for rural and microfinance interventions (see Table 7.2).

Table 7.2:
Ensuring effectiveness of donors' support to AVCF in African countries

1. African countries have the primary responsibility for leading AVC development to accelerate the fight against poverty, enhance sustainable agricultural sector development and export competitiveness and financial inclusion.	AVC and sustainable agricultural developments can be effective where there is country ownership and commitment. Donors' support to AVCF should be guided by a country focus, working with governments, the relevant private sector institutions and other stakeholders to further AVCF development.
2. Donors should strengthen country systems, rather than bypass them.	To optimize development objectives, donors should endeavor to strengthen and use country systems, building capacity at the government, sector and institutional levels and consistent with their respective comparative advantage and strategy. Donor funds should complement private capital, not compete with it. Donors should use appropriate grant, loan, and equity instruments to provide catalytic funding and to build the institutional capacity of AVC actors, develop support infrastructure, and support experimental services and products.
3. Donor support to AVCF development will be tailored to country circumstances.	Every African country has a unique combination of microfinance and AVCF features, strengths and vulnerabilities. Not one size fits it all. Donors' approaches should, therefore, be tailored to meet the specific developmental needs as well as AVCF and microfinance challenges of fragile, middle and low-income countries.
4. Donors consider weaknesses in AVCF and microfinance development as symptoms of broader agricultural and financial sector challenges.	Donors' approach to supporting AVCF and microfinance should aim at building sustainable agricultural and financial systems as well as alleviating poverty and enhancing export competitiveness. AVCF will reach its full potential only if it is integrated into a country's mainstream financial system.
5. Donors should pursue strategies of constructive and systemic engagement, including in high-risk environments.	Donors' approaches should be predictable and consistent. Potential for progress, rather than initial conditions, should guide the engagement of each donor in microfinance, based on countries' and institutions' commitment to reform and direction of change.
6. Donors should strengthen transparency in their own operations and in the programs they support through enhanced information disclosure.	To address their fiduciary concerns, donors should enhance their safeguards and integrity mechanisms, including financial management and procurement systems, to ensure that the funds they provide are used for the purposes intended and are properly accounted for. They should also require proper information disclosure and reporting for the programs that they support. Reporting not only helps stakeholders judge costs and benefits, but it also improves performance.
7. Each donor's activities in support of AVCF must be focused on delivering results, demonstrating impact and adding value compared to other donors.	Delivering results will require enhancing strategic alignment, upstream analytical work, improving quality-at-entry, and a results framework for measuring progress. Donors should also be committed to mainstreaming gender concerns, strengthening social cohesion and encouraging accountability to the stakeholders, including the poor.
8. Donors should build strategic partnerships with each other to achieve common objectives	In most project situations, a single donor may not be able to finance the entire components of the VC. The talk of division of labor amongst donor partners should be encouraged, with each donor concentrating on components in which it has comparative strengths. As much as possible, funding arrangements for the entire VC should be discussed and agreed upon before commencement of such projects. Thus, donors' approach should be based on a division of labor, seeking to enhance synergies and complementarities, consistent with the Paris Declaration and Accra Agenda for Action commitments on aid effectiveness.

Source: Based on the Accra Agenda for Action and the CGAP-approved guidelines for microfinance.

8. Conclusion and recommendations

8.1 Introduction

From time immemorial, the AVCs have been struggling to enhance productivity and export competitiveness constrained largely by limited financing options. The supermarkets and processors tend to be the predominant players in expanding access to VC in Asia and Africa. Traditional VCs seldom cause equitable distribution of wealth. Neither the producer nor the end-user benefit and the intermediaries exploit the VC. Producers tend to be unorganized, lack capital, technical skills, infrastructure, market information and bargaining power in accessing the market. Most of the African and Asian markets are localized and fragmented. Markets are unregulated and there are no minimum prices, no product differentiation, no control on quality standards and few players (mostly intermediaries) dictate the terms and condition of the trade. The intermediaries' control on various stages of the chain results in artificial price inflation that is exploitative to both the producers and the end-users of produce.

Several innovative mechanisms such as lead firm financing have been successful in linking the producers directly to the end-users, thus benefitting the producers as well as the end-users in terms of price of produce. However, such models are limited only to large producers. There is a strong value proposition and potential for lead firm financing to enhance value for producers and end-users through access to markets, technical assistance and credit. Examples such as PepsiCo in India demonstrate the potential of lead firm financing schemes. However, there are examples from Myanmar, Indonesia, Lao PDR and Vietnam, wherein the lead firm financing mechanism failed because of the issues of weak contract enforcement and lack of availability of finance.

Government support to farm and AVC financing have shown varied results as in case of India, where programs, such as Kisan Credit Card has been highly successful in providing accessible, flexible and affordable credit to farmers, however banks and FIs have been facing default problems. Though, this innovative product gained popularity, a long-run comprehensive integrated policy is required to meet the credit demand and to push the agricultural production in the economy. In Asia, there are various levels of government support: while in countries such as Indonesia, the Government support has been minimal, in others such as India, Vietnam and Philippines, Government support has been high. While there are issues with either approach, the role of government is paramount to determine the level of financing in the AVCs.

Private sector financing in India and many African countries, post financial sector reforms, has not yet yielded significant results when it comes to agricultural financing. Reforms have strengthened the performance of banks and widened the financial markets; however this has not yet translated to successes in agricultural financing. While the middle class benefitted due to relaxed interest rates in consumer finance and housing finance, banks are yet to redefine their business strategies and increase their market share in agricultural finance. Some banks have developed new strategies for channel financing and dealer financing, which has improved credit delivery and reduced the interest rate to the ultimate consumer. However, even for the upstream actors, aggregators and processors have been securing loans at favorable terms, while producers have not gained any benefit from lower interest rate regimes, as most commercial banks have not shown any interest in focusing their activities to increase the share of agricultural finance. Innovative financial solutions are essential for an effective loan delivery mechanism to support AVCs.

Considering the nascent stage of AVC financing in Africa, the lessons from Asia point to the need to focus on building integrated and strategic approach for VC financing. This would entail:

- integration of finance suppliers such as banks and financial institutions into the VCs;
- affordable, flexible and accessible financing products;
- structured technical assistance and capacity building programs for small-scale producers;
- market linkages for both forward and backward needs of the VC;
- enhancing information systems to safeguard producers from the risk of exploitation due to information asymmetry; and
- enhanced cooperation at the producers' level, through co-operative movements to achieve scale of economy.

The integrated approach also should focus on carving out roles for various stakeholders (government, financial institutions, processors, and distributors), strategically to enhance linkages with producers to ensure sustained benefits and equitable value distribution to the target beneficiaries.

8.2 Key lessons

Based on the cases in Asia but also on some good practices in Africa, key lessons learnt with implications for African VC are as following:

8.2.1. Government's role is paramount as facilitators:

The past experience in government funding to boost the agricultural sector has shown mixed results as the resource allocation is not done optimally and many of the programs tend to be unsustainable. Often, with government financing, the design of the financial products promotes the clients' rent-seeking and free-riding behavior. Thus, it is suggested that the government plays a facilitator role in VCF, in order to make it sustainable and effective in the medium to long run. Government may do so by:

- Relaxing the policy norms; subsidizing institutions and infrastructure rather than directly supporting the producers;
- Developing pro-growth agricultural strategies;
- Encouraging financial services providers to actively and effectively support the agricultural sector;
- Increasing regional integration to allow free movement of goods, capital and labor;
- Creating a positive investment climate to attract foreign investment;
- Increasing security of private land tenure and rights to develop, sell, transfer or pledge property;
- Implementing effective land and collateral registers;
- Improving operation of courts, and the cost-effective and timely enforcement of creditors rights; and
- Increasing access to information through agricultural data collection and statistical analysis.

8.2.2 Integrate finance suppliers into the VCs

To enhance the export competitiveness of the VCs, it is paramount to have sustained and affordable flow of financing. While direct financing certainly has advantages in terms of flexibility, it runs the risk of producers' exploitation by the financing intermediary. Hence, the financial institutions and banks should be encouraged to offer private financing services to the agricultural sector for growth and expansion of the VC. Governments can support lending by banks and FIs through credit enhancement programs and risk cover through guarantees. In rural and remote locations, local financing institutions such as MFIs should be encouraged to support AVCs.

8.2.3 Affordable, flexible and accessible financing products:

Lack of appropriate financing product and services limits the VC players from deriving the full potential of the VCs. Thus, the focus should be on design of affordable, flexible and accessible financing products. Credit through the informal sector dominates agriculture financing in Africa and Asia. High transaction costs, small amounts, high default rates, lack of policy and institutional support are major constraints in financing informal sector. To overcome the existing constraints, it is important to finance groups (producer co-operatives) instead of individuals. It is also important to reduce risk through institutional support— facilitating structured commodity financing; and providing infrastructural support, network of warehouses and warehouse receipt system and futures contract.

Poorly designed financing product and services limits their use by VC players, who may also be unable to derive the full potential of the offering. As there are differences in the AVC products, it is not possible to have one standard offering which can serve players across different VCs. Thus, financial

institutions should focus on developing customized products based on the needs of the players in a specific VC. This requires an in-depth understanding of the VC and the relationships between the different players within it. This understanding will also allow lenders to accurately measure the value generated by the entire VC as a unit and thus, help in more accurate estimation of the different players' repayment capacity.

8.2.4 Structured technical assistance and capacity building programs for small-scale producers

One of the biggest problems a bank faces in lending to small scale agricultural producers is high credit risk and non-availability of any collateral. To overcome this challenge, banks all around the world have tried different innovative methods and techniques. One of the most successful techniques is providing technical assistance and capacity building program along with the credit product. This method ensures that producers are using the most optimal cultivation techniques and agricultural inputs, which reduce the chances of crop failures and subsequent defaults. This provides financial institutions with greater confidence in lending to this sector, and also reduces the provisioning requirements for this loan.

This method of lending is equally useful for the borrowers as they receive both the credit and much needed technical guidance. It has been well demonstrated in past that such inputs improve the overall agricultural productivity and returns to the farmers.

8.2.5. Market linkages for both forward and backward needs of the VC

There is a need for lending organizations to recognize the entire VC of any commodity as one interdependent unit. This will help them to understand the nature of support required to enhance the value generated by the whole unit. This recognition will be very helpful to banks as they are often involved in financing players at multiple levels of the VC through different types of credit products. Thus, any input which helps the VC in improving its overall productivity will reduce the risk for the bank across all the credit products offered to different players in the VC.

One of the most important and well recognized inputs, which can achieve this, is improving the market linkages of the VC at both of its ends. At the producer level, it will involve ensuring their access to suitable technical assistance (including technical advice, soil testing etc.), good agricultural inputs, suitable equipment and timely credit. At the level of trader/exporter, it would involve providing them with marketing links to buyers around the world as well as provision of timely line of credit needed for export and facilities for quality certification.

Another area where additional impetus has to be pursued is risk management for the producer and the produce through health insurance and weather/crop insurance. At the producers' level, health hazards jeopardize their activities by causing opportunity loss and additional financial burdens. If the producer is the bread-winner and he/she falls ill, it reduces the crop yield and also leads to starvation of the family. Thus, the producers need health insurance. To reduce the losses from the vagaries of the weather, it is important to create awareness for various insurance products and bring all crops in all areas under insurance cover.

8.2.6 Enhancing information systems to safeguard producers from the risk of exploitation due to information asymmetry

Primary cultivators in developing countries have been traditionally exploited by middlemen by being paid lower rates for their produce as compared to the rates prevailing in the market. In most cases, cultivators agree on the rates offered by middlemen as they are not aware of the prevailing rates in larger markets. This situation can be improved only if there are some means to inform the primary cultivators about the prevailing rates of different products on a regular basis. In many parts of the world, different approaches have been tried to solve this problem. For example, the (i) Kissan (farmers) Call Centers in India use cellphones to disseminate information to farmers; and (ii) in the case of the widely recognized ITC's e-choupal model (in India), Information and Communications Technology (ICT) has been used to disseminate the same information.

Information systems can be beneficial in multiple ways. Apart from acting as a safeguard from exploitation, the same system can also be used to disseminate useful information like weather forecasts, farming techniques, and updates on crop infections.

8.2.7 Enhanced cooperation at the producers' level through co-operative movements to achieve scale of economy

A majority of farmers in most of the developing African and Asian countries have small land holdings. These farmers are not able to benefit from economies of scale. This puts them at a disadvantageous position compared to the large scale farmers. One of the traditional approaches which have been useful in addressing this disadvantage is co-operative farming. Co-operative farming allows small scale farmers to pool their resources and invest in better quality inputs and collectively-owned equipment. This helps the co-operative members to improve the productivity of their small land holdings. Through co-operatives, small scale farmers also get the benefit of better prices for their inputs and superior rates for their produce because of the collective bargaining and negotiating power of the co-operatives.

Annexes

Annex 1: Institutional framework of financing agriculture value chains in India[32]

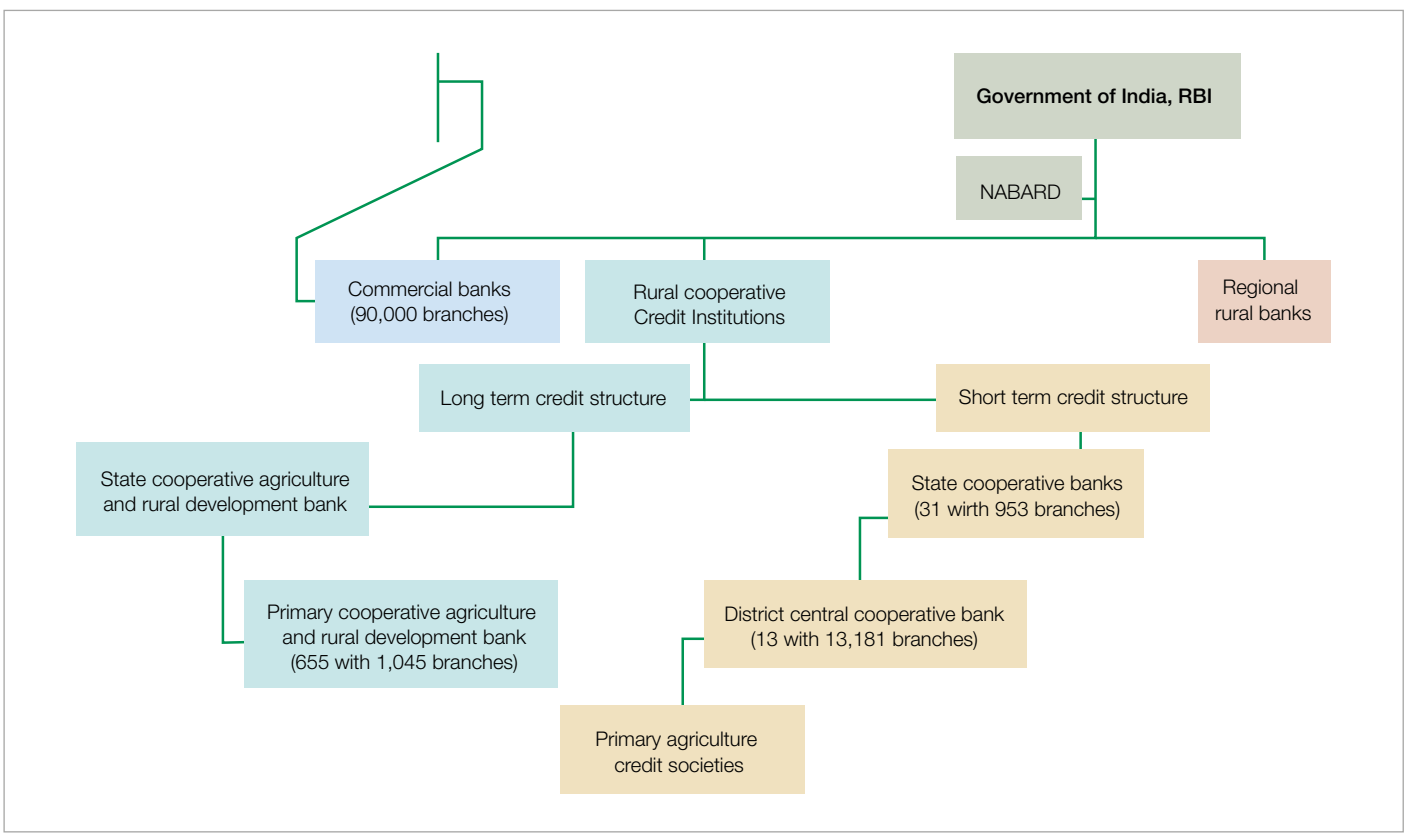
The institutional framework for AVC financing comprises of various ministries, government agencies, banks, financial institutions and apex bodies like Reserve Bank of India (RBI) and National Bank for Agriculture and Rural Development (NABARD). The framework indicates vast network of financing institutions across the country. The figure below provides a diagrammatic representation of the institutional framework of financing AVC. The framework has a tiered structure where the apex bodies like RBI and NABARD are at the top, while the Primary Agriculture Credit Societies (PACS) are at the village levels.

Apart from the above mentioned institutional framework, there are many informal and traditional mechanisms of VC financing existing locally. These may be in the forms of traders, input financers mainly at the farm gate. The financial sector policy towards agricultural financing always focused on bringing more and more farmers to the formal banking sector as the traditional financial arrangements were exploitative in nature.

Government of India

Government of India through its relevant ministries like Ministry of Agriculture and Co-operatives, Ministry of Rural Development and Ministry of Finance provide overall policy guidance and thrust to rural and agricultural credit. Actual financing and regulations related to financing is handed down very prudentially to specialized institutions as described below. In addition to formulating policies, the ministries play more of a developmental role in agriculture. Ministry of Agriculture and Co-operatives has several developmental schemes, many rolled out as missions such as National Horticulture Mission, Technology Mission on oilseeds and pulses, and The Agriculture Technology Management Agency (ATMA), to name a few.

Figure 1
Institutional framework of financing agriculture value chains



32 Extracted from Kumar, Workshop Presentation.

Reserve Bank of India (RBI)

In terms of financing AVCs, RBI's role is primarily that of a regulator of banking system. RBI endeavors to enhance credit flow to agriculture by removing the bottlenecks in credit delivery. RBI is working on revitalizing the rural co-operative credit system, strengthening regional rural banks, providing incentives to commercial banks for investments in rural economy and ensuring, adequate and timely delivery of credit at a reasonable price. The financial inclusion program initiated by the RBI in collaboration with banks and several State Governments, by adopting modern technology, is also being intensified and expanded.

National Bank for Agriculture and Rural Development (NABARD)

NABARD is a development bank with the mandate of facilitating credit flow for promotion and development of agriculture and integrated rural development. The mandate covers supporting all other allied economic activities in rural areas, and promoting sustainable rural development. As an apex development finance institution, NABARD handles matters concerning policy, planning and operations in the areas of credit for agriculture and for other economic and developmental activities in rural areas. As the refinancing institution to the banks and financial institutions, NABARD offers production credit and investment credit for promoting agriculture and developmental activities in rural areas.

Co-operative institutions

Co-operatives, once the main institutional agencies for dispensation of agricultural credit, have been losing their market share to commercial banks. There are two distinct structures originally set up of co-operative institutions –one for long-term investment credit and another for the short-term credit. The short-terms structure consists of village-level Primary Agricultural Credit Societies (PACS), District Central Co-operative Banks (DCCBs) and State Co-operative Banks (SCBs) providing primarily short- and medium-term agricultural credit in India. The long-term co-operative credit structure consists of State Co-operative Agriculture and Rural Development Banks (SCARDBs).

Co-operatives have a network presence nearest to the customers with about one branch for every six villages. Both the short-term and long-term co-op structures have been losing market share to commercial banks on account of resource scarcity and operational inefficiencies. The ongoing reform program seeks to recapitalize co-operatives with potential. But the extent of credit and the product basket have failed to enthuse customers. Small farmers have mostly remained with co-operatives and the larger customers with high revenue potential have become customers of commercial banks. The reforms are expected to make the co-operatives competitive and IT enabled in order to level the playing field.

Figure 2
Role of NABARD

CREDIT	• Framing Policies and Guidelines for rural financial institutions • Providing credit facilities to issuing organizations • Preparation of potential-linked credit plans annually for all districts for identification of credit potential • Monitoring the flow of ground level rural credit
DEVELOPMENT AND PROMOTIONAL	• Help cooperative banks and Regional Rural Banks to prepare development actions / plans • Provide financial assistance to cooperatives and Regional Rural Banks for establishment of technical, monitoring and evaluations cells • Training and development for agricultural finance and developments through dedicated training institutions
SUPERVISORY FUNCTION	• Statuatory responsibility of conducting inspections of State Cooperative Banks (SCBs), District Central Cooperative Banks (DCBs) and Regional Rural Banks (RRBs) under the provisions of Section 35(6) of the Banking Regulation Act (BR Act), 1949

Commercial Banks

There are 166 scheduled commercial banks with about 90,000 branches at the end of 2011. Of these, rural branches consist of over 33500 branches/offices. Outstanding balance of all the direct and indirect agriculture lending (including SMEs) was Rs 46332.3 million as at the end of the year 2010. This covered total accounts of 38578905. Commercial banking had almost been reserved for public sector post-nationalization of banks. The reforms in the early 1990s led to gradual shift from public sector character to private sector in banking. Still, the Government of India has considerable ownership of banking and thereby the ability to influence business policies. Despite the lack of specialization (a recent phenomenon) in rural areas and floating staff in rural branches, commercial banks do three fourths of lending for agriculture. The resource base of commercial banks is large, and therefore their involvement in agricultural finance is critical.

Regional Rural Banks (RRBs)

RRBs are specialized banks set up for banking in rural area with an objective to ensure sufficient institutional credit for agriculture and other rural sectors. The RRBs mobilize financial resources from rural / semi-urban areas and grant loans and advances mostly to small and marginal farmers, agricultural laborers and rural artisans. The RRBs' area of operation is limited to one or more districts in the State. To date, there are 82 RRBs. Despite being located in the rural areas and a development mandate, RRBs have not been able to quickly improve their share of agricultural lending. Most RRBs have a business model that focuses on investment of resources in Government securities and financial investments than provide loans to individuals and enterprises. NABARD and sponsor banks do provide refinance facilities to RRBs to fill in any liquidity constraints. In the recent past, there have been some improvement in RRBs' approach to rural lending.

Annex 2: Characteristics of old and new approaches to rural finance

	Old paradigm	New paradigm
Primary goals	• Directed production credit • Subsidized credit • Growth and income expansion (pursued by introducing modern technologies with concessionary credit). • Poverty reduction.	• Growth and income expansion (pursued by introducing modern technologies with concessionary credit). • Poverty reduction.
Working assumptions	• Accelerated economic development requires controlled commodity and financial markets (such as control of food prices and interest rates). • Small farmers and rural entrepreneurs cannot pay commercial interest rates and cannot save. • Access to concessionary credit is essential to growth and poverty reduction.	• Accelerated economic development requires enhanced competition in goods and financial markets (through applying flexible prices). • Small farmers and rural entrepreneurs can pay commercial, market rates of interest. They also can and want to save. • Access to non-subsidized financial services is essential to growth and poverty reduction.
Role and mechanisms of government interventions	• To directly intervene in and control the production sector and credit. • Government interventions in product markets that favor cities and heavy industry. • Government control of interest rates, credit allocations, and institutions to provide low cost credit to particular groups that “cannot afford” market rates. • Emphasis on meeting lending targets, rather than sustainability of programs. • Provide special benefits and concessionary funds to state- owned FIs; subsidize on-lending interest rates to FI clientele to compensate for policy biases and distortions in the production sector. • Cover loan losses of FIs and frequently bailout loss-making institutions. • Support poorly administered production insurance and credit guarantee schemes. • Underdeveloped legal framework and accountability.	• To create a favorable policy, regulatory and general business environment, while minimizing direct intervention in and control of the production sector and credit. • Reduce government intervention in markets (for example, agricultural prices and supplies), and reduce inflation, which is a heavy tax on the poor. • Maintain a level playing field among economic sub-sectors and enhance competition. • Raise or remove ceilings on on-lending interest rates (to cover costs) and small scale deposits (which provide income for depositors and increases stability of funding). • Utilize a wide range of financial intermediaries (commercial banks, NBFIs, MFI NGOs, co-operatives, credit unions etc), supported by second-tier institutions that fund only well-performing intermediaries; allow financial services to cover their costs, which will encourage new products. • Privatize FIs (or segments thereof) where appropriate, and shut down inefficient and unsalvageable FIs. • Introduce insurance-type instruments to help households manage risk; review effectiveness of credit-guarantee schemes. • Improve the legal framework.

	Old paradigm	New paradigm
Policy variables and outcomes	• Subsidized interest rates are used primarily as compensatory mechanisms and not for resource allocation. • Subsidies mostly benefit well-to-do, influential entrepreneurs. • Insufficient provision of savings facilities and artificially low deposit interest rates result in limited savings mobilization; RFIs depend on rediscounting facilities and donor and budget funds to back their (subsidized) loan portfolios. • MFIs do not enjoy autonomy; most operational decisions (such as on-lending interest rates, cost of borrowed funds and staff policies) are dictated. • Special privileges are often extended to MFIs, resulting in dependence on concessionary funds, lack of competition, and no incentives to improve performance. • No commercial imperatives exist for (state-owned) FIs; management is not accountable for FI performance; financial indiscipline and poor loan collection prevail.	• Positive real interest rates serve as a resource allocation mechanism. • All entrepreneurs have access to financial services. • RFIs' dependence on borrowed funds from donors and governments is reduced as domestic savings mobilization becomes the main source of finance, improving financial self-sustainability. • MFIs enjoy autonomy in introducing efficient operating methods. • No special privileges are extended to state-owned MFIs; a level playing field is maintained and competition among MFIs is encouraged; access to subsidies (when warranted) is not contingent on an MFI's ownership. • Institution building and financial discipline are encouraged through management's accountability for RFI performance; poor loan collection is not tolerated.

Source: Adapted from J. Yaron, M. Benjamin and G. Piprek, Rural Finance: Issues, Designs, and Best Practice. Washington, DC: World Bank. 1997.

Annex 3: A typical financing instrument used in AVC financing

	Instruments	Brief Description
Product financing	1. Trader credit	Traders advance funds against the expected outputs to producers to be repaid in kind, at harvest time. This allows traders to procure products, and provides a farmer with needed cash (for farm or livelihood usage) as well as a guaranteed sale of outputs. Less commonly, trader finance is also used "upward" in the chain, whereby the trader delivers products to buyers on credit.
	2. Input supplier credit	An input supplier advances agricultural inputs to farmers (or others in the VC) for repayment at harvest or other agreed time. The cost of credit (interest) is generally embedded into the price. Input supplier credit enables farmers to access needed inputs, which enables increase in sales of suppliers.
	3. Marketing company credit	A marketing company, processor or other company provides credit in cash or in kind to farmers, local traders or other VC enterprises. Repayment is most often in kind. Upstream buyers are able to procure outputs and lock in purchase prices and in exchange, farmers and others in the VC receive access to credit and supplies and secure a market for selling their products.
	4. Lead firm financing	A lead firm either provides direct finance to VC enterprises, including farmers, or guaranteed sales agreements enabling access to finance from third party institutions. Lead firm financing, often in the form of contract farming with a buy-back clause, provides farmers with finance, technical assistance and market access, and ensures quality and timely products to the lead firm.
Receivable financing	5. Trade receivable financing (including bill discounting and letter of credit)	A bank or other financier advances working capital to agribusiness (supplier, processor, marketing and export) companies against accounts receivable or confirmed orders to producers. Receivable financing takes into account the strength of the buyer's purchase and repayment history.
	6. Factoring	Factoring is a financial transaction, whereby a business sells its accounts receivable or contracts of sales of goods at a discount to a specialized agency, called a factor, that pays the business minus a factor discount and collects the receivables when due. Factoring speeds working capital turnover, credit risk protection, accounts receivable bookkeeping and bill collection services. It is useful for advancing financing for inputs or sales of processed and raw outputs that are sold to reliable buyers.
	7. Forfeiting	A specialized forfeiter agency purchases an exporter's receivables of freely-negotiable instruments (such as unconditionally-guaranteed letters of credit and 'to order' bills of exchange) at a discount, improving exporter cash-flow, and takes on all the risks involved with the receivables.
Physical asset collateralization	8. Warehouse receipts	Receipts from certified warehouses that can be used as collateral to access a loan from third party financial institutions against the security of goods in an independently controlled warehouse. Such systems ensure quality of inventory, and enable sellers to retain outputs and time the sale for a higher price.
	9. Repurchase agreements (repos):	A buyer receives securities as collateral and agrees to repurchase those at a later date. Commodities are stored with accredited collateral managers who issue receipts with agreed conditions for repurchase. Repurchase agreements provide a buy-back obligation on sales, and are therefore employed by trading firms to obtain access to more and cheaper funding due to that security.
	10. Financial lease (lease-purchase)	A purchase on credit, which is designed as a lease with an agreement of sale and ownership transfer once full payment is made (usually in instalments with interest). The financier maintains ownership of said goods until full payment is made, making it easy to recover goods if payment is not made, while allowing agribusinesses and farmers to use and purchase machinery, vehicles and other large ticket items without requiring the collateral otherwise needed for such a purchase.

	Instruments	Brief Description
Risk mitigation products	11. Insurance	Insurance products are used to reduce risks by pooling regular payments of many clients and paying out to those affected by disasters. Payment schedules are set according to statistical data of loss occurrence; and mitigate the effects of loss to farmers and others in the VC from natural disasters and other calamities.
	12. Forward contracts	A forward contract is a sales agreement between two parties to buy/sell an asset at a set price and at a specific point of time in the future, both variables agreed to at the time of sale. Forward contracts allow price hedging of risk and can also be used as collateral for obtaining credit.
	13. Futures and options	Futures are forward contracts (see definition above) that are standardized to be traded in futures exchanges. Standardization facilitates ready trading through commodity exchanges. Futures provide price hedging, allowing trade companies to offset price risk of forward purchases with counter-balancing of futures sales.
Financial enhancements	14. Securitization instruments	Cash-flow producing financial assets are pooled and repacked into securities that are sold to investors. This provides financing that might not be available to smaller or shorter-term assets and includes instruments such as collateralized debt obligations, while reducing the cost of financing on medium- and longer-term assets.
	15. Loan guarantees	Agricultural loan guarantees are offered by 3rd parties (private or public) to enhance the attractiveness of finance by reducing lending risks. Guarantees are normally used in conjunction with other financial instruments, and can be offered by private or public sources to support increased lending to the agricultural sector.
	16. Joint venture finance	Joint venture finance is a form of shared owner equity finance between private and/or public partners or shareholders. Joint venture finance creates opportunities for shared ownership, returns and risks, often with complementary partner technical, natural, financial and market access resources.

Annex 4: Examples of different types of VC financing arrangements in Asia[33]

Examples of indirect finance and within chain support systems

Creating win-win situations for producers and corporate in the Philippines[34]***:*** The Strategic Corporate-Community Partnership for Local Development Program (SCOPE) is a VC financing approach in the Philippines, jointly implemented by the Philippine Business For Social Progress (PBSP) and Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH. SCOPE supports Philippine-based companies to engage communities and marginalized groups in income-generating activities that are related to the companies' core businesses. SCOPE facilitated linkages between coffee farmers and the Figaro Coffee Company in Luzon, and the Visayas regions of the Philippines. The company provided technical support to the farmers to grow organic coffee and supported them in certification of their produce. The company benefitted by securing sustainable supply of organic coffee and the farmers benefitted from increased income as well as learnt the application of sustainable agricultural practices.

In another instance, seaweed-processing company MCPI supported the development of seaweed farming communities to increase quality and volume of their produce to become reliable suppliers to the company. MCPI benefitted from sustained supply of seaweed and ensured that the produce meets internal quality and volume requirements. Farmer benefitted from the training in new seaweed farming technologies, steady income through a reliable market for their produce and ensured pick-up of even small volumes by MCPI.

Fair trade for Thai rice farmers: Green Net along with Progressive Farmers Association of Thailand (PFA) and Swiss based Fair Trade Organization (FTO) started a Fair trade VC project for the benefit of small-scale rice cultivators. The objective was to provide small-scale farmers with a bigger pie of the total value generated by the entire VC of rice. The support starts with PFA providing low interest loans to small farmers for the purchase of fertilizers, agri inputs and also buffaloes. Green Net promotes sustainable agricultural practices and fair trade marketing services to small farmers. The rice produced by farmers under the project is exported to a number of countries in Europe and USA as a fair trade product. This project has benefitted around 3,500 small-scale farmers.

Lead firm financing of Potatoes: A case of PepsiCo in W. Bengal (India): Potato is amongst the most important cash crops in the state of West Bengal in India. The state produces a third of the total potatoes produced in India. A vast majority of the farming population in West Bengal depends on potatoes for their subsistence. In the recent past, these potato farmers have faced problems due to bumper production of potatoes, along with heavy competition from states like Uttar Pradesh (U.P.). This had resulted in a fall in the prices of potatoes from 2009 to 2011, which made it difficult for the cultivators to recover even their production cost. The situation had resulted in a trend with farmers opting for contract farming (with PepsiCo) to reduce the price risk. These farmers also included many who had earlier refused to enter into contract farming with PepsiCo. According to data from 'West Bengal Cold Storage Association', the area under contract farming for PepsiCo had increased by over two-and-a-half times and the number of farmers had increased by over 50 percent from 2009 to 2012.

Under the contract farming agreement, PepsiCo supports farmers by providing them with high quality seeds, technical support, crop insurance, supervision and loans. In return, PepsiCo procures the produce once it is harvested at pre-decided rates (subject to the produce meeting the minimum quality standards of PepsiCo). This helps the farmers to warrant a minimum return for their produce and also saves them the trouble of arranging finance, transport and warehousing for their produce. On the other hand, PepsiCo gets an assured supply of high quality raw materials at a reasonable price. Eyeing the success of PepsiCo, other companies like "Gee Pee Foods" (the makers of Pogo brand of chips and flakes) have also entered into contract farming in West Bengal.

33 Compiled by Singh, Workshop Presentation.

34 http://www.pbsp.org.ph/index.php?option=com_content&view=category&layout=blog&id=60&Itemid=155

Direct financing to institutional VC financing for rice in Lao PDR: Rice production in Lao provides a very interesting case where primary producers have benefitted from direct VC financing in a market with underdeveloped institutional credit financing for agriculture. This case shows how primary producers can graduate from receiving no credit to direct credit and later to institutional credit.

In Lao, contract farming has gained popularity since the enactment of modern economic mechanism in 1986. Under contract farming, agriculture-based companies could sign a contract with the primary producers to ensure the supply of raw material. This contract required companies to help farmers with in-kind credit (inputs like quality seeds and fertilizers) and technical assistance. In return, farmers were required to sell their produce to the company at a predefined rate, which was generally at a premium over market rates. Interestingly, a study conducted by the Food and Agriculture Organization of the United Nations (FAO) suggests that farmers, who had cultivated land under contract farming in Lao, were able to access more institutional credit than farmers without a history of contract farming. The likely reason that explains this trend is the change of farming practices to contract farmers from subsistence farming practices and later to commercial farming practices, which are more capital intensive.

Example of VC upgrading in Lao PDR – Coffee: Coffee from Lao is usually in high demand in Western countries, especially Europe. In Lao, mostly small producers grow coffee in the Boleven plateau. Before liberalization, the supply chain of coffee in the country consisted of numerous middlemen at different levels. Producers used to sell their yield to pickup agents and to receive cash payments. These pickup agents collected coffee on behalf of local collectors who aggregate the beans and sell it to wholesalers. Wholesalers used to get their inventory certified for quality by the Ministry of Commerce, and then get into agreements with exporters for its sales. Most of the export used to occur through middlemen in Thailand taking away a lot of value generated in the VC. In this scenario, the primary producers were the worst sufferers as they received the lowest portion of the total value generated in the VC.

This scenario had changed drastically in 2007, when the Government introduced a number of reforms in the sector. These included: development of large scale farms and processing units owned by the Government, allowing involvement of private players and opening of new coffee growing areas and establishment of direct trade linkages with the European markets. These developments have completely changed the VC for coffee in Lao. Now, the ownership of the coffee from harvest to final export remains under one firm, thus reducing the number of players within the VC. This allows these firms to share a larger portion of value created with the primary producers.

Examples of direct finance and outside the chain support systems

MFI warehouse receipt financing from Philippines: In the Philippines, TSKI, a local MFI has developed FIDA, a program intervention to address the situation of the poorest of the poor, who are the marginalized rural farmers, with a farm lot of 0.5 to 2 hectares, who do not have access to formal financial services and farm facilities. TSKI has introduced a warehouse receipt financing mechanism known as the Quedan system. In such a mechanism, TSKI offers a loan of up to 80 percent of the market value of the produce stored at a certified warehouse.

India's experience with Kisan Credit Card: The Government of India introduced Kisan Credit Card scheme to be implemented by banks during 1998-99. The scheme was designed by the National Bank for Agriculture and Rural Development (NABARD). The credit card aims at adequate and timely support from the banking system to the farmers for their short-term production credit needs in the cultivation of crops, purchase of inputs in a flexible and cost-effective manner. Under this scheme, the farmers are issued a credit card-cum passbook, incorporating the name, address, particulars of land holding, borrowing limit, validity period, and it serves as both an identity card as well as facilitates the financial transactions. The card is usually valid for up to 3 years and subject to annual review.

Agriculture credit guarantee scheme for small and marginal farmers in India: Government of India is mulling the development of a credit guarantee scheme for small and marginal farmers in India, as the banks and formal financial institutions are wary of lending to this class of farmers. Usually, such farmers have small, fragmented landholdings and lack access to collateral to cover for the loans from financial institutions. It is estimated that about 40 percent of the farming community in the country fall into the category of 'Tenant' farmers, Sharecroppers and Agricultural laborers—the group owns very small and uneconomical land holdings, often without proper records and accesses credit from non-institutional sources. Lack of formal financing forces them into the clutches of informal lenders and within chain finance actors. Thus, the Government aims to establish a credit guarantee fund so that formal financial institutions and banks can extend advances to small and marginal farmers. The scheme mirrors the Credit Guarantee Fund Trust for Micro and Small Enterprises and is being envisioned to replicate the success of a guarantee fund for MSMEs in India.

Under the scheme, guarantee will be for an amount of up to 75 percent of the principal of credit extended to the borrower. Other charges such as interest, commitment charges, service charge or any other levies, expenses debited to the loan account shall not qualify for the guarantee cover. Guarantee only to the extent of 75 percent will be provided to ensure that banks remain interested in the healthy performance of the borrower and in the recovery of the loan.

Agriculture VC financing in The Philippines[35] ***– Problems and innovative solutions:*** Agricultural sector in Philippines (especially small and marginal farmers) are highly dependent on informal sources for their credit requirements. Even after Government's attempt, like subsidizing credit for agriculture and fixing minimum agriculture lending quota (for banks), the availability of institutional credit to small and marginal farmers did not improve. The main reasons for this problem were: the discomfort of banks in issuing credit to borrowers with insufficient collateral and the higher transaction costs involved with smaller loans. This resulted in a major chunk of bank's credit quota earmarked for agriculture benefitting large farmers, whereas the small and marginal farmers remained neglected. For small and marginal farmers, the situation became worse due to shortage of credit supply in the informal market against an increasing demand for credit. In the Philippines, a majority of the informal lenders are traders and millers who avail their funds from banks and then lend to small borrowers. This restricts their funding capability to the amount of loan sanctioned to them by the banks.

To overcome this challenge in provision of institutional credit, 'One National Bank' started a program called the 'One rice program' for rice cultivators. Under this program, credit facility was clubbed with technical assistance and marketing linkage facilities to reduce credit risk. This methodology gave the bank more confidence in lending to small borrowers. This program has helped the rice farmers improve the quality and quantity of their produce and 'One National Bank' in developing a healthy loan portfolio in agriculture.

Another innovative approach to deliver institutional credit to small farmers has been used by 'The Quedan and Rural Credit Guarantee Corporation' (Quedancor) in its 'Tomato financing program'. In this program, Quedancor finances the tomato producers under an agreement, which directs them to sell a part of their produce to the National Food Corporation (NFC). Quendancor also offers financial assistance to the NFC for purchasing the produce from tomato farmers. This arrangement provides better repayments as farmers have an assured market to sell their yield and generate returns. It is also easier for the co-operative to lend to a larger institutional player like NFC.

Lank Bank of the Philippines - Walking the thin line: The 'Land Bank' is a government owned entity in The Philippines that was created with a dual objective of achieving both the social and financial ends. Ever since its inception in 1963, it has remained successful in achieving this dual objective. In fact, the consistent performance of Land Bank makes it very unique, as most other banks, which were created with similar mandates around the world, have not been successful in remaining commercially viable. This makes Land Bank an interesting case to study, especially the factors that made it a success where others have failed.

35 http://rbi.org.in/scripts/PublicationReportDetails.aspx?UrlPage=&ID=659#F16

The main reason behind the success of Land Bank is its unique financing model and disciplined approach. The most important features of its lending model involves diversification of its loan portfolio (within the agricultural sector) to include different types of borrowers, like farmers, fisher folk, SMEs, livelihood projects, and different agribusiness projects. This helps the bank in distributing its risk across the sector. Another important feature of its unique lending model involves mandatory requirement of borrowers to have 'Production, Technical and Marketing agreement' (PTMA) with an anchor firm. Being a government owned bank, it is also able to mobilize deposits both from government units and small depositors providing it with good financial strength. Other features of the model include mandating crop insurance for its borrowers, to minimize possibilities of credit defaults and use of wholesale lending through conduits (includes co-operatives, rural banks and agri-based enterprises) to reduce operational expenses.

Regular institutional credit (Case of a partially failed institution), Experimentation with Institutional credit in Nepal: Case of ADBL: Agricultural Development Bank Limited (ADBL) is a government owned entity, which was formed in 1968 to work as a frontline institution in providing rural credit in Nepal. It also entered into commercial banking activities in 1984. ADBL used to contribute around two thirds of the total credit supply in the country. It had also been involved in a major poverty reduction program (Small Farmer Development Programme or SFDP) of Nepal. Despite being such a large institution, it went into trouble in the year 2006, when due to a sharp increase in its non-performing portfolio under SFDP, which raised questions on its financial health. During that period, ADBL also fell short of its targets in the field of agriculture financing. These conditions forced the authorities to limit ADBL's outreach activities, in their effort to restore the organization. Despite these limitations and spotty financial performance, ADBL is still the largest bank of Nepal in terms of total branch coverage.

Institutional VC financing in Vietnam: In Vietnam, formal financial institutions play a major role in providing VCF to agriculture. The five largest banks of Vietnam collectively hold around three fourth of the total market share in terms of institutional credit. The 'Vietnam Bank for Agriculture and Rural Development' (VBARD) is the leading bank in the country and is also the pioneer in financing AVCs. VBARD provides institutional credit to players at different levels in the VC, ranging from primary producer to large millers.

For financing primary producers, VBARD used multiple channels to reduce credit risk and transaction costs. In the case of farmers and entrepreneurs who are able to provide sufficient collateral, VBARD offers direct individual loans. For small size loans, VBARD uses 'Joint Liability Group' method to reduce transaction cost and minimise credit risk for unsecured lending. VBARD also uses services from mass organizations to target borrowers without any collateral. Under this system, loans are sanctioned to "guarantee groups" which are formed from amongst members who are answerable to the mass organization. To increase its outreach through all these channels, VBARD deploys Mobile-banking units, which carry loan officers to remote areas for processing loan applications.

Bank-led Agri-VC financing in India: State Bank of India (SBI), the largest public sector bank in India, is the pioneer in the field of AVC financing in the country. Stated below are two examples of how SBI finances the VCs of Coleus tuber and cut flowers:

- In case of Coleus tuber (a medicinal plant) SBI offers credit facilities to players at each level of the VC. At the producer level, SBI offers loans based on the cultivation requirements. The amount is calculated based on the land under cultivation, and cost of cultivation per acre. This loan can be provided both in form of cash or kind (agricultural inputs like fertilizers). For intermediaries including aggregators and primary processors, SBI offers credit in form of 'term loans' or 'working capital loans'. Further at top of the VC, SBI provides export credit to the final processor/exporter and also facilitates line of credit to importers abroad.

- To finance the VC of cut flowers in Tamil Nadu, SBI has entered into a contract with Tanflora (World's fourth largest producer of export quality roses). Under this contract, SBI provides direct finance to the growers/farmers supplying roses to Tanflora for procurement of cultivation inputs. SBI also finances the processing activities undertaken by Tanflora under its 'Produce marketing schemes' or 'crop loan'. This credit comes in handy as the cut flower business has longer repayment cycles, which increase the working capital requirement of processors and exporters like Tanflora.

Mentha cropping by farmers with small land holding (less than 2 ha) in Uttar Pradesh, India – VC aggregation and financing by an MFI in India: Cashpor Micro Credit is a microfinance institution providing access to finance to low-income households in the two states of Uttar Pradesh and Bihar. Most of the Cashpor clients are from rural areas, who are mostly engaged in agriculture practices and farming. These clients have very small landholding and are usually engaged in subsistence farming. Cashpor aimed to support these small landholders to enhance the value of their efforts by shifting to a better yielding and high value crop. Cashpor finalized mentha (Mentha arvensis) as a crop for farmers in its operational area, based on the analysis of geo-climatic conditions, irrigation facilities and the skills required to produce.

With support from VC specialists, Cashpor embarked on the ambitious plan of linking 843 farmers in the first phase to mentha processing company and developing VC linkages to ensure that the value is distributed equitably. Cashpor selected the farming sector since most of the clients were dependent on farming and it was not a fruitful effort as the clients produced low value crops such as wheat and rice, largely for consumption. Considering the value generation at the producer level and its impact on poverty reduction, mentha emerged as the best bet.

The poverty reduction potential of the mint VC is high, in terms of contributing higher value to the producers for the efforts that they put in and a large number of Cashpor clients rely on agriculture for employment and income. Mentha is one of the most demanded cash crops by pharmaceutical and cosmetic industry. The recent demand-supply gap has spurred the prices of mentha to 16 times of the price last year. These changes have been prompted by a rapid growth in demand for mentha due to increase in the use of mentha in Fast-Moving Consumer Goods (FMCG) products and medicines.

Cashpor, a socially driven MFI supports poor clients as well as marginalized households by financing them to take up economic activities. Thus, the core focus of this intervention was to develop an inclusive program to enhance the participation of poor and marginalized populations of Uttar Pradesh and Bihar into mainstream markets. Farming was a natural choice as the people already were skilled in farming and had land as assets, which if pooled together, could provide enough bargaining power to producers and create direct linkages with processors and markets. Cashpor assessed the systemic constraints and played the role of facilitator to address the bottlenecks such as finance, know-how and technology for sustainable change and wider impact.

Before the participation of poor farmers in the VC, mentha was grown by farmers with large cultivable areas and used to reach processors through various intermediaries. Hence, a lot of value was lost to intermediaries and neither the producer nor the processors used to benefit. Farmers with small landholdings never participated in the VC as the cost of installing a distillation unit (mentha being a perishable product), with such a small landholding did not make any economic sense. Furthermore, there was no financing available to procure the distillation unit. Cashpor analyzed the areas where it operated and assessed that there were villages where Cashpor serviced clients who had contiguous landholding. It also found out that for every 16 producers, if there was a distillation unit, the economics made sense. On the buyer side, Cashpor collaborated with Sharp Mentha India Limited and agreed to supply in bulk directly to their manufacturing plant. Sharp Mentha reciprocated by agreeing to buy at a contracted rate (significantly better than the spot price) and send their engineers and scientist to train and install distillation units. Cashpor developed a cash-entrapment financing product to front finance distillation units.

The effort led to a strong non-exploitative VC model and had far-reaching impact on the lives of farmers who were part of the program.

Indirect VCF, Institutional finance (Through an MFI), Case of partnership between an MFI and Donor Agency (Mercy Corps) in Nepal: Mercy Corps is a UK based development agency, which works in eastern and far western Nepal to support spice cultivators. During its support program, Mercy Corps realized the need for financial services to support spice cultivators. As most of the banks and MFIs were not ready to enter into this market, Mercy Corps had to enter into a special agreement with an MFI named Nirdhan Utthan Bank Ltd. (NUBL). Under this agreement NUBL was required to provide financial assistance to a certain percentage of farmers supported by Mercy Corps and in return Mercy Corps had to cover the operational losses of NUBL (incurred towards activities under the agreement) for a period

of three years. The technical support from Mercy Corps and financial support from NUBL have proved to be complementary in improving the agriculture productivity and returns for the farmers. NUBL was able to support over 480 farmers in the first year of partnership, and this number has increased since then.

Institutional financing of AVCs in Malaysia: Malaysia envisions becoming a developed nation by 2020 and one of the important sectors to contribute to the growth story is agriculture. To catalyze the growth of the agriculture sector, the Government has commissioned Bank Pertanian Malaysia (BPM), a development financial institution to support the agricultural sector through appropriate financing mechanisms. BPM was established by an Act of Parliament on 1st September, 1969, and commenced its operations on 1st January, 1970. As a statutory body, the Bank is responsible for arranging, providing, supervising and coordinating credit for agricultural purposes in Malaysia. The idea of an agricultural bank is directly a result of the Government's decision to embark on the Muda Agriculture Project, a massive irrigation scheme for the rice bowl areas in the Muda Valley located in Kedah and Perlis in the northern part of peninsula Malaysia. Muda Agricultural Development Authority (MADA) currently administers the project.

The World Bank provided financing for the Muda project and in its appraisal report, the World Bank highlighted the need for an institutionalized credit program to finance double cropping of paddy. The report recommended that a special credit scheme be devised to support the implementation of the project and to ensure the full realization of maximum economic and social benefits. BPM was thus, established as a Rural Finance Institution to specialize in the provision of credit to the agricultural sector.

BPM offers agricultural loans; deposits products through savings and time deposits and at the same time invest excess funds in allowable investment portfolio. BPM has been in operation for the last 35 years and has played a significant role in the development of the Malaysian agriculture sector. The bank assets grew from USD 2.68 million in 1970 to USD 1,340.18 million in 2003, an average growth of 8.3% per annum. Its loans asset expanded from USD 0.08 million in 1970, increased to USD 722.61 million in 2003; an average loans growth of about 10.4 percent a year. Deposits placed with the Bank in the form of savings, fixed deposits and Giro amounted to USD 37.39 million in 1975, and grew to USD 1,111.97 million in 2000 but declined to USD 990.71 million in 2003.

BPM has come a long way in carrying out its operation and functions and in providing loans to the agricultural sector. The success of BPM can be attributed to government allocation and support through subsidized loans, extensive branch network covering the nation, use of ICT, and fast, efficient and quality services to its customers.

Revitalizing farm sector through access to finance of cash-starved farmers in Myanmar[36]***:*** For most farmers of Myanmar, credit was scarce and expensive. In 2009, the Myanmar Agricultural Development Bank (MADB), the apex agricultural bank provided around USD 10 per acre, less than a tenth of the sum needed to cover the average cost of inputs in the cultivation of rice. In that year, there were no other formal-sector lenders for farmers. Informal credit costs 6% to 10 percent a month, and it was not always available. These circumstances depressed input use, held down production, reduced farmers' incomes, and ultimately increased their indebtedness. The Myanmar Government's response to this situation has been to offer more credit on better terms in the past year. The MADB has extended loans of up to USD 25 per acre to some farmers. Also, special agricultural development companies have made loans to farmers at rates of 3% to 5% per month. While not nearly adequate to meet the borrowing needs of Myanmar's farm sector, these measures were clear and promising steps in the right direction.

Perennial crop development project in Sri Lanka: To transform Sri Lankan agriculture from subsistence level to commercial level and to create competition within the agricultural sector, the Sri Lankan government has launched a perennial crop development project. The project has a significant portion of funds allotted to research and extension activities apart from agricultural lending. The project named as "Aruna Agricultural Credit Scheme" provides financial assistance to cultivators by infusing modern technology in Sri Lankan agriculture. The Agriculture Ministry has already commenced this agricultural credit scheme in 17 districts with the assistance of the Asian Development Bank (ADB) and the Central Bank.

36 Myanmar Agriculture in 2011: Old Problems and New Challenges, Ash Center for Democratic Governance and Innovation, Harvard Kennedy School.

The credit scheme assists the development of the perennial crop sector in Sri Lanka, excluding tea, rubber and coconut through a concessionary credit scheme and an advisory service. Loans ranging from Rs.50,000 to Rs.13 million are granted, depending on the nature of the investment, while 12.08 percent of the annual interest rate is charged for a 10-year payback period.

Hatton National Bank, Commercial Bank, Sampath Bank, Bank of Ceylon, DFCC Bank, National Development Bank, Kadurata Development Bank and Ruhunu Development Bank are the credit facilitators of this scheme.

Agricultural bond by a microfinance institution in Bangladesh: BRAC, a Bangladeshi MFI has launched a USD 90 million agricultural bond in order to boost agricultural financing. The prime reason for BRAC to devise such a financing mechanism lies in the changing agriculture and farm sector dynamics, wherein middle and large scale landowners were shifting from agriculture to other activities by passing on their land on tenancy mechanism, and tenants faced problems in accessing finance due to lack of collateral. Thus, BRAC bond, a unique financing mechanism offered in collaboration with Citi Bank N.A. is the country's first 'zero coupon' bond, a financial instrument that pays no direct interest but is sold at a discount to its face value. The Government has made such bonds tax-free in an effort to encourage the use of bond financing. BRAC has raised funds from commercial banks, insurance companies, and other financial institutions and with its extensive microcredit network provides agricultural loans through its micro financing network.

Examples of risk management practices from Asia:

Credit guarantee fund of China: The Government established the Agriculture Credit Guarantee Fund with the assistance of the three major agricultural banks and the farmers' associations, in September 1983. Its principal objective is to provide farmers with credit guarantee services, through contracts drawn up with agricultural banks and farmers' associations. In this way, the Fund is able to facilitate agricultural lending activities.

Futures exchange in Indialo[37]***:*** Presently, 15 exchanges in India are in operation, carrying out futures trading activities in as many as 30 commodity items. Lately, as part of further liberalization of trade in agriculture and dismantling of ECA, 1955 futures trade in sugar has been permitted and three new exchanges viz., e -Commodities Limited, Mumbai; NCS Infotech Ltd., Hyderabad; and e-Sugar India.Com, Mumbai, have been given approval for conducting sugar futures. The futures contracts are designed to deal directly with the credit risk involved in locking in prices and obtaining forward cover. These contracts can be used for hedging price risk and discovering future prices. For commodities that compete in world or national markets, such as coffee, there are many relatively small producers scattered over a wide geographic area. These widely dispersed producers find it difficult to know what prices are available, and the opportunity for producer, processor, and merchandizer to ascertain their likely cost for coffee and develop long range plans is limited.

Managing crop failure risks in Philippines: The Philippine Crop Insurance Corporation (PCIC) was established in 1978, mandated to implement and manage an agricultural insurance program for small farmers. It provides protection to agricultural producers against losses due to natural calamities, pests and diseases. The product includes rice and corn insurance, high value commercial crop insurance, livestock, asset, equipment and credit life insurance. PCIC's priority is the staple food of the Philippines *i.e.* Rice and Corn with greater than 80 percent coverage of these.

Credit guarantee fund for farmers in Philippines: The agriculture guarantee fund pool that was created in May 2008, mandated all Government corporations and Government financial institution to contribute 5% of their surplus funds to a fund pool to be utilized to guarantee loans of small farmers engaged in food crops. It offers guarantee cover to lending institutions for unsecured loans to small farmers and covered up to 85 percent of loan extended. It includes all types of risks of default including weather, pest and diseases and other fortuitous events.

37 Risk management in agricultural commodity markets: A study of some selected commodity futures, Sahadevan K. G, IIM Lucknow.

A failed product and a new product launch – Case of Agricultural Insurance from India: The Government of India experimented with a comprehensive crop insurance scheme that failed due to excessive claims; this product was scrapped in 1997. The Government then introduced a new scheme titled "National Agricultural Insurance Scheme" (NAIS) or "Rashtriya Krishi Bima Yojana" (RKBY), in 2000. NAIS envisages coverage of all food crops (cereals and pulses), oilseeds, horticultural and commercial crops. It covers all farmers, both those that have availed loans and those that have not taken loans under the scheme. The premium rates vary from 1.5% to 3.5% of sum assured for food crops. In the case of horticultural and commercial crops, actuarial rates are charged. Small and marginal farmers are entitled to a subsidy of 50 percent of the premium charged- the subsidy is shared equally between the Government of India and the States. The subsidy is to be phased out over a period of 5 years. NAIS operates on the basis of area approach — defined areas for each notified crop for widespread calamities on individual basis- for localized calamities such as hailstorms, landslides, cyclones and floods. Under the scheme, each state is required to reach the Gram Panchayat level (Village level unit of management with a village headman), as the unit of insurance in a maximum period of 3 years.

Price stabilization fund for cash crops in India[38]: In 2002, the Government launched an income stabilization fund for small farmers of four plantation crops, namely coffee, tea, rubber and tobacco. The fund works as a savings account, whereby the Government contributes to the account during distress years, farmers contribute during boom years and both parties share the contribution equally during normal years. The fund was envisaged to benefit some 342,000 small growers out of 1,277,000, but could only succeed in securing the participation of 45,188 growers. On studying the functioning of the fund, the Review Committee made some very pertinent and relevant suggestions, including changes in price band, quantity of Government contribution, operation of account and withdrawal and additional benefits, such as personal accident insurance, etc. PSF can play the role of income mitigation instrument for small farmers, if amendments are made on the basis of the suggestions of the review committee and realities on the ground.

38 Risk Management as a Pillar in Agriculture and Food Security Policies - India Case Study Policy Brief, FAO.

Annex 5: Comparisons of features of prevalent financing mechanisms

Attribute	Aggregator financing	Input supplier financing	Marketing company financing	Lead firm financing	Warehouse receipt financing
Actors involved	Producer (borrower) Aggregator (lender)	Producer (borrower) Input supplier (lender)	Producer (borrower) Marketing company (lender)	Lead firm (lender, aggregator and processor) VC supporters such as technology service, extension services providers	Producer (borrower) Bank, formal financial institution or informal lender (lender) Warehouses (storage and receipt issuance)
Financing mechanism	Advances against purchase of produce	Advances in form of input supplies against purchase of produce or cash repayment	Advances against purchase of produce	Advances, input supplies and services against buy-back agreement for produce	Post-harvest loans against stored commodities in a certified warehouse
Inter-relationship	Trust based	Trust based	Formal contracting	Buy-back agreement contracting	Warehouse receipts based
Risk mitigation	Loan to the producers against aggregator's perception of market, production capacity and risk appetite	Advances by input suppliers based on longstanding relationships with the producers	Credit risk mitigated by formal contracting and purchase agreements	Buy-back agreement in force Regular monitoring and supervision of production processes	Loans backed by commodities stored in a third party, independent warehouse that certifies the market value
Costs associated	Lower purchase prices than the market	No discounts on purchases. At times, a nominal interest charged	Pre-fixed purchase prices for the produce	Pre-fixed purchase prices for the produce	Costs for warehouse storage added to the lending costs
Benefits	Easy, tailor-made financing Assured buyers for the produce	In kind loan, hence, loan misutilization is checked	Assured buyers for the produce	Value added services	Increased yield due to storage facilities. Reduced post harvest losses Price benefits
Disadvantages	Seasonal, short term loans Limited bargaining power of producers	Limited financing availability Does not meet other needs of the producers, such as lifecycle, less opportunities to enjoy price benefits	Limited bargaining power of producers	Limited bargaining power of producers Small producers not suitable for such arrangements	Poor implementation and connivance of warehouses with producers to certify low quality commodities

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Annex 6: Choosing suitable approaches for VCF – examples from Asia

Attributes	Cut flowers, Bangladesh	Coleus tubers crop, India	Potato, India	Cocoa, Indonesia	Rice, Lao PDR
Input needs and extension services	Specific	Specific	Generic	Specific – government intervention	Generic
Product type	Exportable perishable crop	Exportable cash crop	Organised local staple	Exportable cash crop	Organised local staple
Aggregation point	Aggregators and exporters	Farmer co-operatives and processors	Local markets	Local collectors	Millers
VC power	Aggregator and exporter power	Supplier power	Light buyer power	Aggregator power	Buyer power
Number of producers	Small numbers	Small numbers in close geographies	Many	Large number of smallholders	80 percent of population
Market characteristics	Export markets	Export markets	Organised local markets	Export markets	Limited formal markets; government regulated
Crop characteristics	Perishable post-harvest	Price incentives for quality	Durable post-harvest	Price incentives for quality and perishable product	No price incentives for quality
Financial attractiveness	High	Profitable VC as returns for producers are greater than 40 percent	Medium, producers lack collateral, other actors are creditworthy	Profitable, however, producers lack physical guarantee or valuable assets	Medium and smallholders are creditworthy
Risk analysis	Low risks	Low risks	High price and market risks	High risks of infestation, price fluctuation, poor	Medium risks
Availability of financing	Lack of formal financing Trader credit prevalent	No formal financing available Huge financing gap	Informal financing prevails Exploitative in nature	Trader credit resulting in depressing procurement prices	Aggregator credit
Need of range of financial services	High, exporters need export credit finance	Sophisticated financial products needed such as export credit and credit line	Term loans, savings for producer	Input and production loans Emergency loans to meet lifecycle needs	Input and production loans Emergency loans to meet lifecycle needs
Intervention	Formal financing to exporters to promote contract farming and for export credit finance	Indirect financing by specialized bank	Bank financing to aggregators, as they are credit worthy and risks in financing the producers is very high. Contract farming is also a feasible option	Formal financing for traders and exporters to connect directly with producers Warehouse financing for harvested crop to safeguard poor producers to sell prematurely and lose on opportunity	Loans to farmers in lieu of collateral

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The African Development Bank is a multilateral development institution, established in 1963 by agreement by and among its member states, for the purpose of contributing to the sustainable economic development and social progress of its Regional Member Countries (RMCs) in Africa. The members of the Bank, currently seventy eight (78), comprise 54 RMCs, and 24 Non-RMCs. The Bank's principal functions include: (i) using its resources for the financing of investment projects and programs relating to the economic and social development of its RMCs; (ii) the provision of technical assistance for the preparation and execution of development projects and programs; and (iii) promoting investment in Africa of public and private capital for development purposes; and (iv) to respond to requests for assistance in coordinating development policies and plans of RMCs.

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