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Risks and Opportunities of Non-Bank-Based Financing for Agriculture: the Case of Agricultural Value Chain Financing

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The responsibility for the study remains solely with the author and any views or conclusions should not be attributed to DIE or any of its research staff.

Bonn, November 2015 Rauno Zander

Contents

Boxes

Figures

Tables

Abbreviations

ADB	Asian Development Bank
ATA	Agricultural Transformation Agency (Ethiopia)
AVCF	Agricultural value chain finance
BBVA	Banco Bilbao Vizcaya Argentaria (Peru)
BCP	Banco de Credito del Peru
BMGF	Bill and Melinda Gates Foundation
BMZ	German Federal Ministry for Economic Cooperation and Development
BoK	Bank of Kigali
CBE	Central Bank of Ethiopia
CmiA	Cotton Made in Africa
COMPACI	Competitive African Cotton for Pro-Poor Growth
DEG	Deutsche Investitions- und Entwicklungsgesellschaft
DIE	Deutsches Institut für Entwicklungspolitik/German Development Institute
ECX	Ethiopian Commodity Exchange
EUR	Euro
FAO	Food and Agriculture Organization of the United Nations
FNB	First National Bank (Zambia)
GDP	Gross domestic product
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
GoE	Government of Ethiopia
GoR	Government of Rwanda
GPS	Global Positioning System
GTP	Growth and Transformation Plan (Ethiopia)
ha	Hectare
IADB	Inter-American Development Bank
IF	Islamic financing
IFAD	International Fund for Agricultural Development
IIRR	International Institute for Rural Reconstruction (Nairobi, Kenya)
KFAS	Keliko Farmers' Association Society (South Sudan)
kg	Kilogramme
KIT	KIT Royal Tropical Institute (Netherlands)
KWAMP	Kirehe Community Based Watershed Management Project (Rwanda)
MFI	Monetary financial institution
MINAGRI	Ministry of Agriculture (Rwanda)
mt	million tons
NABARD	National Bank for Agriculture and Rural Development (India)

NGO	Non-governmental organisation
NORC	National Opinion Research Center (University of Chicago)
P4P	Purchase for Progress (WFP)
Rwf	Rwandan franc
SACCO	Savings and Credit Co-operative
TA	Technical assistance
TSP	Tillage service providers
USD	United States dollar
VCF	Value chain finance
WFP	United Nations World Food Programme
WHR	Warehouse receipt

Summary

This study aims at providing some initial insights into the evidence and relevance of non-bank-based value chain financing, and in particular, at studying the implications of these financing arrangements for agricultural and financial sector development. The focus is on risks and opportunities of non-bank-based forms of agricultural financing for financial and agricultural sector development and financial stability. The study then presents strategies through which to reduce unwanted risks for financial sector development and to better reach priority sections of the rural population such as small farmers and micro and small rural enterprises in agricultural value chains. Finally, the study also discusses the potential for linking non-bank-based forms of financing with the formal financial sector in order to ensure compliance with the approaches of sustainable financial sector development (notably sustainable access, usage and quality of a wide range of financial services).

Having first defined key terms, this research paper then outlines some of the major areas of current discussion on agricultural value chain support in a development finance context: contract farming, trader credit, and other types of interlinked credit transactions to support produce purchase. It also outlines the main contextual elements of what, together, constitute agricultural value chain finance. An instrument-based typology of agricultural value chain financing is then outlined in more detail.

The literature review compares the main types of literature on agricultural value chain financing. The large body of available literature containing normative suggestions and guidance is the least likely to include information on implications of agricultural value chain financing for the agricultural and financial sector. On the whole, one must conclude that there is a considerable gap in knowledge in the available literature with regard to adequate information on this topic.

The main risks for agricultural sector development that emanate from the non-bank financing of agricultural value chains relate to the constraints that this financing imposes. Some sources argue that it can hold back the general process of development and transformation of rural economies. For financial sector development, risks relate to access to and the quality of financial services, the range and usage of financial services, and aspects of responsible finance and consumer protection. This study points to some evidence of all of these risks, and discusses these with reference to case examples from Rwanda, Ethiopia, South Sudan and the Deutsche Investitions- und Entwicklungs-gesellschaft (DEG)/Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)-supported COMPACI initiative. Risks and opportunities for financial and agricultural sector development are characterized with regard to the three selected cases and then presented in a comparative overview.

Even if based on thin empirical evidence so far, it was possible to identify both the opportunities and the implications of non-bank financing of agricultural value chains. They relate to opportunities for funders and investors to improve governance aspects in the relevant value chains: future pro-poor support to agricultural value chains needs to pay attention to the identification and inclusion of poor and small producers into project-supported agricultural value chains. Inclusive finance should likewise embrace issues of responsible finance and protection of the rights of small producers, as well as consumer rights. Recent initiatives, such as the indicators for responsible finance and the norms and

guidelines of individual donors or investors, stress the principles of responsible finance, clarity on contract obligations and rights, as well as fair and equitable contract terms based on transparent criteria. These are the basis for trusting business relations, contract fulfilment and a reduced moral hazard on both sides. This applies all the more because of the sometimes informal contracts that prevail in non-bank-based forms of chain internal financing.

In terms of opportunities for linking non-bank-based forms of financing with the formal financial sector, the study contends that informal and non-bank financing of agricultural value chains in general will likely never be fully substituted by formal financial institutions. Even as financial sectors develop and reach higher levels of sophistication, there will always be market niches for non-formal financial intermediaries where loan requests are too specialized, too small or required too quickly to be serviced by a commercial bank.

There is an emerging consensus that external facilitation in the specific context of agricultural value chain development needs to be better focused on including poor small producers into a value chain. The discussion about how to actually achieve this inclusive development is still at the beginning. Views as to how pro-active donors should be in actually driving the development of value chains are divided, while the role of donor agencies as honest brokers between the worlds of agribusiness and financial institutions is just in the process of evolving.

1 Introduction

For several years now, various different agencies of the Deutsche Gesellschaft für technische Zusammenarbeit (GIZ, the German development cooperation) and other development partners have been involved in programmes supporting non-bank-based forms of financing for the agricultural sector such as agricultural value chain financing (AVCF). In the international policy debate on financial inclusion, non-bank-based forms of financing have also received attention due to their perceived potential to ease financing constraints on the private sector in developing countries.

However, it is not clear what the evidence of the risks and opportunities of non-bank-based forms of agricultural financing are for the development and stability of the financial sector as well as for the development of agricultural sectors. This study was initiated to get a better understanding of the advantages and disadvantages of non-bank-based forms of agricultural financing in initiating, implementing, and sustaining sound policies and programmes that achieve the desired results of job and income creation, rural development and food security. The focus of this study is on examining the risks and opportunities of AVCF with special emphasis on providers of capital other than banks, and including companies in agricultural value chains.

The objective of the study is to identify:

i) the risks and opportunities of non-bank-based forms of agricultural financing for financial and agricultural sector development and financial stability,

ii) the most successful strategies for minimizing risks to financial sector development and financial stability as well as risks for rural economic actors, in particular farmers and businesses in agricultural value chains,

iii) the opportunities for linking the non-bank-based forms of financing with the formal financial sector, with the aim of maximizing synergies and of ensuring compliance with the approaches of sustainable financial sector development (notably access, usage and quality of a wide range of sustainably provided financial services; responsible finance).

This study is based on desk research and case examples sourced from informants at various different field locations. It is carried out as a baseline study establishing a literature-based view on the implications of certain aspects of value chain financing for agricultural and financial sector development. Suggested areas for future research and follow up investigations are therefore specifically highlighted throughout this document for future reference. The case examples were analysed on the basis of expert interviews. The remainder of this study is divided into five subsequent sections.

Section 2, Value chain finance (VCF) in overview, introduces key concepts and typologies related to AVCF. The purpose of this section is to provide a thematic introduction to value chain development in general and AVCF in particular.

Section 3, Implications of value chain financing for agricultural and financial sector development: literature review, summarizes the current knowledge available on AVCF and presents the most important literature sources before exploring to what extent the available literature allows us to draw conclusions on the risks, opportunities and impact of AVCF on agriculture, rural and financial sector development.

Section 4 then presents four **case examples** with a focus on the risks and opportunities of non-bank-based forms of agricultural value chain financing. In addition, the case studies identify strategies for minimizing risks and for linking the non-bank-based forms of financing with the formal financial sector.

Section 5, Emerging avenues for support and international cooperation, then presents various different strata of external support and facilitation of AVCF in overview and compares the different approaches. The focus in this section is on support strategies that increase the potential of non-bank-based forms of AVCF and reduce their risks.

Section 6, **Conclusions and areas for further research**, summarizes the various different proposals for further analysis and research that were presented at the end of each section, outlines remaining gaps in knowledge, and suggests next steps.

2 Value chain finance (VCF) in overview: concepts and typologies

2.1 The setting

With the development of agricultural production systems, there has been a gradual shift from primarily subsistence-oriented family-farmers to commercially oriented producers. Segmented, atomistic forms of production are changing: previously many separate links operated in isolation where farmers produced independently, without secured markets and were exposed to price risks along with insecure access to capital. In the emerging agricultural markets, this old conventional model of farming is now giving way globally to a new form of agriculture based on integrated systems, differentiated production and risk and information management with interdependent farmers producing at the bottom end of structured value chains (Shwedel, 2007). The farmer is only one link in the chain, and the entire chain will only be as strong as its weakest link.[1]

Rural producers face many challenges, for instance often limited natural resource base, new technology, input availability, marketing, quality and others. Improving production and marketing processes is also made more difficult, when working and investment capital is not available to the actors in the chains. This requires access to finance at the right time – and this must be stable and reliable over more than just a few cropping seasons.[2] Serving the agricultural sector is particularly challenging for formal financial institutions. Often in rural areas population densities are lower, infrastructure less developed and access to information is more costly and difficult. In addition the soft skills, systems and procedures of commercial banks for providing financial services to producers, processors, traders and end users in the value chains are often not well developed.

Value chains can benefit from financing in different ways. Financing can come to chain actors from **outside** the chain, possibly through a loan from a bank to an agri-processor. Or financing can also be organized **within** chains. In this case, the same agri-processor would take available liquidity and use it as a simple loan to his supplying producers or could even

1 Following the German saying: "Die Kette ist nur so stark wie ihr schwächstes Glied".

2 For initial discussions on conceptualizing access to finance analysis, see Adams (1994) and Zander (1994).

tie this loan formally to a purchase agreement. These loans can be used by a producer or processor as working capital or to finance investments.

Agricultural producers in developing economies usually borrow from traders, agro-dealers and produce buyers. Traders themselves borrow from wholesalers higher up the chain, and then lend to producers. Even the final point of sale to the ultimate consumer – in AVCF in many cases supermarkets that have spread globally over the past two decades – may lend (consumer loans to end clients) as well as borrow (receive inventory against invoices to be paid at a later date). These arrangements are often informal and do not involve banks and formal financial institutions. They can range from a simple cash advance from a friend to buy additional fertilizer to multi-layered and sophisticated trader lending chains.[3]

Different types of financing within a value chain at the lowest level (producer) or at the highest level of the chain (actor supplying to the ultimate consumer) have often been described in anthropological literature, then in sociological and socio-economic publications, and for the past decades also in the literature on development economics and development finance. There has been a gradual **shift away from just describing** the systems in their role and importance in village economies **towards utilizing them** as one approach in externally promoting the incomes and livelihoods of rural people. Also, in more recent works, **the perspectives of the chain actors themselves are receiving more attention**. While the early literature[4] deemed that traders and moneylenders were usurious and exploitative, damaging producers more than helping them, Dale Adams stands for a new group of academics who took a fresh look at trader credit and, starting with empirical works in the late 1980s, captured the views and constraints of produce buyers, traders and other rural small business people involved in petty trade:

> I have yet to find a merchant who would not prefer cash transactions over those involving credit. This suggests to me that most merchants view lending as a nuisance rather than as a way to sweat additional profits out of their customers (Adams, 1992, p. 17).

In this current introductory section, the relevant terms are first defined, followed by an outline of the main questions to be addressed in the study. The final part of the section then introduces some typologies of non-bank agricultural value chain finance (AVCF) in a comparative overview.

2.2 Questions addressed in this study

The purpose of this study is to provide some initial insights into the evidence and relevance of **non-bank-based value chain financing**, and in particular to study the **implications** of these financing arrangements for agricultural and financial sector development. Derived from the objectives of the study the questions addressed here are:

3 These layered trader credit links of times gone by have been referred to as “gold coasting” (Geis, 1967, p. 189).

4 Best known are probably the All India Rural Credit Surveys of the Reserve Bank of India and their successor surveys, the All India Debt and Investment Surveys (AIDIS).

i) What are the (main) risks and opportunities of non-bank-based forms of agricultural financing for financial and agricultural sector development and financial stability?

ii) What are the most successful strategies for minimizing risks for financial sector development and financial stability as well as risks for the target group (farmers and businesses in agricultural value chains)?

iii) What are the (main) opportunities for linking the non-bank-based forms of financing with the formal financial sector, with the aim of maximizing synergies and ensuring compliance with the approaches of sustainable financial sector development (notably the sustainable access, usage and quality of a wide range of services). How can one use inputs from the literature to enhance sustainable financial market development?

2.3 Definitions

In the 1960s, French scientists coined the term of *filières*, or threads, to model the flow of physical inputs and services in the production of a final product.[5] Michael Porter first defined the term 'value chain' in the context of business management in the late 1980s. There is no single general definition of the two most relevant terms for this study, namely 'value chains' and 'value chain finance'. Miller and Jones (2010, p. xv) define **value chains** as "a set of actors who conduct a linked sequence of value-adding activities involved in bringing a product from its raw material stage to the final consumer." Set against this is the definition of the KIT Royal Tropical Institute (KIT) and the International Institute of Rural Reconstruction (IIRR) (2010) who see value chains as

> the full range of activities that are required to bring a product from its conception to its end use. The value chain consists of enterprises that collaborate in various degrees; the chain is defined by its raw material and market segment.

These two definitions have the constituting elements 'actors', 'activities' and 'product development' in common. They both stress that these chains can range from the stage of raw material at the beginning of the chain to the final consumer.

Noteworthy is also the more pragmatic definition of a recent study by the Dalberg company (Carroll et al., 2012, p. 3):

> The sequence of activities to turn raw input into finished output; in the case of agriculture, the value chain may include (but is not limited to) input provision, production, processing, transport, storage, marketing, and export.

Similarly, the Asian Development Bank (ADB) (2012, p. vii) attempts to keep things simple: agricultural value chains are defined here as

> …organized linkages between groups of producers, traders, processors, and service providers (including nongovernment organizations) that join together to improve productivity and the value added from their activities.

5 For a discussion of this early application of a concept similar to value chain analysis, see Kaplinsky and Morris (2002, p. 5, referring to Raikes, Jensen, & Ponte, 2000).

While the definitions of Dalberg and ADB are more encompassing, the gain in precision is lost in terms of simplicity and clarity. All of the above definitions have departed from the original definition of the term by Michael Porter as "a chain of activities that a firm operating in a specific industry performs in order to deliver a valuable product or service for the market" (Porter, 1985, p. 13). In this document, the definition of Miller and Jones (2010) is adopted as the one now generally accepted for AVCF in a development context.

Value chain finance (VCF) denotes all financing arrangements within a specific value chain or from outside the chain. As the concept of value chains and their financing is broad and multifaceted, the terms 'value chain' and 'VCF' necessarily refer to a broad range of different instruments and mechanisms. In this study, the term **non-bank financing** refers to all financing from within or outside the value chains of sources other than banks. This includes all other formal and semi-formal financing institutions, including non-governmental organisation (NGOs) and cooperatives, and even non-loan-based financing such as non-repayable contributions, matching grants or similar arrangements, as well as vertical integration structures, where the sources of loans become integrated into the company structure. Informal financing is included. This can originate from outside the chains, mainly in the form of loans from friends and relatives, but is mostly from within the chain in the form of different types of vendor financing

2.4 Topics governing value chain development discussions

Value chain development is proposed by KIT to take mainly three forms:

a) Forming new chains ('crafting new chains')

b) Providing working capital to chain actors ('improving chain liquidity')

c) Investments within existing chains ('unleashing investments in the chain').

This follows the logic of general agricultural financing (new investments, re-investments and current asset financing) and is a useful typology for the development of value chains.

A bias towards better-off producers? Proponents of AVCF have faced the criticism that VCF support aids the better-off and may keep poor producers at lower income levels while destroying their classical family-farming situation in favour of a free market philosophy that helps promoters and chain actors more than the producers themselves. And among the producers, it is the small ones that may drop behind. Compared to those who are 'less poor', the very poor tend to have fewer productive assets and fewer relationships with people who are 'well connected', have *guanxi* in Mandarin and are upwardly mobile. These poor smallholders have a reduced ability to take on the monetary, time and social risks required for strengthening their market positions (Garloch, 2012), whereas the already wealthier and robust producers will be even better off as a result of value chain support.

This is a real and justified concern. The required focus on lead firms within chains and their internal financing does not help to allay these reservations. Similarly, the empowerment of the private sector, that represents another corner stone of value chain support, is similarly not likely to reduce scepticism towards the concept – where this may exist.

Against this background, donors and other external promoters stress the need for AVCF activities to be client-oriented, in particular in relation to the concerns and possible access barriers of small and marginal farmers and other primary producers. Market and financial exclusion are seen as critical areas for an obstacle and risk analysis and the identification of strategies for minimizing the risk and a higher level of inclusiveness of the financing options.[6]

In a small way, this present study tries to contribute to this discussion by focusing on the risks of value chain financing, as well as on opportunities emanating from these mechanisms. It aims to be one of the many steps required towards establishing a format to analyse the impact of non-bank AVCF and thus may ultimately contribute to a better response to questions of impact and implications for the agricultural and financial sector.

Structured and loose agricultural value chains. Both the literature and the example cases contained in Section 4 of this study differentiate between highly organized and more sophisticated value chains, such as dairy and horticulture, and the looser value chains that prevail in the area of agricultural staple crops, such as paddy rice and indigenous root crops. The concluding sections of this study will take this perspective up again and contend that looser value chains are the ones that capture more of the smallholders and producers that are not well integrated into markets and financial services. If development is to be catalysed here, external facilitation will be required more often. Depending on the type of value chain ('structured' versus 'loose'), technology, quality and safety concerns and the need for precise on-time delivery may open up new opportunities for financing. Relationships between partners would need to become tighter, more solid and trust-based; here value chain financing can act as a 'glue' to cement these relationships. The more limited and specialized the marketing channels and intermediaries are, the closer and better structured an AVC tends to evolve.

What has precedence? Agricultural policy or financial sustainability perspectives? Another concern that dominates the debate on value chain development and ways of prioritizing support is the precedence of agricultural policy perspectives or perspectives of sustainable financial development. The conceptualization of agricultural value chains as a framework for development originates from the agricultural production and policy sphere. First works on this (Bernet, Thiele, & Zschocke, 2006; Kaplinsky & Morris, 2002) were production-focused and embedded into objectives of a dynamic analysis of the improved quality and quantity of agricultural commodities. The financing perspective came in later, a development that is well-reflected in the synthesis of the three publications of KIT on value chains. The first publication is on producers and their associations (KIT Royal Tropical Institute [KIT], Faida Market Link, and International Institute of Rural Reconstruction [IIRR], 2006), the second is on value chain actors other than the producer level (KIT & IIRR, 2008) while only the final one (KIT & IIRR, 2010) deals with the subject of VCF. Other early proponents such as the Inter-American Development Bank (IADB) and the Food and Agriculture Organization of the United Nations (FAO) broadened the discussion at an early date towards the provision of financial services by value chain actors. Part of the reason was the early lead in the discussion taken by the Dutch Rabobank with showcases from Mexico and several African countries. Depending what the hierarchy of the goals of the interventions were, these could then take different

6 Michael Hamp, IFAD Lead Rural Finance Advisor in personal communication, December 2014.

forms and pursue different objectives. It seems that here the challenge for future policy dialogue is twofold: First, the **financial sustainability objectives** and their rationale need to be better explained and communicated. Secondly, the **agricultural policy objectives** with their emphasis on creating wealth and on social and productive contributions of the agricultural sector need likewise to be more strongly articulated while the primate in discussions should not be left a priori to the economists.

2.5 General typology

This study proposes to differentiate between different types of non-bank actors involved in AVCF. Between them, they constitute the various primary building blocks that in their totality make up most of the realm of value chain financing. A more detailed typology by Miller and Jones (2010), introduced below, operates with higher levels of differentiation. The broad categories are proposed to include trader credit for input supply, contract farming, other interlinked credit transactions to support produce purchase, different types of Islamic financing and, lastly, other types of joint venture financing that are relevant for agricultural value chains in developing economies worldwide.

Trader credit for input supply. Chukwu (1976, p. 366) defines trader loans in general as being different from those of other informal credit sources in a village economy because "they do not have a primary focus on the credit transaction as such and the charging of interest, but the loan is granted as a means to secure the supply through agricultural producers".[7] In this segment, and depending on the prevalence of the specific value chain, there are good quality field studies, both sociological and empirical, available to describe the systems. However, questions of impact at individual and household level, as well as implications at sectoral level for both the agricultural and financial sector, have not been considered – over and above some cursory evidence of exploitative relationships in specific South Indian contexts (India, Nepal, and to a lesser extent Pakistan).[8] The readiness to analyse these implications further seems to have been limited by the overall unfavourable image of traders and their loans. Documented risks relate to the uncertain nature of the business relationship and the lack of enforceable contracts that underpin most of the trader loans for input supply.

Contract farming. The literature on implications of these arrangements for the agricultural sector is probably the strongest for this type of value chain financing. Contract farming is a captive relationship with the potential to add value to both contract parties. The core problem of contract farming is non-compliance with contracts by both parties (Brüntrup & Peltzer, 2007). For the producer, the contract stipulates the delivery of produce of a certain quality and for a secure pre-determined price. For the produce buyer, it ensures the supply of the required commodity in advance of harvest time and with quality specifications that are in sync with market requirements. A contract in agricultural value chain development coordinates the roles and responsibilities of the signatories and specifies incentives and allocation of risks (Da Silva & Rankin, 2013, p. 23). A contract in an outgrower scheme can consist of the determination of quantities to be supplied by the

7 See also International Fund for Agricultural Development (2003), stating that for the countries researched a decade ago, cash payments for agricultural inputs were still the norm.

8 See Bouman (1989) and Schrader (1994) to highlight a few of the influential studies on this subject.

primary producer, specifications of quality of the produce, a floor price, or a differential pricing system with prices set for different qualities supplied. Specific clauses pertain to the financial obligations of both parties to the contract. For inputs supplied, the contract lists these and contains their prices. A contract with a purchasing counterparty can provide security to a farmer that what is produced today will have a secure market outlet at the time of harvest. For small farmers, the risk-reducing quality of contracts is particularly enticing. Sale of produce at harvest time is assured and a big uncertainty taken away from the farmer. Often contracts are signed between a large group of producers and one single lead firm in the sector. Del Monte for pineapples in the Philippines or Chiquita for bananas in Honduras are well-known examples. Outgrowers then cultivate under contract with a lead firm. This company contracts farmers directly and provides other services to ensure that production goals are met. This may include working capital (inputs), technical advice and supervision of outgrower production. The contract guarantees that the lead firm purchases the produce and thus secures a safe outlet for a farmer. Prices agreed at the time of contract signing may, however, be lower than actual market prices later on leading to 'side-selling'.[9] The FAO has been working on contract farming over the past decade as one key approach to link farmers to markets (Da Silva, 2005; Da Silva & Rankin, 2013).

Contract farming arrangements will be detailed in Section 3 and then exemplified in one of the case studies in Section 4. Additionally, there is the risk that contract farming arrangements will not include smaller and unorganized single producers and only operate with a cluster of larger farmers located in close vicinity to each other. Strategies for linking this type of arrangement with formal financial institutions appear far-ranging. This is because progressive banks have always liked purchase agreements for produce that underpin loan requests of producers and processors ('contract based banking'). In many countries of Africa, lending to organized agricultural producers that can present sales contracts with government agencies, processors or end consumers, is strongly on the increase.

Other types of interlinked credit transactions to support produce purchase. Providing loans among value chain actors not with a specific profit expectation out of loan interest rates to be received, but in order to facilitate arrangements in the parallel production sphere can also be less formalized. The 'contract' is oral, but still binding. Breaking it does not involve legal sanctions, but it leads to the producer losing his secure point of sale of agricultural produce. Most of the interlinked credit transactions carried out in a traditional village context follow this pattern and are well described in the sociological or anthropological literature contained in the literature list at the end of this study. Implications, if analysed at all, are restricted to the immediate village environment. A larger regional, or even national, focus cannot be traced in the literature reviewed and was not the objective in the first place in the conducting of these studies. On the farmer's side, the risks inherent in these transactions are pronounced with less legal coverage than written contracts would offer. One of the earliest examples (Wilmington, 1955) described in the literature is the *sheil* system of the Sudan, where the grain is already sold in informal forward contracts to produce buyers, with the small producers taking the full climatic and cultivation risk in the process. As in the other approaches, the key issue is the transparency of the prices to be agreed on and actually used as a basis to offset the loans against produce supplied by the borrower to the creditor.

9 The opposite may also occur: prices may also be higher leading to denial of purchase by the purchasing company.

Islamic financing (IF). Lamon Rutten was the first to recognize and analyse the similarities between IF techniques and structured finance, of which AVCF is a subgroup (Rutten, 2006; for practical applications, see also Moors & Rutten, 2014). IF subsumes a number of value chain financing instruments that are compliant with Islamic customs and religious practice (*sharia*). Quite a sizeable share of sharia-compliant financing that is supported by external facilitators operates within value chains. The literature on relevant IF instruments specifically for agricultural financing is not very diverse.[10] By far the most widely used form of IF in the context of developing economies is sharia-compliant leasing or *murabaha*. Joint ownership and equity-based financing of the *musharaka* type is most convenient for larger ticket transactions, while specific agricultural financing methods such as *salaam* are intensively discussed but not applied in many countries. This scheme with in-kind provision and recovery of seasonal inputs operates in practice mainly in Malaysia and Sudan. Other mechanisms such as *mudabarah* exist as well and have potential in a AVCF approach. Innovations and refinements of IF instruments are one of the most interesting areas in the current debate on AVCF and development financing. The declining *musharaka* is mentioned as one example, applied in Malaysia and to be launched in Afghanistan shortly by microfinance institutions. The FAO has recently summarized the specific experience relating to Islamic agricultural smallholder finance mechanisms in an unpublished training note. This is also reflected in an annex to the French translation of Miller and Jones (2013). This current study does not intend to emphasize IF techniques and AVCF, although its different forms of equity and joint ownership financing between different actors in value chains falls well within the definition of VCF. At present, the most often used IF instruments are sharia-compliant leasing arrangements of the *murabaha* type, but instruments can become significantly more sophisticated.

Other relevant types of joint venture financing. Producers may come together in cooperatives or joint enterprises to generate the capital required for larger investment purchases or infrastructure investments (Fries, Chalmers, & Grover, 2012, p. 11). Owners have collective access to equipment and may receive dividend payments generated by its use. The sharing of lead company dividends with trusted and reliable primary producers has been proposed as one way to prevent side-selling and breach of contract in contract farming. Fries et al. (2012) observe that this requires trust between lead enterprises and investing producers and a reliable basis for all partners to monitor performance of the joint venture (and thus, future profits and dividend payments). In India, the National Bank for Agriculture and Rural Development (NABARD), in its non-farm sector rural support programmes, has been promoting these joint venture financing models. The risks for both parties, producers and lenders, are however considerable.

2.6 Agricultural value chain finance (AVCF): instruments-based typology

The most widely accepted typology in the current discussion is the one proposed and introduced by the FAO (Miller & Jones, 2010) in their standard publication on agricultural value chain financing. This typology uses the **type of financial instrument** employed and breaks these down into product financing, receivables financing, physical asset

10 Most of the more comprehensive documents in development agencies can be traced back to seminar proceedings of the Near East and North Africa Regional Agricultural Credit Association (NENARACA).

collateralization, risk mitigation products, and financial enhancements. Box 1 contains the typology in overview:

The most often used instruments in AVCF are contract farming and outgrower schemes. These were outlined as a separate block above: some useful descriptions of results and positive/negative impacts are discussed in more detail in the following section; trade credit finances produce in advance or in different stages of partly processed goods against the later receipt of payment for the processed goods. The Miller and Jones (2010) typology in Box 1 lists a large number of additional AVCF financing instruments. The more relevant of the instruments listed in the Box are briefly outlined below. Similar to the discussion on the major building blocks of AVCF, for the more prevalent of these instruments the risks, opportunities and strategies for linking them to commercial banks are briefly discussed.

Box 1: Typology of AVCF

A. Product financing
Trader credit, input supplier credit, marketing company credit, lead firm financing

B. Receivables financing
Trade receivables finance, factoring, forfeiting

C. Physical asset collateralization
Warehouse receipt, repurchase agreements, financial lease

D. Risk mitigation products
Insurance, forward contracts, futures

E. Financial enhancements
Securitization instruments, loan guarantees, joint venture financing

Source: Miller & Jones (2010), pp. 55-57

Warehouse receipts (WHRs). In this system, farmers take their produce to a warehouse and receive a receipt specifying quantity, quality and the price of the deposited commodity lot. Depositors then use this receipt as collateral for a loan with a bank that accepts these receipts as collateral substitutes. In this system, the depositor does not need to sell his produce to gain liquidity out of the harvested produce, but can store to reach arbitrage gains. For the depositor, the main ***risks*** of this system are that the produce stored and the lot recovered at the end of the storage period need not be identical: although higher quality grain is stored, lower quality grain may come out of the warehouse and the warehouse operator benefits this way. The existence of an independent assessment unit is the most pragmatic way of addressing this risk, and countries with a good warehousing system for agricultural commodities have an obligatory independent testing facility at entry and exit. Among the many other risks that this relatively complex VCF instrument has inbuilt, the risk of price manipulations and non-transparent settings of prices is the one that deters most potential depositors from using even licensed and government-controlled warehouses. For the warehouse operator, in addition to price risks there are risks related to the store management (hygiene, rodents, etc.) and of the correct interpretation of market movements. **Opportunities** exist mainly for governments in structuring warehousing and adding improved quality controls to the system. This is exemplified in the case example below from Ethiopia (see Sub-section 4.2). **Strategies** for linking with the banking sector build on the basic fact that the commodity stored can – in principle – act as a suitable collateral for farmers with cash requirements but little else than their produce to secure a loan for the next

cultivation season. In practice, credit departments in many developing country banks are fully aware of the system and have all operated it at some time in the past. High market fluctuations and the demanding organizational and logistical requirements that come with this instrument, have restricted it in many countries[11] , while in others with a tighter link between warehousers and financers[12], it is still expanding.

Different from this are **inventory credit** (Coulter & Shepherd, 2004) systems. Here, the bank takes a lien on the produce itself and maintains ownership of the commodities deposited. This is organizationally even more demanding and requires the bank to be legally responsible for the inventory taken into custody. For special types of value chains, this type of lending arrangement is sometimes still in use.

Repurchase agreements ('repos') constitute another related instrument of commodity finance. Here, the bank purchases the agricultural produce from the seller (producer association, cooperative), with an agreement to make the produce available again for re-purchase at a specified point in time in the future. Repos are an advanced financial instrument that is not normally accessible to individual small producers and is only offered to producer associations in a few cases in Latin America.

Different forms of **leasing** are an alternative to long-term loans to buy equipment, which many financial institutions may consider too risky. The leasing company provides the farmer (or other borrower) with equipment on a contract basis for a few years, while the farmer pays off the lease in instalments. At the end of the lease period, the leasing company either repossesses the equipment or offers to sell it to the farmer. Leasing is less risky than a loan because the equipment remains the property of the owner, who can withdraw it easily if the farmer defaults on payments. With a loan, by contrast, it may be difficult to take possession of the collateral offered to guarantee a loan because of legal constraints and weak judicial systems. In the case of Islamic finance (IF), paying leasing fees is permitted while paying interest is not (*ribah*). This explains while leasing-based *murabaha* systems are the most widely used IF instruments to date. The main **risk** for the lessor is the default of the lessee on the instalments and re-possession of the lease-financed item. There are several examples of large lease-financed promotional programmes where there have been problems with the lease-promoted investments (such as tractors or taxis): if there is no secondary market for the re-possessed items, banks may have to store and manage large fleets of tractors or taxi vehicles. **Opportunities** exist once the legal framework is established to enable the operations of leasing companies and the legal treatment of lease items.

Other financial instruments that are contained in the Miller and Jones (2010) typology are employed much less often. In the case of **facturing,** a farmer delivers the produce to the buyer and writes an invoice for the amount delivered. Instead of asking the buyer to pay, the farmer sells the invoice to a third party, a facturing house. The facturing house pays the farmer immediately (discounted for a fee to be paid for the facturing services), then submits the invoice to the buyer for payment. In Peru, this is used by staple crop producers. Electronic factoring products of a few innovative banks such as the BBVA[13] Peru enable

11 See Zander (2014) for Turkey in the past.

12 As the case of Caritas RIM in Rwanda shows, where engineers of Caritas oversee the technical aspects of warehousing as store and quality managers on behalf of RIM.

13 Part of the BBVA Spain, or Banco Bilbao Vizcaya Argentaria.

producers to free up capital, either after purchasing inputs, or advancing credit to buyers (Grace, Moyes, & Spahr, 2014).[14] Again, in the Latin American context and mentioned by the same source, the Ficohsa Bank in Honduras lends to chain actors on the basis of **forward contracts** being in place.

Vertical integration through the **purchase of equity**. In this most tightly integrated business model, different chain actors melt into a single conglomerate. The financial instrument used for the merger is the purchase of equity. A chain actor lower down the chain (for example, the processing factory) acquires a stake in a producer cooperative or further up the chain (for example, the producer cooperative purchases majority equity in the coffee roster factory or similar).

Résumé: Section 2 provides the basis for the subsequent review of literature and cases studied. It began by defining the terms 'value chain' and 'VCF' and outlined some of the major areas of current discussion surrounding agricultural value chains in a development finance context. The section then presented the main contextual elements of what, together, constitute AVCF before introducing the instrument-based typology of Miller and Jones (2010).

Box 2: Possible areas for further research I

- The two entry propositions for agricultural value chain development differ in their primary objectives: contribution to financial sector development (medium to long-term perspective) versus facilitation of production, marketing and post-harvest processes (often more short-term and a project objective). Further studies are required to more clearly lay out under which framework conditions each of the two approaches is more useful.
- Typologies for agricultural value chain finance are still emerging. There is still a need for a typology that is comprehensive and captures the different forms of internal and external value chain financing mechanisms and is still also accessible to outsiders who are not very familiar with rural and trade-financing mechanisms. Simpler, and at the same time more encompassing, definitions are likely to come up in this emerging segment of rural finance research, and future studies could provide contributions in this regard.

14 Fries et al. (2012, p. 9) also suggest the possibility of reverse facturing. In this case, the financial institution collaborates with buyers, rather than suppliers, in order to aggregate a large number of small suppliers with accounts receivable.

3 Implications of value chain financing for agricultural and financial sector development: literature review

3.1 Challenges

The knowledge available on non-bank based agricultural value chain financing is comparatively scarce. There are a number of specific challenges that limit the available and accessible information on AVCF considerably. These are:

i) the reluctance of private sector and agricultural business chain actors to share their information with others because of confidentiality concerns related to their business models;

ii) the reluctance of banks and other financial institutions to disclose operational and performance details on their agricultural business portfolio because of confidentiality concerns related to specific portfolio cases;

iii) the reluctance of analysts and authors to disclose details about results and impacts, because initiatives are in many cases new and results not well documented or not robust enough to stand detailed scrutiny.

Against this background, the **Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)** speaks of *"*tacit knowledge*"* (Thomas Breuer[15]) and recommends one-to-one interviews with key business professionals directly involved as value chain actors as a way forward. Other donors are trying to pull individually collected knowledge together by means of various different mechanisms: the **World Bank** is bringing practitioners together by means of its Agriculture Finance Support Facility.

Another, less publicized, but promising way forward is the approach of the **Dutch donors** group coordinated by KIT, the Royal Institute of Amsterdam. KIT has coordinated three so-called 'writeshops' as a basis for its three major (yet not well known and disseminated) books on various different aspects of VCF. The 'writeshop approach' gives a voice to practitioners who represent interesting experiences that generally remain unpublished. There is much to learn from practice, and the writeshop approach is the Dutch donor group effort to bringing this untapped knowledge to the surface.[16] As shown below, it has produced a number of concrete results in terms of dealing with the subject of implications of AVCF.

These strategies to generate information on AVCF in general and, insofar as it is possible, on implications in particular, are not mutually exclusive and can even reinforce each other. It remains important in this study to note that the specific constraints of obtaining appropriate information in this field are recognized and useful coping strategies developed.

15 Personal communication, September 2014.

16 For KIT and IIRR (2010) this process is explained in the preface of the book. Each contributor brought to the writeshop a draft manuscript describing interventions by an external financial institution providing services to chain actors. Each case focused on how VCF contributed to smoothing the chain and competitiveness. They were asked to bring with them other printed materials and photographs relevant to their case. The 37 participants included managers and staff of financial institutions, business development services, private companies and cooperatives, as well as farmers, development professionals, researchers, facilitators, artists, and editors.

The **methodology** of this study is based on a review and sifting of available literature, collection and analysis of information and documents along with the experience of relevant countries and international institutions. This *desk study* methodology is then complemented by a number of interviews with key resource persons from donors and the national policy areas.

3.2 Types of literature on AVCF

There appear to be three types of document available that relate to agricultural value chain financing. The nature of all three of these limits the scope and coverage of impact and implication-related information that has been sought for this particular study.

The first body of literature provides **normative information and guidance**. As value chain development and VCF is a novel subject, domestic support and international donor agencies are grappling with emerging approaches of how to support this segment as well as with their specific positioning within the wider set of challenges in support of value chains and VCF. Usually, policy advice is then derived from the set of normative recommendations. Early examples are included in the list of references (Bernet et al., 2006; Bernhardt, Azar, & Klaehn, 2009; Deutsche Gesellschaft für Technische Zusammenarbeit, 2008; Herr & Muzira 2009; Quirós, 2007). More recent well-known examples include Fries et al. (2012).

The second, much smaller type of documents sets out **facts and figures of financing within and towards various different value chains**. These **descriptive documents** with detailed information on costs of credit and other loan contract components focus on effective interest rates for the producers involved, on transaction costs, and on the costs and risks of funding alternatives (in a few cases). GIZ has produced an important recent example with a cross-country comparative study from sub-Saharan Africa (Pelrine, 2013). It remains to be noted, however, that major problems are encountered in this approach as are well summarized by Mark Wenner:

> One of the biggest obstacles in doing field research on agricultural value chains is the poor record keeping and the unwillingness to get key actors in the chain to share financial and economic data. In the cases where data is available, the impression I get is embeddedness. It is very hard to calculate the effective cost of anything because the relationships are multi-stranded.[17]

Ambiguity as to how to apportion costs is caused by the different motivations of buyers and sellers together with the lack of clarity in informal arrangements such as what to include in the calculation of cost, prices, and so on (Pelrine, 2013). In everyday reality in the field, even simple coordinates that need to be defined in order to measure performance and impact can cause major challenges. This is well captured in the NORC[18] yield assessment report for the COMPACI project that is detailed further below in one of the case studies. NORC did not take plot size information for cotton fields of smallholders at face value, but counter checked and re-measured them. The entire challenge of simply determining the size of a small farmer

17 Personal communication, November 2014.

18 NORC used to stand for the National Opinion Research Center of the University of Chicago. Since 2010 it is the proper name of this organization.

cotton plot is well explained in the recent NORC monitoring report (NORC at the University of Chicago, 2013b, pp. 17-23).[19]

A third, even smaller group of documents, usually dating back 10 to 50 years, are **anthropological and sociological studies** and other field studies that use extensive participant observation methods within the villages. These brought the internal value chain financing mechanisms in rural economies into a wider rural development perspective. Impact issues are discussed in these publications but are usually limited to the level of the village or the local rural context (Southwold-Llewellyn, 1987).[20]

3.3 Proposed frame of analysis[21]

This section and the subsequent presentation of four detailed cases (plus a few more case summaries) deal with the **implications** of AVCF of non-bank financial intermediaries, in both internal and external financing of chains. The term 'implication' is then sub-divided into **potentials** and **risks**. For the productive i.e., non-financial sector perspective in general and particularly, the agricultural sector, the potentials and risks can be grouped around the following main subjects (see Box 3):

Box 3: Potentials and risks of AVCF through non-bank intermediaries for agricultural development
• Quality of the produce • Quantity of the produce • Income distribution effects of AVCF development initiatives • Income-related parameters • Social and quality of life-related parameters
Source: Author

Similarly, for the financial sector the corresponding potentials and risks can be grouped as follows (Box 4):

Box 4: Potentials and risks of AVCF through non-bank intermediaries for sustainable financial sector development
• Access to financial services • Quality of financial services • Usage of financial services • Range of financial services • Aspects of responsible finance and consumer protection
Source: Author

19 The conclusion of the seven page analysis is that in measuring plot sizes of smallholders, the resulting yield estimates should not be based on farmer recall in any form or on cotton company purchase records, but on GPS-measured area of the field.

20 A prominent German researcher on informal vendor finance is Heiko Schrader, sociologist professor from the University of Bielefeld (see, for instance, Schrader (1994), and for the West Africa region, Geis (1967).

21 Thanks go to Florence Dafe of DIE in particular for assistance in shaping this frame of analysis

Against the background of this frame, the remainder of this section provides an overview of the evidence of impact and implications, as defined above. After this literature review, a few general conclusions are drawn and are once again analysed in more detail in the case studies in the following section (Section 4).

3.4 Literature on the impact of agricultural value chain development

There are only few literature sources that specifically evaluate the impact of non-bank AVCF. This applies both to the disaggregated level for single business or household units, as well as the aggregated sector level focusing on issues such as VCD and financial stability, etc. A recent publication has come up with a set of tools for measuring the impact of value chain development at business and household level (Sheck, Donovan, & Stoian, 2013). Here the approach is asset-based and covers human, social, natural, physical and financial assets together with their development over time.

In some of the five cases they present, **Miller and Jones (2010)** report some figures for numeric project targets in comparison to achievements (Mumbi et al., p. 46). In this example, a structured baseline survey is mentioned to assess the production and marketing status prior to project start up. The second case, an inventory credit system in Niger, again presents immediate operational results (clients reached, repayments made). It mentions (Mumbi et al., 2006, p. 105) that, as a result of participating in the scheme, the portfolios of participating MFI lending institutions have improved in quality, enabling them easier access to refinancing from the commercial banking sector. The third case, an integrated agri business finance model, LAFISE from Central America, is laid out but a results section is missing; moreover there is also no information on any type of impact. The fifth and final case originates in India, where access problems for small farmers present major challenges. The case of the integrated agro food parks is once again silent on results and impact. Altogether, the analysis shows that the actual cases and results presented in the document do not make any mention of the aspect of the implications of AVCF on agricultural or financial sector development.[22]

KIT and IIRR (2010) is the other widely known reference publication on AVCF. Similar to KIT and IIRR (2008) and KIT, Faida Market Link and IIRR (2006), the entire publication is based on sequential case study descriptions. In these, a small amount of information on results as well as on impacts is interwoven in an unsystematic way. KIT and IIRR (2010) specifically address the financing gaps existing within agricultural value chains. Their book presents detailed case studies. Mostly these include sections on results, impact, threats and challenges as well as lessons learnt along the way.[23] For the first detailed case, the Snacks–Fovida[24] partnership for potato crisp production illustrates how a specialized large food producer, Snacks, teamed up with an NGO Fovida that promotes small farmer development.

22 Calvin Miller and the FAO have separately launched a study on the impact of agricultural value chain financing in Asia. This study is financed by the ADB and carried out jointly by the FAO, the Michigan State University and the International Food Policy Research Institute (IFPRI).

23 Usefully, the KIT publication lists contact persons from whom more detailed information for each of the 13 case studies presented in the 2010 publication was obtained. In most other cases, the description of impact is rather brief, but challenges and lessons learned are at least spelled out.

24 This section builds on and summarizes the case study presented in KIT and IIRR (2010).

This case study illustrates how bankability was improved and that adaptations in the potato value chain improved the steadiness and size of incomes from agriculture.

A recently published evaluation of the Inter-American Development Bank (Grace et al., 2014)[25] compares different agricultural value chain financing approaches in developing Central American economies in overview and compares them with AVCF in the United States. In this document, one piece of scarce evidence of the interplay between AVCF and financial sector stability can be found for the specific case of Mexico. The situation in Mexico was interesting since the peso crisis of the mid-1990s led to a large-scale retreat of the commercial banking sector from agricultural finance and big agro-processors and exporters were forced to step in to finance their small supplier-producers directly. In other words, a crisis in the financial sector and the resulting uncertainties led to a retreat of banks and a reluctant assumption of financing functions by big agri-dealers and food-producing lead firms. Government supported credit guarantee systems for agriculture then helped the formal financial sector to re-enter agricultural finance.[26] In Peru, on the other hand, guarantee systems remain underutilized while financial services to small producers are pushed by a few innovative banks like the BCP (Banco de Credito del Peru) and the BBVA (Banco Bilbao Vizcaya Argentaria/Peru). Honduras is cited as a country example where more than half of the value chain-related financing transactions are still taking place through different agri businesses and not through the formal banking sector. Input supply companies such as Caldega and Del Campo are adjusting and developing their line of financial products to small and medium producers, as well as to small input suppliers, who in turn use this liquidity to on-lend inputs for later cash repayment to small producers.

Interplay between AVCF and local financial and agricultural sectors: more evidence from Latin America. An earlier IDB publication (Coon, Campion, & Wenner, 2010) comparing two value chains each in Nicaragua (dairy and plantains) and Honduras (plantains and horticulture) contained observations that relate to the interplay between value chain financing mechanisms in agriculture and local financial and agricultural sectors. In the summary of this study it is noted that

> …(i) VCF is occurring in Nicaragua and Honduras, but it is mostly indirect[27]; (ii) the specific instruments used to support VCF are simple – lead firm vouching for and even providing guarantees for smaller actors, relying on donor financed guarantee funds, and buyer/exporter finance; (iii) creditor rights are weak in both countries; (iv) financial institutions that are participating in VCF are not lowering interest rates despite fewer risks faced; (v) the legacy of inappropriate government interventions, namely debt forgiveness programs, and generally weak support services for producers dampens the enthusiasm of formal financial intermediaries to expand agricultural lending.

There is generally better evidence of concrete implications, since the impact of these arrangements has been observed with interest by donors and domestic policymakers above all for the smaller farmers. The FAO publications of Da Silva, notably the book **Contract Farming for Inclusive Market Access** of 2013 (Da Silva & Rankin, 2013) summarize the

25 As in the other quoted sources on implications in this section, the paragraphs in this study summarize the text and draw on the quoted reference sources.

26 A point laid out in detail in the FIRA case study of the recent FAO worldwide guarantee systems overview (Zander, Miller, & Mhlanga, 2013, pp. 32-35).

27 That is, within the chain.

state of discussion on the subject, which is, in summary, mixed and mostly unexplored in terms of implications of this instrument on agricultural sector, and in particular on smallholders. First it must be noted that contract farming and outgrower schemes are nothing new. In particular for sugar, cocoa, oil palms and other plantation crops with international markets, contract farming between a few or single lead firms and a larger group of producer-suppliers has been in existence for centuries. The focus on this instrument as an inclusive development tool subsequently raised expectations among promoters of value chain development but in quite a few cases these were not fulfilled. Where problems cropped up, such as in Kenya, producers on contracts with supermarkets got lower prices than other farmers producing for spot markets. Side-selling started to take place and, in the end, both parties concluded that, with the going contract in place, the deal was not satisfactory. Farmers complained about lower prices than on the spot markets, and the large buyers noted the general dissatisfaction and side-selling of producers as a result. For this reason, the best deal for both contract parties in the long run would be flexible contracts where prices can be adapted once certain trigger scenarios are reached. Other incentives for honouring contract commitments include rating farmers on loyalty and productivity and rewarding higher-rated farmers, setting production goals jointly and realistically, and offering to share dividends between the lead firm and high performing farmers at the end of the cropping season.[28] The literature on contract farming offers a great deal of data on aspects of smallholder integration (or mostly the lack of it). The overall mixed results in terms of reaching more than just the better and larger farmers are summarized in a case study description of a smallholder promotion scheme for citrus production under the emerging Bosele brand in the Republic of South Africa:

> It has to be said that contract farming tends to concern only a small proportion of farmers, especially when smallholders are considered. This observation lowers the efficiency of contracts as a broad based tool for market integration" (Fréguin-Gresh & Anseeuw, 2013, p. 92).

However, conclusions on the comprehensive and correct assessment and evaluation of the impact of contract farming cannot be made with the data sets, analysis and evaluation tools currently available. Future research needs to fine-tune methods and tools for measuring the impact of contract farming on the various different value chain actors[29] and it appears premature to draw any conclusions in view of the current state of knowledge.

Miller[30] observes that in the frequently cited documentation, successful cases that "would make it [i.e., that would be successful] anyhow" tend to be emphasized. Those cases that require most of the support and external facilitation because the producers are, for instance, too small or too scattered are often not looked at closely enough because of the pressure for quick success in a project context. For this reason, the point is made again by Calvin Miller that the role of facilitating agencies is to "ensure a better playing field for everybody" (Miller & Jones, 2010, p. 117).

These few examples from leading authors underscore the dearth of suitable literature sources, thus confirming the conclusion of the general literature review.

28 Incentive mechanisms to improve contract realization by small farmers in contract farming schemes are well summarized in Technoserve (2014).

29 This was stressed by Da Silva in a personal communication (December 2014).

30 Personal communication, November 2014.

Surprisingly, a look at older sources, even those pre-dating the discussion of agricultural value chains in a development perspective, yields sometimes more insightful results into implications for agricultural and financial development, albeit restricted to a microeconomic perspective. The two examples are the trader loans described in Wilmington's landmark article on the Sudan (Wilmington, 1955). The other article examines shopkeeper loans in village environments of Sri Lanka (Southwold-Llewellyn, 1987).

Wilmington tries to rationalize the highly discounted sales of grain through forward contracts with smallholder farmers in the Gezira scheme in the 1950s. What was the rationale for cutting half of the expected future market price for wheat when the *sheil* loans were given to a small producer with a crop just starting to grow on the fields? He lists:

i) The opportunity costs for the loan funds, calculated at up to 50 per cent *per annum* depending on the location in the Gezira scheme.

ii) The low capital turnover of a *sheil* loan: If the capital had been used for trading, it would have turned over up to five times faster than the duration of the crop loan.

iii) The high risks of delayed repayment or loan default. Already more than 50 years ago, the author noted that reclaiming arrears could be difficult and might bring the entire village community into uproar against the trader.

In other words, even though the implicit interest on the loan was high, it was acceptable because of easy and continued **access** to these loans. Even though there were no formal **consumer protection** mechanisms in place, the danger of loss of advanced capital and of clients turning against the trader is real and these social controls may sometimes be more effective than formal contract stipulations.

The latter point is also made forcefully in Southwold-Llewellyn's different works on this subject.[31] In Sri Lanka she talks about the *mudalali*[32] myth. Her field data prove that consumer loans of shopkeepers in rural Sri Lanka take place on terms and conditions that are so advantageous to the end borrowers that shop owners frequently become bankrupt while customers walk away with a pile of unpaid grocery debts which becomes a way of life in rural Sri Lanka. Village *boutiques* are one of the few employment-generating activities that are open to everybody with a place to sell and the capital to purchase the initial inventory of the store. Proving her bigger hypothesis of a bias against informal financing sources by policymakers and donors at the time, Southwold-Llewellyn then gives detailed accounts of a wide range of different criteria of the formal banking sector that limits the access to loans in rural areas, a void that the informal sector, and in particular traders, were able to fill quickly and flexibly: for input supply, produce purchase (above all copra) and for the end consumer, as reflected in the shopkeeper loans. In each of these cases, this enabled access to loans, and the lender had more to lose than the borrower – in terms of capital expended and business ties that would be lost if the borrower defaulted.

For these reasons, the People's Bank of Sri Lanka even experimented with wholesale lending to traders and moneylenders as a tool to use the network and reach of informal finance in

31 The very detailed PhD thesis remains unpublished, but a concise summary can be found in her article in Bouman and Hospes (1994).

32 In Sinhala, the term denotes small retail-level village shopkeepers, similar to the better known *kirana* shops in Hindi or *SariSaris* in Tagalok.

agriculture. This *Praja Naya Niyamaka* scheme failed however. It turned out that, rather than on-lending to their clients as was stipulated, traders and moneylenders used the additional liquidity to finance their own and riskier business expansion projects that often failed. In general, empirical evidence of the results of supplementing the liquidity of traders within chains to strengthen their financial muscle for ultimate support to targeted small producers remains mixed. In reality, very few external rural finance projects have ever tried to provide credit to other value chain participants, such as traders and processors; and those that have tried have often encountered implementation problems.

To conclude, the general impacts of agricultural value chain financing are little dealt with in the literature, even though the basic entry rationale for external facilitation would require strict monitoring of the impact of AVCF support, in particular for smaller and poorer producers. The implications of AVCF, and in particular of non-bank-based AVCF, found little mention in the literature reviewed.

3.5 AVCF through informal intermediaries a transitory phenomenon?

A subject which is connected to the implications for financial sector development relates to the question of whether AVCF finance systems through non-banks and the informal sector are a transitory phenomenon or whether these systems can be expected to continue, even in more advanced financial sector environments. For Mexico, Grace et al. (2014) have shown that the evolutionary path that is postulated from non-bank and informal agents to banks, can also be reversed after periods of systemic financial crisis. In an earlier publication (Coon et al., 2010) lead firms for plantain production in Nicaragua and Honduras were asked about their own perceptions regarding the provision of internal financing to chain actors lower down the chain, namely small-scale plantain producers. The responses of the five lead firms interviewed were clear: lead firms from both countries repeatedly expressed the desire and need for financial institutions to offer financing to their suppliers so they, the lead firms, could focus on their core mission. The firms generally thought that internal financing distracted from their core business (Coon et al., 2010, p.11).

KIT and IIRR (2010, p. 25) remark that internal AVCF complements (rather than replaces) existing credit flows between actors in a chain and that it empowers the chain actors by making new sources and forms of finance available to them. But what if the banking sector itself becomes so advanced that it can provide the services that are offered by traders and produce buyers today? The empirical evidence to enable any type of conclusions on this is very thin. Some evidence from Bangladesh over an extended period of time – more than 20 years and stemming from different authors – indicates substitution effects rather clearly. Ghate et al., referring to data collected in the late 1980s, observed that traditional village moneylender loans were slowly being substituted by informal trader loans in the form of interlinked credit transactions (Ghate, Das-Gupta, & Asian Development Bank, 1992). Very recent field observations (Reardon et al., 2014) propose that the system of trader-based AVCF is in the process of being substituted by the formal financial sector, including the ubiquitous Bangladeshi microfinance institutions. What lures financial institutions into the realm of AVCF appears to be the demonstration effect (see Coon et al., 2010, p. 25): once internal value chain financiers demonstrate their ability to reduce risks and costs of financial transactions within the chain, single external financial institutions follow. These are generally financial institutions with a strategic focus on agricultural finance, and the market

entry is at first accomplished in collaboration with a lead firm. This case was made by the authors for Parmalat in Nicaragua and for the dairy value chain. Within the dairy value chain, Parmalat lent to ensure a consistent, high quality supply of milk. With this, Parmalat also demonstrated to BanCentro the advantages of offering finance to actors in Parmalat's dairy value chain and this bank, along with subsequently other banks, entered this market.

Box 5: Possible areas for further research II

- This study has established that there is a scarcity of relevant information and sources on the impact (implications) of non-bank financing of agricultural value chains. Further research and analysis should establish criteria and coverage areas of impact surveys and develop the instruments to properly apply these.
- This study has concluded that there are challenges for the different types of non-bank financial intermediaries and the state of knowledge of value chains in which they are involved. Formal surveys, expert interviews and participant observations of social research or commercial interests are likely to produce only partial insights. A definition of minimum standards for understanding, monitoring and reporting on value chains needs to be developed and presented to a wider donor forum on agricultural value chain finance (that has still not been developed).
- In this study, the view is taken that the significance of agricultural value chains is also a function of the general state of development of the commercial agricultural sector. The factors contributing to and constraining the development of value chains, along with their precise interplay, require more detailed analysis to better understand such factors with regard to their influence on value chain development in general, and the financing mechanisms in particular.
- Internal value chain financing as a financial mechanism is part of developing rural finance profiles. The studies quoted above indicate development paths from money lending via trader finance to inclusion into banks and other formal financial institutions. In other cases, identical financing mechanisms have existed within value chains for years and decades. The conditions for substitution versus complementarity need to be understood better and possibly demarcated for the wide range of different VCF providers.
- The distribution and welfare effects of VCFs and their external support require careful analysis and monitoring. The rationale and potential dangers are outlined in the section above. Full access and fair distribution of value additions and gains not only require to be ensured but also to be critically monitored and analysed.

Complete substitution is not however likely, and observations from other countries seem instead to suggest co-existence. A certain segment of AVCF services becomes so specialized, so small, so relationship-based and required so quickly that trader finance remains the option of choice, even where the formal financial sector is offering related services to actors in the chain.

Résumé: Section 3 outlined difficulties in obtaining adequate information on the opportunities and risks of agricultural value chain processes because of the confidentiality concerns of business partners and the difficulty in collecting disaggregated base data for analysis. Among the three types of literature on AVCF, those containing norms and guidance are the least likely to include information on the implications of AVCF on the agricultural and financial sector. On the whole, there would seem to be a large gap in the available literature as regards adequate information on this topic. However, informal and non-bank financing of agricultural value chains will likely never be fully substituted by formal financial institutions. There will always be market niches where small loans that are available quickly will be required.

4 Case examples

4.1 Overview of the cases selected

The case examples in this section illustrate in more detail the various different ways in which value chain development through non-bank sources of finance and its impact can be approached. All four cases represent differing examples of how producers and the agri business sector have managed to respond to the opportunity of growing overall markets with different types of supply responses.

The first example from rural Rwanda highlights a typical situation in many parts of rural Africa with little bank coverage and traders assuming the role of liquidity providers to producer associations and co-ops in the process. What is interesting here is the example of a rice mill that was constructed partly from resources of a value chain development fund. This mill not only changed the production intensity of the rice value chain; it also enabled small producers to consume their own rice as a major part of their daily diet out of the paddy husked by the rice mill.

Formal and value chain internal financing arrangements may be closely intertwined, as Case 2 from Ethiopia illustrates. This example also shows how policy initiatives can provide structured value chain solutions to current agricultural production and marketing bottlenecks.

The third example highlights some features of the successful Deutsche Investitions- und Entwicklungsgesellschaft (DEG)/GIZ COMPACI initiative to mainly support sustainable cotton production. Tractor loans were kick-started by the project, and the demonstration effect of successful servicing and loan recovery then prompted banks to enter the fray as well. Here, the non-bank financial intermediation from outside the chain was clearly transitory and is expected to be completely substituted by commercial bank financing in the near future.

The fourth example shows how non-bank financing in the highly volatile environment of South Sudan and service provision was executed with difficulty, after the retreat of banks from rural areas because of security considerations. The section then wraps up with reference to the Fairtrade Access Fund.

4.2 Case example 1: accelerating production and post-harvest infrastructure in eastern Rwanda using the value chain approach

Background. In Rwanda up to relatively recently, agricultural development was directed towards production increases in the major staple and export crops. The Government of Rwanda (GoR) intensified agricultural production in eastern districts close to Tanzania, a large food deficit country with traders and produce buyers reaching out from across the border to the small Rwandan producers. This was part of the GoR Crop Intensification Program in Rwanda to boost agricultural productivity through an improvement of productive inputs use, irrigation coverage, and soil quality. An intensive district-wide agricultural intensification and value chain development project was initiated by the Ministry of

Agriculture (MINAGRI) with financing from the International Fund for Agricultural Development (IFAD): the Kirehe Community Based Watershed Management Project (KWAMP). The project commenced in 2009. A structured value chain baseline analysis was conducted as soon as the project was started up. This study on Commodity Chains Selection, Mapping and Analysis for the Kirehe District recommended four potential value chains that had been identified as having the greatest potential to combine production increases with improved welfare for the large number of small producers of rice, maize, beans and suitable types of bananas.

The volume increase of these key products as a result of the project was considerable, more than doubling the annual production for the first three major staple foods. This elevated the agricultural status of the province to a new level. As a commodity surplus producer, priorities and needs now shifted from increasing production to better structuring the value chains and improving the coordination between the various different value chain actors. The availability of finance, both for current assets and for investment finance, remains the critical challenge, while the formal financial sector is only moving slowly into the district to support producers, traders and processors.

Opportunities taken by the formal financial sector. Commercial banks are just in the process of working out value chain-specific financing instruments, often copying successful value chain financing systems in the informal sector which bankers have observed. On the whole, the coverage of financial services for the large number of small farmers in Rwanda remains inadequate as far as volumes, terms, and products offered by banks and microfinance institutions are concerned.

Two banks in particular have tried to learn from the financial services offered to value chain actors within the informal sector. The Bank of Kigali (BoK) provides lines of credit to augment liquidity to smaller rural traders. This is then used by the produce buyers to provide loans for fertilizers and other inputs at the beginning of the cultivation season to secure the supply of the produce. The BoK also runs a small WHR-financing facility that the bank operates together with a few selected warehouse owners. In Kirehe District, there are even two cases of an inventory loan with the bank retaining the second set of keys to grain stored in smaller-sized warehouse units. A second bank, the Banque Populaire Du Rwanda has rolled out a new product in 2012 called the *sarura* loan (‘deposit to borrow for agri-culture’). This current asset loan is collateralized by the farmer’s deposit account with a credit facility up to three times the amount deposited in a term deposit. Loans are disbursed at the beginning of the cultivation season and repayable in a single instalment after harvest. Applicant farmers need to be members of a producer cooperative and enrolled in the mobile banking scheme. Loan sizes range from Rwf 90,000 to Rwf 5 million, with a comparatively high effective annual interest of 18-19% payable for the duration of the loan which may be between 4 and 7 months, depending on the length of the cultivation season. Finally, innovative instruments of Rwandan MFIs should also be mentioned. Both Caritas RIM and Duterimbere IMF provide cash for the WHRs of cooperating warehouses, and thus allow farmers to have quick access to liquidity after the harvest without needing to sell their produce when the price is lowest.

The main commodity trader in Kirehe District. The activities of the main produce-buyer (and, at the same time, one of the major input suppliers) in the district are in line with the sectoral analysis of AVCF opportunities and constraints. In the absence of

financing facilities from banks or adequate liquidity in Savings and Credit Co-operatives (SACCOs) during the cultivation season, this trader provides large liquidity loans to producer associations and cooperatives. These, in turn, supply their produce to this trader at prices agreed at the time of providing the financing, that is, at the beginning of the cultivation season. Large produce flows at harvesting time are then warehoused in the largest grain storage facility in the area or, in the case of paddy rice, processed (de-husked and graded) at a rice mill that has recently become operational in the district. This rice mill was partly financed by the KWAMP value chain development fund that re-directs the trade flows for paddy away from itinerant traders at the Tanzanian border towards the mill that de-husks and provides a value addition. Most notably, small producers supplying to this rice mill also get their rice for domestic consumption de-husked by the mill. They can now consume the rice that they have grown on their own paddy and thus the evolving value chain directly contributes to improved food security. Before the rice mill came into operation, it was more economic to sell the paddy and then re-buy rice from the local market. The risk inherent in this officially-promoted value chain enhancement of the rice value chain is that it is partly grant-financed while the long-term financial viability of the plant equipment (from Brazil) still has to be determined and the equipment is new to Rwanda. The distributor for the Brazilian company is based in Kenya. This may complicate quick repairs and corrective and maintenance action in future.

AVCF risks and opportunities. A recent study has analysed the prevailing agricultural value chains in 13 districts of the country by interviewing agri-businesses and agro-dealerships. The totals of value chain actors in the small Rwandan market for commercial agriculture include 2.4 million farmers at the producer side, about 700 agro-dealers, two large importing trading houses, and two mainly export-oriented trading companies. The study (Tibrichu & Safari, 2013, p. 7) states that about 68% of farmers have the capacity to pay up to 50% cash contribution to purchase fertilizers, but a considerable 32% have no capacity at all to buy these inputs at the beginning of the cultivation season. This leaves them with the only option of low intensity cultivation, when higher input production would clearly yield better financial net returns per hectare.

Several challenges have been identified, such as low income, lack of savings, attitude problems, organizational problems and the lack of appropriate financial products. While some of the agro-dealers are doing well and have managed to access financing from banks, the majority of agro-dealers have no access to working capital, which has constrained their activities in the chain and hence affected end-user access to fertilizers. The importers and distributors have invested a lot of funds in importing and distributing fertilizers. However, the absorption capacity downstream has been very low due to the above issues outlined.

Table 1: Summary of AVCF risks and opportunities in Rwanda

Agricultural sector	Financial sector
Risks - New rice mill strengthened monopoly position of single large produce buyer. - Rice mill technology from Brazil, possible problems with maintenance and repairs. - Single trader is of an advanced age, others in his company may be less committed to supporting remoter locations such as Kirehe. - Trader places additional rice supplies through the United Nations World Food Programme (WFP) on regional markets. WFP demands fluctuated extensively, depending on nutrition emergencies in the region and the availability of donor funds.	- High levels of informal financing within the major value chains may result in an underestimation of real demand for financial services within the feasibility assessments of banks and MFIs wishing to establish new branches. - The banking approach is conventional and not likely to capture the requirements of mid-level chain actors. Banks lend but do not follow up on site; participation in the board of recipient companies is uncommon; as a result, access and the quality of the financial services offered are in adequate. - Specialized VCF instruments are in the early stages of being developed and do not yet meet demand. - The depth of value chain service also depends on the set of skills of individual branch and zonal managers.
Opportunities - Product quality enhanced through processing (rice mill). Rice can be consumed by both producers and their neighbours. - Quantities increased fourfold through the government International Potato Center (CIP) and the IFAD programme. - Supported value chains inclusive and benefitting most of low income farming households. - Overall income and social development levels have been increased; social organization has been improved through the strengthening of cooperatives of small producers.	- The *saruru* example shows the scope of product innovation. - The *saruru* and other nascent products have a good potential if bank staff who have been sufficiently trained and who are sufficiently specialized are sent to this remote district. - The opening of more branches, especially of MFIs, would increase the competition and demonstration effects in the local market.
Source: Author	

4.3 Case example 2: fostering AVCF with the Agricultural Transformation Agency (ATA) and the Ethiopian Commodity Exchange (ECX)[33]

Background. In Ethiopia, agricultural value chains are weak and loose, with only limited agri-processing for value addition. Producer organizations are also weak. This case outlines how the development of the **ATA** and of a commodity exchange and warehouse system led to increased agricultural value chain financing in Ethiopia. ATA was created in 2010 as a unit to coordinate and address bottlenecks in agricultural value chains. The **ECX** was set up to improve trade efficiency and transparency. WHRs which are issued promote value chain financing to various different actors in the chain. There is a commercial bank

33 This entire case example was kindly prepared by Mr Calvin Miller, Senior Officer and Leader-Agribusiness and Finance Group, FAO AGS.

as a counterparty, but the liquidity generated for the small producer substitutes for informal loans from traders for input purchases. At the same time, there are government initiatives to increase the liquidity of producer associations when the cultivation season starts. Altogether, it is a complementary system with bank and non-bank financial institutions working in close proximity. The five-year Growth and Transformation Plan (GTP) of the Government of Ethiopia (GoE) began in 2010. It aims to double grain production by 2015. Coffee is a major source of livelihood for many Ethiopians with its production engaging about 25% of the working population. Most coffee producers are smallholders, but there are also some large plantations. There is a relatively small coffee-processing industry in Ethiopia but most is exported as the raw material. The coffee supply chain is highly commercialized and, being traded through the ECX Commodity Exchange, is actively financed by commercial banks. Much of the financing is focused on input finance and commercial trade finance and flows throughout the value chain.

The state dominates lending and controls interest rates. Only 1% of rural households receive credit for agriculture. The overall Ethiopian rural economy is also credit-constrained, partly due to restrictive regulations which provide requirements or incentives to invest in treasury bills. Furthermore, only a few financial institutions serve rural areas in Ethiopia, leading to low levels of financial inclusion. GoE has tried to promote supporting mechanisms for agricultural finance, such as a credit bureau, credit guarantees and support to MFIs, as well as rural SACCOs (RUSACCOs).

The ECX and the warehouse receipt system (WRS). The **ECX** is an initiative sponsored by the Ethiopian government to better regulate and more efficiently trade major agricultural commodities. It was established in April 2008 and, since then, its total trade turnover has comprised more than the equivalent of USD 6 billion. The Government of Ethiopia has mandated that all trade in certain commodities (such a sesame, coffee, and pea beans must be directed through the ECX, thus effectively creating a market monopoly with these chains around the ECX. It is an effective way for Ethiopia to regulate the trade in these commodities and provides significant structure to the market. The ECX clearing and settlement system has already demonstrated its efficiency, and helps greatly to effectively transfer large amounts of money from buyers to sellers. It also guarantees trades, much improving the contract execution culture in the Ethiopian agriculture. One of the benefits of ECX for small producers is the price information for coffee, sesame, and pea beans. This is done through: i) electronic ticker displays at delivery points and other places of easy access; ii) SMS text messaging; and iii) an interactive voice system that is an automated telephone system allowing call-in price information 24 hours a day.

The ECX has a network of 17 delivery points (totalling 57 warehouses) throughout the countryside where the commodity can be stored securely, and correctly measured and graded. It is compulsory to deposit the commodity to one of the ECX warehouses before it is traded at the open auction. An ancillary benefit of the ECX warehouse network is the development of strong quality control and certification standards at the Exchange's facilities. This is necessary to give market participants the assurance that they are getting what they pay for. On the basis of the WHR received at the ECX' warehouse, a commodity owner/seller can then instruct his agent to make a deal on the open spot market. The buyer can then collect the specific commodity from the Exchange's warehouse. The ECX takes a margin on all trade, which generates income and supports its operating costs. Altogether, the ECX is one of the few effectively functioning organized commodity markets in Africa.

The engagement of the ECX with financial services in the rural sector has been primarily through its ECX WHR financing programme. This has shown modest results to date. The WHR financing model of ECX commenced implementation in 2010. It helps to finance the trade flows in the sesame, pea beans, maize, and wheat agri-value chains against the ECX warehouse receipts. The Commercial Bank of Ethiopia is the key partner for this WHR system. The ECX warehouse system has functioned as an integral part of the commodity service but less so as a warehousing service in its own right. Warehouse management is one of the ECX's largest expenses and it would prefer to transfer this function to a third party. However, ECX takes a fee of only USD 0.16 per bag per day in order to encourage the supply side to use the warehouses. However, this is a disincentive for private warehouse companies to become interested in taking on this business, as it is not currently profitable. Moreover, there is a shortage in general of warehouses in Ethiopia.

The strategic role of the ATA in VCF. Smallholder farmers need cash after harvest to prepare for the next crop and for family needs. This necessitates the sale of their crops shortly after harvest into a flooded market which leads to the dropping of prices for all agricultural commodities. There is also a shortage of adequate storage. Hence, the priority of the Ethiopian government for agricultural producers' finance in Ethiopia is focused on small-scale farmers and their need for inputs to increase the efficiency of their production technologies. Also, attention is given to financing post-harvest marketing activities to diminish produce losses and to strengthen marketing channels.

In order to address financial constraints, the Government and its ATA initiated an extensive rural finance programme mainly focusing on the principle cereals produced by smallholders (teff, maize and wheat). This was most recently expanded to work on barley, pulses and oilseeds. In 2013, the ATA rural finance programme (mainly input credit supply) covered about 25,000 small-scale farmers in the Oromia and Amhara provinces, and there was a plan to provide loans to 400,000 small-scale farmers in 2014. In line with this programme, the ATA and the state-owned Central Bank of Ethiopia (CBE) initiated an input loan programme for small-scale farmers based on credit guarantees from the Province governments. Under this arrangement, Cooperative Unions channel inputs to the farmers through their respective primary cooperatives. Primary cooperatives collect the repayments and transfer the collections to their respective Cooperative Unions which finally settle the bank loans, while the provincial governments guarantee the re-payment of loans to the CBE. This fast-growing programme is actively supported by its key participants (the government, state-owned banks, the province governments, MFIs, primary co-ops and Co-op Unions, and small-scale farmers).

AVCF risks and opportunities. Some value chain actors provide financing to other value chain partners as a means to offset potential risk. For example, agricultural commodity buyers in Ethiopia frequently provide working capital loans or advances to farmers to ensure timely delivery of the final product. This is not only aimed at building trust and a stable client market but recognizes the fact that providing access to credit is one of the best ways to encourage cash-strapped farmers to purchase inputs.

In recent years, other more formal actors are entering the market. MFIs and SACCOs are putting a clear focus on the sector with roughly two-thirds of their overall loan portfolio but they are too small in terms of size to have a significant impact on the agricultural sector. The Ethiopian financial institutions, as well as internal value chain financers, have primarily

focused their credit activities on the export-oriented value chains (like coffee, oilseeds, pulses, flowers and herbs) and key staple foods (teff, maize, wheat, beans, chickpeas, and edible oil crops). This is a result of the ease, knowledge and security of financing those commodities with secure markets with market prices that can be hedged or secured by contracts. Outside the export value chains, teff, maize, wheat and barley have become highly profitable chains in recent years, first of all due to the growing demand in urban areas and price increases and, for barley, as a raw material for the expanding brewery industry. Thus, it has become relatively efficient to provide loans in organized value chains in these four sectors.

The main risk to the system as it operates at present is the shortening of warehousing periods and thus a disincentive to continue with the WHR financing system as it operated until recently. The expansion of the ECX WHR financing slowed in 2013-14 primarily as a result of the ECX's decision to significantly reduce the storage time for sesame (down to 30 days) and coffee (20 days), thus making financing for such a short period less attractive. For the key staple crops, maize and wheat, the storage time is still up to 60 days.

Table 2: Summary of AVCF risks and opportunities in Ethiopia (ECX)

Agricultural sector	Financial sector
Risks - Reduced storage times for some crops. - Current incentive regime for leading agricultural value chains favour larger producers with lower productivity per hectare over smaller farmers with potential. - Further retreat or retraction of government sponsored post-harvest services through ATA may increase production and market risks for farmers, in particular small farmers.	- As a result, the financing of these stored crops becomes unattractive to banks. - Sustained period of credit squeeze policies and dearth of credit to non-public sector actors risks crowding out all but low-risk, large-ticket loans. - The scaling back of government interventions to stabilize markets increases lending risks for banks and MFIs to farmers and in particular to small farmers.
Opportunities - Commodity buyers provide input loans to farmers and could expand this with more liquid resources in hand. - The good terms of trade and high profitability of many value chains is likely to favour agricultural development in the medium to longer term.	- Banks, MFIs and SACCOs could increase market share in lending for inputs. - Increasing the financial literacy of the rural population is likely to result in a more diversified demand for financial services from local institutions such as microfinance institutions (MFIs).

Source: Author

4.4 Case example 3: the Competitive African Cotton for Pro-Poor Growth (COMPACI) project – insights from Zambia[34]

Background. COMPACI has been built on the successes of the earlier public private partnership (PPP) **Cotton Made in Africa** (CmiA). The CmiA initiative, maintained by the

34 Thomas Breuer, Sarah Götz and Wolfgang Bertenbreiter, all from GIZ, kindly made all the unpublished information used in this section available.

Aid by Trade Foundation, aims – by means of a quality seal of the same title – at promoting sustainable cotton production in order to improve the living conditions of cotton-producing smallholder farmers in Africa

COMPACI is funded by the Bill and Melinda Gates Foundation (BMGF) and the German Federal Ministry for Economic Cooperation and Development (BMZ) as well as by other private foundations and cotton companies which also act as implementing partners locally. DEG and GIZ have been commissioned as implementing agencies. The objective of COMPACI is to sustainably improve cotton yields of 650,000 smallholder cotton farmers from their cotton-based farming systems. A second focus is laid on increasing the food crop production in those farming systems. COMPACI is currently collaborating with 17 cotton companies in 12 countries in sub-Saharan Africa. In order to achieve its objectives COMPACI focuses on the capacity-building of extension staff and farmers to promote sustainable production methods such as conservation farming and integrated pest management. Through capacity-building measures, COMPACI is aiming to increase productivity and the quality of their products, to diversify crop production, to facilitate access to working capital loans, and to establish sustainable business linkages geared towards improving the cotton value chain. The CmiA label is still being strengthened and built up: COMPACI aims specifically to strengthen the small producers in the cotton value chain. As of November 2014, the project was operating in 12 countries with smallholder cotton farmers.

The main anticipated impact of COMPACI's is to increase the family income of the 650,000 targeted small-scale farmers by at least 34% over 7 years through increased agricultural productivity. Beside this economic impact, other social and ecological impacts are expected such as increased school attendance and improved soil fertility.

Project funds are used for activities comprising the introduction and intensification of good agricultural practices including integrated pest management, soil and water conservation techniques, and quality management. The project facilitates market access of cotton farmers by giving them the opportunity to brand their cotton according to quality labels and by creating a direct link to textile retailers. The envisaged increase in high quality cotton is intended to have a significant, positive impact on the competitiveness of small-scale farmers, resulting in higher incomes.

Prior to the initiative, cotton buyers provided seeds and inputs to smallholder farmers as a loan with repayments made out of produce sales from the small producers to the trading companies. These internal value chain lending relationships have been expanded in a number of ways through COMPACI. The case of the tractor lending scheme in Zambia is one of many different finance-related interventions promoted together with COMPACI. It illustrates how this was done first through non-bank intermediaries who demonstrated the financial feasibility of the lending proposition to Zambian banks. They have been adopting this type of external AVCF financing arrangements for investments now that the approach and recoveries have been successfully demonstrated through COMPACI.

The NWK Tractor Lending Scheme. The initial motivation of the NWK[35] tractor lending scheme[36] was to address constraints in regard to the farmers' ability to cultivate larger

35 NWK in Zambia is one of the leading agri-business companies (http://nwkzambia.com).

36 The section below draws on an information note by NWK Zambia on the tractor lending scheme

areas and, more particularly, to achieve early land preparation and planting for higher yields. The model is based on the concept of 'tillage service provision'. Individuals providing the tillage service are called 'tillage service providers' (TSPs). These TSPs provide land preparation services as well as transport services to their farmers in their respective communities at a specified cost. The incomes that are raised in this way are then used to meet operational costs as well as for repayment of loans. Incomes generated from the farmer's own crop also supplement loan repayment. Initially, banks were not keen on financing tractors to smallholders, nor were the asset finance companies keen to develop leasing finance products for this purpose. The company then went ahead on its own using in-house funds and this was followed by P4P (Purchase for Progress) (WFP) funding, once they saw the benefits to the communities. The first tractors were financed via a financing scheme of NWK in collaboration with the Indian tractor manufacturer Mahindra and were then supported by resources from WFP. Initial loans from the company were provided on 'soft' terms, indicating that no net profit out of loan interest was expected by NWK. Moreover, the company identified suitable candidates who wished to become beneficiaries and who carried out screening in conjunction with a farmers' union which was running a similar scheme. This involved looking at the previous history of these candidates with the company, together with details such as projected cash flows, asset screening, and so on. The recipients of the NWK tractor loans were also subjected to thorough screening and the specific donor criteria of the WFP relating to gender equality. There were no specific arrangements for consumer protection in place for the borrowers.

In 2012, 12 tractors were financed this way; as a result of the WFP gender criteria, 6 of them to women farmers. Terms and conditions for the loan contract under the scheme were designed by NWK and significant time was spent on developing the screening specifications for the farmers who received the finance; the process for application was also widely advertised. With the entry of the First National Bank (FNB) in 2013 and the subsequent joining of ZANACO, another domestic Zambian bank, the number of tractors financed to TSPs now stands at 94. Banks combined this asset purchase with a loan component for agricultural inputs.

AVCF risks and opportunities. The example shows that the original internal chain financing was restricted to short-term interlinked loans by agri-processors and trading companies to cotton producers. Some of these short-term financing requirements were then channelled to local banks and, with the TSP programme, chain investments were made possible with tractor loans of up to three years. Besides ZANACO und FNB, Stanbic and Barclays Bank are also going to offer the tractor-lending scheme in the future. Arrears below 5 per cent have likewise demonstrated to these two banks the feasibility of this type of loan. With their international reach, it may be possible for the tractor-lending scheme to be introduced in other countries of the region as well.

Monitoring and evaluation of COMPACI's impact is carried out systematically by one of the leading companies in the field, the independent research organization NORC at the University of Chicago. NORC is monitoring this through 'representative sample based yield surveys'. These sample-based surveys are supported by GPS devices and computer tablets and were first implemented in Zambia and Zimbabwe in 2013. What can already be noted at this stage is the priority and emphasis given by COMPACI funders to measuring the impact and the attempts of the monitoring contractor to respond with project-specific impact assessment methodologies.

The NORC (2013b) study has a short section on emerging impact. Zambian yields from a 2013 sample-based survey in Central Province show a yield increase of 23%, that is, 130 kg/ha as compared to 2010 baseline figures. The broadening of crops and inclusion of food crops with higher yields in the crop rotation was also achieved: in Zambia, maize is the most commonly grown other crop (95% of surveyed households grow maize); groundnuts are grown by about 60% of the households on smaller plots. Soil conservation measures were picked up quite well by COMPACI farmers: mulching, foliar fertilizers and the cultivation of nitrogen-fixing leguminous crops. More fundamentally, crop rotation instead of cotton monoculture which depletes the soil is now the norm among COMPACI-supported farmers.

Table 3: Summary of AVCF risks and opportunities in Zambia (COMPACI)

Agricultural sector	Financial sector
Risks - Initially, provision of tractors depended on the initiative of one single company; its retreat would have collapsed the scheme. - The TSP scheme hinged on the ambitious objective of providing a tractor to an individual smallholder farmer without previous experience in operating a tractor. - The scheme depended on the smallholder being able to provide tilling services to many other smallholders in the community.	- The scheme initially depended on the NWK company making resources available for debt finance to farmers. In view of lending risks, this exposed part of the company liquidity to a high risk. - There were no specific reserve positions built up to cushion against default and the company would have had to cover losses out of company equity. - There were no specific borrower protection mechanisms in place. - There was no possibility for the company to check the previous credit history of loan applicants since it could not access credit information of the commercial banking sector.
Opportunities - The scheme mechanized ripping and tilling services and facilitated sustainable farming practices at smallholder level. - The link to NWK assured marketing channels and continued access to technical assistance (TA) through the COMPACI project. - Replication of good farming practices of COMPACI was facilitated through mechanized plot cultivation.	- The NWK demonstrated to commercial banks the viability of a tractor loan to smallholder farmers with sufficient economic usage potential of the asset through TSP. - WFP criteria demonstrated that women farmers performed just as well as male farmers and could constitute a significant unexplored market segment. - Non-bank financial institutions could follow up and develop lease-financed services that would be best suited in this context.
Source: Author	

4.5 Case example 4: the KELIKO farmer association: increasing food production through AVCF in South Sudan[37]

This case presents the use of various different simple AVCF mechanisms to accelerate production and to support a locally adjusted model for collaboration between farmers and financial institutions: initially a commercial bank which then retreated and was replaced by a non-bank financial intermediary in the second lending season. A contract of the farmers' association with the WFP to locally source grain for humanitarian assistance provided the necessary comfort to the financial institutions for debt financing. The non-bank financial institution and the bank employed a similar product design and execution: repayments of small farmers were channelled through the association and improved repayment discipline.

Background. The Keliko Farmers' Association Society (KFAS) is located in the Central Equatorial State of South Sudan. It was established in 2007 by 20 farmers, who were at the time mostly growing vegetables. The group was also involved in cereal production, although on a smaller scale. By 2012, KFAS had expanded to 570 farmers, mostly growing cereals, and it was registered under the Ministry of Legal Affairs as a Community Based Organization. The majority of these farmers were South Sudan returnees from Uganda who came back to the country after peace agreement and independence. KFAS farmer organizations provide the following services to the smallholder farmers within their membership: sales of improved quality seeds to members – mostly imported from Uganda; facilitation of market access through the association; tractor services (for example, ploughing on credit); management of payments at harvest time; and an Association farm of 144 ha in size.

The association has three tractors which are rented out for ploughing to its members at a cost of 250ssp (South Sudanese pound)/*feddan* (0.42 ha). This cost is slightly lower than the market rate of SSP 300/*feddan* which KFAS charges for non-members. Members receive preferential treatment so as to encourage more farmers to join the association.

The WFP has a large programme of locally purchasing grain from smallholder farmers in developing countries when its criteria of price, quality and quantity can be met. The Programme, P4P, aims to connect smallholder farmers to and strengthen local markets. Further the WFP ensures that, as part of its approach, it invests in capacity-building at country level in areas such as post-harvest handling and storage, which will yield sustainable results in boosting national food security over the long term. The purchase contract with the Keliko Farmer Association was executed under the P4P programme, which began in South Sudan as early as 2010. KFAS has been engaged in working with P4P since 2011. During the first year, the organization participated in some training measures and other capacity-building initiatives. The first purchase contract for locally produced grain between WFP and the Association became effective in 2012.

AVCF risks and opportunities. KFAS imports its improved maize seeds from Uganda. The seeds are then distributed as loans to members. Repayment is in kind during the harvest season. The payment includes an interest which is agreed among the members. There have been mixed results in this arrangement. Some farmers do not repay at harvest, and opt to sell individually. To avoid side-selling, KFAS now pre-selects the farmers who qualify for seed loans, and only they will receive the seeds, and a suitable payment

37 This case example was prepared with and co-authored by Emmanuela Mashayo, the P4P Coordinator for South Sudan (previous) and Ethiopia (current).

mechanism at harvest time is specified in the contract. The rest of the farmers have the option of buying the seeds (in cash) at the time of planting. The cost of improved seeds was 7ssp/kg.

As KFAS increased membership and market opportunity, the desire to increase production rose. Access to finance to increase production became a challenge for the farmers. Hence, the association started approaching some financial institutions to apply for a loan for provision of services such as improved seeds and tractor services so that members could increase their individual production. The association then offered these services to the farmers on loan, and recovered their expenses with some interest during harvest. This was possible because the association also acts as the principal marketing channel for the farmers.

In 2013, the association was successful in gaining a production loan from the Equity Bank (SSP 50,000, that is, about USD 17,000 at the exchange rate of 2.9 at the time) for land clearing, ploughing, improved seeds, for six months at an 18% interest rate. The bank requirements included a business plan with indication of purchasing agreements for the grains produced. In this context, the WFP contract was useful. In addition, the bank required some collateral in the form of a land title deed. The loan was repaid on time, and KFAS could generate some profit from the deal, which they used to purchase a grinding mill. Unfortunately, civil conflict broke out in the country in December 2013 and banks became more risk-averse. In 2014, the KFAS was not able to acquire an additional loan from the Equity Bank.

As a result, the KFAS approached a non-bank financial institution for a business loan, a local lending NGO. The loan application process was similar to that of the commercial bank, and after a detailed credit analysis, KFAS received a credit of SSP 211,500 (about USD 50,000) for 12 months at an interest rate of 18%. The loan was intended for maize production. This time around, performance was poor because the loan was received with a two months' delay, that is, too late for the cropping season. KFAS could not implement what they had planned and as a result they could not repay the loan on time. After negotiations with the NGO, the loan repayment period was extended for an additional year. Despite the delay, KFAS supported 46 members in the first season, each having 5 feddans (5.2 acres in ploughing, harrowing; purchasing 50 kg of maize seeds for each farmer; and giving them money in cash for weeding).

This AVCF model was applied only once, both for the bank and the non-bank financial institution. The external conditions between the two loan periods were very different such that comparability must be treated with high caution. However, the model itself is pretty clear: the association is trying to cushion the risk and cost of lending to individual farmers for the bank; at the same time it is assisting the farmers in bridging their financial needs. Arguably more refining is required, especially under the current circumstances in the country (security challenges and inflation). However, the fact that it has worked and both the association and the farmers made a profit is an indication that the model could function.

Some of the challenges that the office holders of KFAS mentioned included the level of education, particularly the understanding of loans/credit, and more generally issues of basic financial literacy. Generally the level of education in South Sudan is low, and KFAS office holders feel that much more financial education is required to improve the understanding of the instrument of credit and managing the finances at the farmer level. Given

their experience with the second loan, KFAS pointed to the basic flaw of loan processing delays that resulted in delayed loan disbursements during the second loan cycle.

Table 4: Summary of AVCF risks and opportunities in South Sudan (KFAS)

Agricultural sector	Financial sector
Risks - Remuneration of farmers for their produce depends on the functioning of the overall contract with the WFP. - In case of side-selling, contract commitments cannot be honoured and the loan recovery of the financial institution is at risk. - In the volatile environment of rural South Sudan, the production and marketing risks were major and the loan obligation of KFAS entailed a risk of non-repayment that would have negatively affected the KFAS in case of non-compliance.	- The nature of the AVCF contract and its complexity does not make a scaling up within the banks or other non-bank financial institutions likely. No similar case seems to have emerged in the past three years. - Even though development partners took extra care to increase financial literacy among KFAS members, probably not all of the members have understood and were in a position to follow and supervise the arrangements between KFAS and the bank (and the lending NGO in the second lending season). - There was no possibility for a repeat loan because of the deteriorating economic and financial sector and insecurity.
Opportunities - Improved distribution of improved quality seeds. - Access to markets of farmers through the contract with the WFP and the wider activities of KFAS. - Wider usage of the tractor services for ploughing provided on loan by KFAS.	- The deal had a demonstration character for the financial sector in this newly independent country without experience of the banking sector in AVCF for South Sudan. - For KFAS, it was the first time a loan was negotiated from a commercial bank and then from a non-bank financial institution with the WFP contract acting as a collateral substitute.

Source: Author

4.6 Other cases: the Fairtrade Access Fund

A final supplementary case example concerns a recently set-up investment fund with primarily social impact motives. The fund provides financial and technical assistance to address the needs of smallholder farmers by investing in Fairtrade producer organizations and cooperatives. It was set up by Incofin Investment Management, the Grameen Foundation and Fair Trade international.

The total invested fund volume amounted to more than USD 10 million as of November 2014. The investment focus is loans to fairtrade certified (small) producer organizations and their member smallholders. These debt investments are made to farmer producer organizations, cooperatives and other types of producer associations, at the present and still initial stage only in Latin America; expansion to Africa and Asia is in progress in a next stage. Coffee is the most visible fairtrade product, and the value added of fund financed credit lines to these associations is the term structure of these loans, long-term loans that cannot be easily sourced from domestic financial markets. A new facility will allow

farmers to receive timely information on fairtrade certification practices, crop management, and localized market information via their mobile phones.

This addresses two of the key constraints that small producers operating in coffee value chains are facing in the current market environment. First, the difficulty of accessing investment finance for business expansion and for purchases other than current assets. The second major constraint exists because of asymmetries of information about market and price information and the difficulty that small producers have obtaining valid and up-to-date price and market data. Modern agricultural value chain financing models address both of these main constraints. As noted in a very recent IDB publication (Grace et al., 2014, p. 17),

> the knowledge that actors within a value chain have of one another enables the development of effective arrangements that facilitate financing. Strong linkages between buyers, suppliers, processors, aggregators, and others in the value chain, and dependency on one another for products and/or funds, helps actors negotiate terms and conditions for finance that overcome information asymmetries, minimize risks, and maximize efficiencies. Lenders in AVCF relationships still examine traditional measures such as collateral, capacity, and credit history as part of their decision-making process, but they may put different weights on each than would a traditional lender, and/or they may be willing to share more of the risk depending on what they get in return from the borrower.

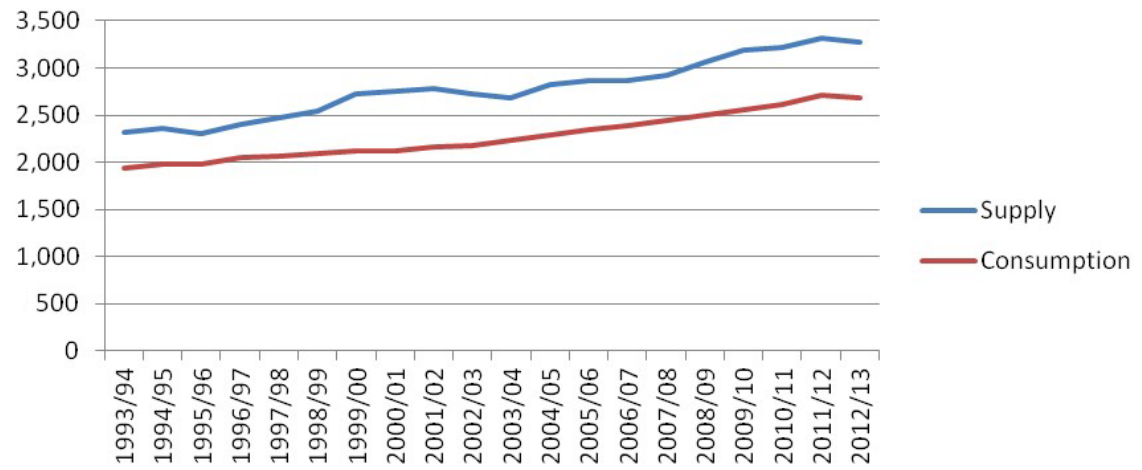
One portfolio example concerns the first debt investment of the Fairtrade Access Fund in Africa. Ecokim, a cooperative union in Ivory Coast, received a Trade Finance Loan of EUR 750,000 for the purchase of cocoa beans from its more than 3,700 smallholder members. With this investment, the Fund for the first time exceeds USD 10 million in outstanding portfolio. It is of course early to measure impact in this last and final example. It is listed here, however, because of the potential for impact. At the financial sector-level, the term loans to cooperatives granted on the base of proven contractual arrangements with wholesale buyers up in the chain have the potential to act as a demonstration case for banks and other financial institutions. Investment finance for more than 18-24 months is still in very short supply in the local Ivorian financial sector, reflecting the high risk profile and still uncertain prospects for political and systemic stability. The agricultural sector is still in the process of recovering from earlier events of civil strife and investments in the sector secure employments and livelihoods.

4.7 Comparative view of the four main cases: key points

Potentials and risks: agricultural development

Each of the case examples portrays supply and demand responses to growing market opportunities for agricultural commodities. The growing overall demand for agricultural products globally is the biggest overall opportunity for producers and agri-business. The favourable market developments for the global grain and oil seeds market are shown in Figure 1, and were made available by the FAO prior to publication of a new forthcoming series of regional studies (Hernández et al., in press):

Figure 1: Total consumption and supply of grains and oils seeds (in trillions of mt)



Source: Hernández et al. (in press)

i) **Favourable economic and financial sector environment**. In three of the five cases, there are conducive framework conditions that ultimately benefited producers, agri-business and value chain service providers such as commercial banks. In Zambia this increased the risk appetite of domestic banks and ultimately also brought international banks into the fray of AVCF-related financing.

ii) **Price determination and transparency**. Opportunities and risks for agricultural producers and other value chain actors can also be grouped around issues relating to the determination of prices for produce and its transparency and predictability. Quality and quantity of the produce are influenced to a major degree by differentiated market prices. As the case examples show, this can work in both directions. In Rwanda, a cell phone-based price information system brings transparency of market transactions on commodity markets with localized price information at the speed of a phone call. Numerous studies have shown that this has resulted in highly differentiated product quality and overall increased volumes of produce.

iii) **Income distribution and quality of life-related parameters**. The comparative view on the four cases shows that the degree of inclusiveness of the value chains that were supported differs. The Ethiopian case illustrated the value added of the commodity exchange and the warehousing facilities for the small producers. In Rwanda, the reach of the value chain financing arrangements can also be described as inclusive overall. There is however mounting evidence that very small producers are sometimes not considered in the producer cooperatives and associations that characterize the Rwandan model. This is either because these associations are not interested in including new and very small members, or because the initial shares that need to be purchased exceed the financial possibilities of some of the very small producers. This debate on the degree of inclusiveness of AVCF mechanisms, and empirical evidence to this effect, has just begun internationally and a number of research results and studies can be expected to be published on this by different stakeholders of AVCF and development.

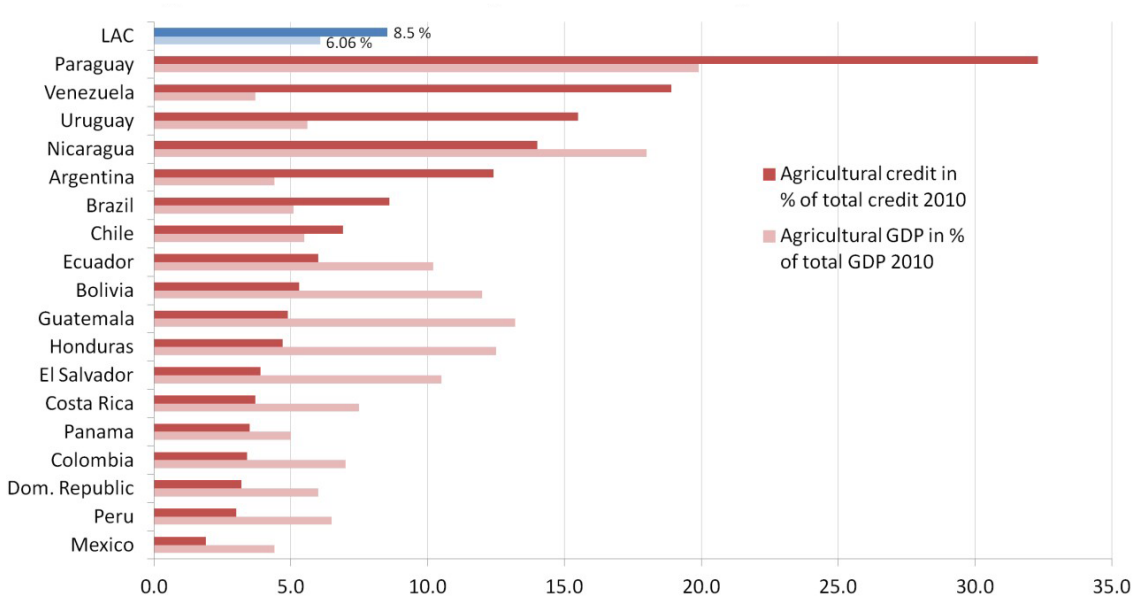
Potentials and risks: financial sector development

i) **Access to financial services**. This is supposed to be the key advantage of non-bank financial arrangements over finance from banks and other formal financial sources. The cases show that access happens without barriers in the examples. In Zambia, women farmers received their tractors under the scheme. Only after some years of successful performance by non-bank financial intermediaries has the formal financial sector started to offer this type of loan as well. In Rwanda, financing from the input supply merchant-cum-produce buyer remains the only source of external financing to the farm in most of the cases. Cooperatives and producer associations aggregate this demand. Warehousing in Ethiopia was simply not an option available to smallholders before the ECX started offering these services.

Shortcomings of non-bank-based financing are illustrated in the example from South Sudan. Even though a financial NGO followed loan application and credit analysis procedures that were similar to those of commercial banks, disbursement delays compromised the quality of the entire transaction (in the second lending period that was managed by a non-bank financial intermediary).

Deficits of the formal financial sector in terms of responding to opportunities of increasing demand for agricultural products are reflected in Figure 2, also from a forthcoming FAO publication (Hernández et al., in press). Even though the picture differs widely between the various different countries captured, agricultural credit is less important than the share of agricultural GDP in overall GDP would suggest. Even in countries with seemingly larger shares of loans to agriculture, these financial sectors have other access barriers inbuilt due to restrictions of domestic capital flows and free market credit allocation. Small producers in these countries are even not likely to get preferential access to loans from the formal financial sector.

Figure 2: Agricultural share of credit versus agricultural share of GDP, Latin America in 2010



Source: Hernández et al. (in press)

ii) **Quality and usage of financial services**. The South Sudan example shows that financial services, offered both by banks and non-bank financial institutions, are susceptible to developments in the wider economic and financial sector environment. Typically, when things get tough, banks retreat first but are then followed by lending NGOs and microfinance institutions, so that in high risk environments, only informal finance systems with their limited range and quality of financial services remain. Debt financing in the two examples of Zambia and Rwanda is offered at terms and conditions that can be serviced by client producers. The rapid increase in borrowers under the tractor scheme indicates an effective demand for these services in the local market. Similarly, the trader loans in Rwanda are fully absorbed by producers and their associations. The outlay in Zambia, with more than one bank involved, will likely be useful. The demonstration effect of non-bank financial intermediaries brought banks into the market, but only competition between them will ensure quality and usage in the medium term. On the other hand, evidence indicates that lending can be required in such a specialized, flexible and quick manner that non-bank financial intermediaries will also have an edge for some type of loans in the future (Rwanda, Ethiopia).

iii) **Range of financial services**. This is the first of two financial sector-related criteria where banks and other formal financial institutions are likely to score higher than non-bank intermediaries. Non-bank intermediaries such as the trader are not licensed and do not have the technical and financial skills to offer financial services other than simple grants or loans. While informal intermediaries react flexibly to changing market environments, these changes generally refer to the single product of loans, mostly with a very short loan tenor. Asset collateralization, risk mitigation products and financial enhancements such as guarantees or securitization are generally only offered by banks. Concretely, in the cases under review, the demonstration effect in Zambia led to a new type of loan being offered by the banks. Borrowers can now transact their current account and other financial business through the same institution that provided them the loan. This would not have been possible with a loan from an NGO or a vendor.

iv) **Aspects of consumer protection and responsible finance**. This aspect is best illustrated in the supplementary case of the Fairtrade Access Fund. The Incofin fund manager is one of the leaders in responsible and impact finance with a full set of social and other criteria for investments. This can be an important incentive for producer associations to associate with this Fund. On the other hand, informal intermediaries and agribusiness companies do not generally offer any formalized protective measures for their contract counterparties.

v) **The private sector nature of interventions can make a systems approach more challenging**. The AVCF approach with its emphasis on different layers of value chains, on different market actors and intermediaries, generally works well when one particular aggregator is selected and strengthened for collaboration. Donors and other facilitators with their financial systems perspective often prefer a systemic approach that does not advantage one player in the market over another. In the case of collaboration with aggregators, this is more difficult to achieve in practice.

5 Emerging avenues for support and international cooperation

In this first of two concluding sections, strategies and emerging avenues for support and international cooperation are outlined. The principal observations made in this study are that implications of AVCF through non-bank financial institutions are not well studied but promising. In spite of this, the role of donors in support of inclusive AVCF can still be major. The general directions of external support that are recommended are summarized first. This is followed by some specific observations on strategic elements for AVCF support through non-bank financial intermediaries, dealing with chain governance, and the role of TA and loans in this process.

The various different documents quoted throughout this study contend that:

- inclusive access also covering smaller and more dispersed producers is more likely through external facilitation. The ADB (2012) proposes to improve inclusiveness through two approaches: improved targeting and a staged approach that builds the skills and assets of the weaker producers necessary to meet the market requirements;
- processes of evolving value chains can be accelerated considerably through external facilitation and TA;
- in some countries "…the donors and donor-funded government programs are the core drivers of value chain integration and finance" (Coon et al., 2010, p. 12). In Coon et al. (2010) Mark Wenner provides the example of Honduras, but there are other rural economies where an organic market development with evolving lead firms and lower level smaller producers is not readily forthcoming without external facilitation to this effect;
- the FAO and IDB also stress the role of donors as 'honest brokers' between the agri-business sphere and the sphere of banking and financial institutions. Mark Wenner states that

  > …they [i.e. the donors] are bringing value chain actors together in a way that facilitates access to finance and provides win-win opportunities that strengthen the competitiveness of value chains as a whole (Coon et al., 2010, p. 13).

Role of governance aspects and control in agricultural value chains. Understanding value chain governance implies understanding who controls power relationships within the chain. Governance issues are of increasing importance in the agri-food system, given the greater emphasis on product differentiation, food safety, and product standards required in a competitive market environment (ADB 2012, p.4). The recent comprehensive evaluation of the ADB concludes that, given a conducive sector environment, the poor can benefit from agri-business. They can benefit by directly engaging in the market through the sale of surplus agricultural products. They can also profit from additional employment and other off-farm income-generating opportunities. The ability to utilize these opportunities is largely dependent on the resources available to them, the opportunities granted them, and their skills for responding to market signals.

Role of loans. The present strategies, above all in financial cooperation, appear too much focused on the instrument of debt finance; and these loans are directed only at the lowest, producer level of the chains. The effectiveness of credit in encouraging value chains is generally rather limited. Overall, the use of credit further up the value chain in trading,

storing and processing is not the norm, but may in single cases be encouraged rather than lending to the lowest segments of the chains. ADB (2012, p. 23) suggests that the use of processors as conduits for credit delivery is one approach to link production credit to market and value-addition opportunities. The ADB therefore observes that this lack of investment in areas such as cold chains, grading, and packaging, which are particularly relevant for high-value crops, is a major constraint to the development of value chains.

The role of technical assistance (TA). The reasons for providing TA in an agricultural value chain promotion environment are well summarized in Coon et al. (2010, p. 13): while integration and consolidation of the agricultural value chain can happen organically with time, TA can speed this process up considerably. For lead firms in a supply chain, TA is attractive, because it often comes under cost from donors and disseminates international current best practice. For participating financial institutions, their requirement for TA to borrowing producers or processors is a risk mitigation strategy. As the example of Hortifrutti shows, over time this free TA can be phased down and phased out. In sum, Coon et al. (2010, p. 16) remark for Honduras that

> … TA organizations are providing valuable market and price information … that is used to identify opportunities and trends for producers and lead firms, and they provide guidance to donors and the government on growth sectors and policies to strengthen value chain development. They also assist in improving transparency for price and value chain relationships, fostering better communication and consolidation.

Inclusiveness is key. Future pro-poor support to agricultural value chains needs to pay more attention to a pro-active identification and inclusion of poor and small producers into project-supported agricultural value chains. Inclusive finance needs to pay attention to issues of responsible finance and protection of small producers as well as consumer rights. Even though recent initiatives, such as those promoted by the G20, and the norms and guidelines of individual donors or investors (Incofin in the case example) stress the principles of responsible finance, clarity on contract obligations and rights as well as fair and equitable contract terms based on transparent criteria (such as price formula and input and credit cost calculation) are fundamental for trustful business relations, contract fulfilment and reduced moral hazard on both sides (Will, 2013, p. 73). What also emerges is that setting production targets (quality- and quantity-wise) together between the contractor and the producer helps in cementing these business relations.

Scarce evidence suggests that new and improved approaches need to include better analysis of what value chains are actually suited for pro-poor support and to monitor the reach to special target groups during project implementation. Where chains are highly structured and increasingly more complex, it is more likely that they will develop without outside interventions but also with fewer opportunities for smaller producers. Looser chains of staple crops with potential to realize economies of scale in the production and collection process may be a better option. The ADB (2012, p. vii) recommends specific and sequenced support to address the transitional and transformational problems of entry by marginal groups and small producers. The ADB also stresses the importance of supporting infrastructure together with assistance to individual chain actors. The positioning of rural markets, along with storage facilities for commercial agriculture in general and for value chains in particular, needs to be based on an analysis of strategic links between production areas and markets.

Résumé: There is a universal consensus that external facilitation in the specific context of agricultural value chain development needs to be squarely focused on including poor small producers into a value chain. A USAID Briefing Paper on "Pushing the Poverty Frontiers of Inclusive Value Chain Development" (Garloch, 2012) shows that the discussion about how to actually achieve this inclusive development is still at the very beginning. Views as to how pro-active donors should be in actually driving the development of value chains are divided, while the role as an honest broker between the worlds of agri-business and financial institutions is just in the process of evolving.

Box 6: Possible areas for further research III

- As shown, one basic rationale for donor support is to ensure broader access of different types of producers to existing value chains. How successful was this facilitation in practice? Did donor projects make middle-income and larger producers even richer or also ensure a durable access of smaller and more marginalized producers?
- The conceptual framework of the Dutch KIT outlined as entry points for donor support requires further consideration and analysis. Under which circumstances does the crafting of new chains make more sense than deepening the access of existing chains? Which chain actors should receive investment finance (staggered disbursements, later phasing in of mid-term and long-term loans after initial current asset financing, etc.) and under which conditions?

6 Conclusions and areas for further research

This desk-based overview of available literature, blended with expert interviews and advice, has shown that there is **only little and scattered publicly available information dealing with the implications of non-bank agricultural value chain financing**. Based on a weak database to date on impacts and sectoral implications of interventions, this study concludes that there is no indication of major systemic implications of agricultural value chain financing on a financial sector. Some instruments (such as contract farming) are better researched and analysed than others, even though these other instruments may have potential in a more diversified product range to be offered by the financial sector for value chain actors (facturing, repos and forward contracts). But even for contract farming, methods for assessing and evaluating their impact on different actors in the chain are still at the very beginning.

The main issue with the instrument of **loans** to support current and investment assets in the agricultural production process is not the missing focus on implications. Here, the target clientele for these promotional instruments have been defined too narrowly in the past and actively excluded value chain actors other than producers. The second challenge with loans is that the instrument itself has many shortcomings, especially if promoted by external and international agencies. Once again, credit guarantees for the promotion of agricultural value chains constitute an at least equally promising route for engaging the public sector in the promotion of agricultural value chain finance.

The challenges in analysing the opportunities and risks of financing in agricultural value chains are accentuated by the fast pace of developments in many agricultural markets. Time matters in a free market and private sector-driven approach. "Markets change after the

analysis is done… . Too often we look at past market analysis when we need to be looking at the current situation and future trends" (Campbell, 2010, p. 6).

Coon et al. (2010, p. 20) remind us, however, how much value a **VCF framework can add to the outreach and service culture of financial institutions**. Consolidated or well-integrated agricultural value chains can reduce risks and transaction costs related to finance, resulting in increased access to finance for actors at all levels of the value chain. As value chains become more integrated (with more linkages between actors) or consolidated (with actors taking on more roles within the value chain and being less dependent on donor-financed TA providers), access to knowledge, information, and finance improves along the value chain.

Box 7: Summary of possible areas for further research

These areas were outlined at the end of the respective sections. In sum, the areas for future research concern:

- A better understanding of the current systems of non-bank financing of agricultural value chains;
- A better understanding of the different types of implications that these financing modalities bring with them and for the agricultural as well as financial sector); and
- Concrete systems and procedures to improve impact monitoring as a measurement and management tool.

Miller and Hernández of the FAO advise that a shift of focus may be required to more radically reach and make an impact on the lives of smaller and more scattered smallholder producers. More work is therefore required on the external facilitation of looser value chains, while leaving the more structured chains to work their processes out themselves. These experts contend that, in order to reach the more excluded ones and thus have a bigger impact in terms of rural transformation, the less structured looser value chains (the big staple foods) have more development impact. The private sector in these looser chains is more heterogeneous, as the case examples of grain producers in Ethiopia or maize producers in Rwanda have shown. The players are smaller while there are more segments and different layers of traders. Very often, these loose value chains are for staple crops with consumer prices for the mostly urban clients kept low for political reasons. In these cases, more policy dialogue is required to clear price distortions first and thus make these value chains attractive to producers and processors again. Countries that have figured this challenge out, such as China after the economic opening of the countryside from the mid-1980s onwards, have achieved major poverty reductions and the creation of wealth in the countryside. Structured value chains such as the dairy value chain are in many cases in a position to find their own solutions without outside facilitation.

Altogether, the big challenge of promoting value chain finance in agriculture is about **bringing two worlds together**: the world of financial institutions, with audited accounts and financial models; and the world of agri-processors with quick reactions to fast-changing market opportunities and their ties with other chain actors who have grown over the years and are robust and time-tested. Wherever an externally promoted AVCF initiative can succeed in destroying the barriers between financial institutions and agro-entrepreneurs, the results and impact will likely be considerable. Public agencies need to broker this dialogue and create trust and dialogue.

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