3R Kenya feeds MACS - Issue Brief 4

How to improve access to finance for small and medium family farms?

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3R Robust Reliable Resilient From Aid to Trade

The recommendations to EKN

1. Demand side of finance: making agribusiness more interesting for investors.
2. Supply side of finance: systemic interventions are needed.

Demand side: making agribusiness more investable

- Increase the willingness to invest:
- Support self-financing strategies for investments
- Increase availability of financial services

Supply side: systemic interventions

- Pragmatic: VC Finance focal point
- More ambitious: Participation in a renewed M4P program on agri-VC finance (long-term, cross-sectoral, robust, with players like FSD Kenya/USAID/WB).

Introduction

Investments in the modernization in the agricultural value chains are necessary to secure food availability. But farmers are sometimes constrained in their capacity to invest, because of their limited access to finance. This is often mentioned as an important bottleneck, also in the development of small and medium commercial family farms (SMCFF) in aquaculture, horticulture and dairy.

Therefore, this brief elaborates on access to finance, specifically for farmers in these three sectors. Goal of this brief is to provide the Dutch Embassy in Kenya (EKN) with insights about this theme and recommendations to improve the access to finance for this target group.

With the term ‘finance’ this brief refers to the various financial mechanisms to enable short term and long-term business investments. Financial mechanisms include among others savings, informal loans, formal credit and in-kind services. As the main goal is to stimulate business development by means of investments, this brief looks beyond ways of gaining access to credit, and takes into account alternative mechanism for making investments, including the possibilities for making investments that are less cash-intensive or lower the demand for cash.

The brief provides recommendations for the Dutch Embassy in Kenya to improve the access to finance for SMCFFs as a means to stimulate business investments in the three sectors. These recommendations are based on an analysis of demand for finance, existing supply of financial services and the gaps between demand and supply.

1. Demand for finance: Why small and medium family farms need finance & what type of finance?

To provide a good understanding of the demand for finance, this brief first looks into the investment needs of SMCFFs, some important investment mechanisms and the reluctance among farmers towards financial obligations. It is important to realise that credit serves to gain access to cash, and cash is a means to finance a certain investment. Therefore, this brief looks beyond access to credit, and takes into account alternative mechanism for investments, sometimes through lower demand for cash.

a. Investment needs: Equipment and inputs

In general, farmers need finance to invest in two aspects:

- **Equipment:** In particular, farmers who are at the tipping point from non-commercial to commercial farming need finance to invest in equipment. These are typically long-term (multiple years) investments for large amounts (thousands of euros).
    a. Hardware investments in horticulture sector: constructing an irrigation system, building a greenhouse. The type of investments depends on the type of crop.
    b. Hardware investments in the aquaculture sector: creating ponds.
    c. Hardware investments in the dairy sector: building stables, machinery, buying cows.
- **Inputs:** especially farmers that use high quality production methods need more capital-intensive inputs. These production inputs and in particular feed, are the main need for finance in the aquaculture sector.

Also for dairy farmers, feed is an important cash need. Typically, farmers in horticulture and aquaculture need these inputs during the complete production cycle and can pay back the credit after harvest. Production cycles, and thus the need for finance, vary per sector and depend on the specific product and production method. Dairy farmers typically receive monthly payments, while dairy production occurs daily.

a. Inputs in horticulture sector: quality seeds (5-8% of production costs), fertilizer. Between 45 to 90 days production cycles.

b. Inputs in aquaculture sector: quality feed (80% of production costs) and fingerlings, pond maintenance. Between 6 and 12 months production cycles in commercial farms.

c. Inputs in dairy sector: quality feed (60% of production costs), veterinarian costs.

b. Current investment mechanisms

Currently, farmers use different investment mechanisms. These include, but are not limited to:

1) **Peer-to-peer, in-kind investments**. Mutual labour assistance is a well-known strategy to limit cash expenses. People work on each other's farm, assisting with labour investments like digging water pans or fishponds.
2) **Personal resources.** This also includes investments from people in the personal network: family, friends and close business associates. Personal resources can come for example from non-farm employment or income of other crops, personal savings, remittances or retirement pensions. Personal resources are used especially for smaller investment amounts and for investments that are difficult to fund via credit providers for example due to higher risks. Furthermore, people are more willing to risk their own personal resources than to take on external financial obligations that way avoiding the risk of being unable to pay back. (Van der Lee interview 13-03-2018). Investments from people within the personal network are often taken as equity or part ownership instead of a debt. (Waari and Mwangi, 2015)
3) **Value chain financing.** Value chain actors can enable investments in two ways:
    a. Through **supplying inputs, services and/or hardware on credit**. In the horticulture sector, examples exist of traders who provide seeds and deducting the costs of these seeds from the payment of the harvest. In aquaculture, examples exist of feed suppliers arranging payment after harvest. In addition, dairy cooperatives and dairy processors supply inputs and services on credit, which will be deducted from the monthly payment. International companies mainly provide this type of investment and available for those farmers who have a track record with the company involved as it requires a trustful relationship between farmer and value chain actor.
    b. Through **improving payment conditions**. In the dairy sector, advance payments are common with informal brokers: advances are then given before the final bill is settled, or sometimes before the product (raw milk) is even delivered. In the formal economy, examples exist where retailers and coops arrange overdraft with the bank, enabling a quicker payment of farmers and as such, improving the farmers' cash flow. Another example is invoice discounting offered by banks to farmers. With invoice discounting, farmers can use the delivery invoices to receive a cash advance from the bank until the buyer pays the bill.
4) **Debt capital sources.** A minority of farmers uses cash loans from informal and formal actors (Waari and Mwangi, 2015). In horticulture a recent 3R study (Koomen and Gema, 2018) among 262 farmers (all sizes), 54% of the farmers reported a need for credit. Out of those in need of credit, 72% actually applied for credit, of these applications 77% was successful (Koomen and Gema, 2018). The Kenya Financial Sector Deepening (FSD) programme (2016, in Fintrac 2017:35) estimated that 9% of rural Kenyans have access to informal sources of finance.
   Access to formal debt capital services depends on the availability of some form of security that the debt will be repaid, like collateral and proven profitability. As a result, in some geographical areas, farmers will have a better access to debt capital sources than others. There areas tend to be aligned to the **geographical production hotspots**, as these are areas where typically the sectors are most developed in terms of number of farmers, farm professionalization, access to market and infrastructure. As a result, not only the *access to* formal debt capital services, but also the *use of* these services is not evenly distributed over the country. Quagrainie et al. (2009) for example analysed that fish farmers in the Western province will have a 19% more probability of using credit facilities, in comparison to fish farmers in provinces like the Rift Valley, Central and Eastern province. Figure 1 shows the geographical production hotspots for dairy, aquaculture and fruits. For vegetable farming, no information has been found on the specific geographical production hotspots. FSD (2009:60) says that *"with respect to concentration of clients, the vegetable value chain is highly concentrated around five, not more than five, urban areas."* However, which urban areas are involved and to what extent these demand hotspots are aligned with production hotspots is unknown. The limited information on horticultural hotpots might be due to the large variation in crops, resulting in various production hotspots for different crops.

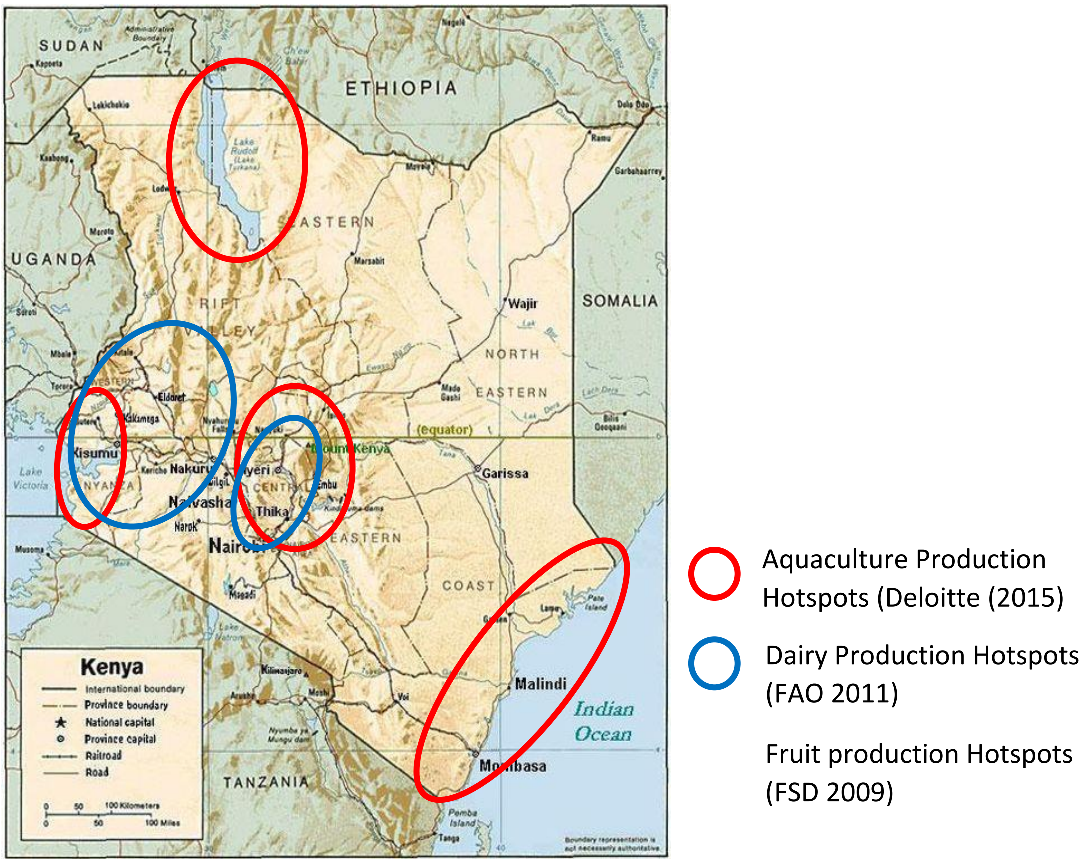


FIGURE 1: PRODUCTION HOTSPOTS FOR AQUACULTURE, DAIRY AND FRUITS

c. Existing reluctance towards financial obligations

Not all farmers need extra financial resources. In the horticulture sector, the study of Koomen and Gema (2018:42) among 262 farmers (all sizes) indicated that 23% has no cash constraint. Another 12% mentioned not to be interested in credit, mainly due to the high interest rate on credit or the lack of known sources of credit.

No cash constraints

It is remarkable that a relatively high percentage state not to be cash constrained. We did not find an explanation for this but we suspect that this is correlated with low cost production methods and remaining capacity to produce. Low costs methods, experts state, significantly limit yield (Van der Lee interview 13-03-2018; Gema, interview 20-03-2018 and Obwanga, interview 22-03-2018). More detailed understanding is not available at this moment.

Not willing to have financial obligations

Experts from the various sectors mentioned a reluctance among farmers towards financial obligations. As Joyce Gema (interview 20-03-2018) put it: *“Small and medium sized farmers do not have the luxury to take risks and credit is a risk”*.

An important risk for farmers is related to market uncertainties. In horticulture sector, farmers do not know at the start of the production season what revenue they will make at the end of the season. Sales contracts are often not respected from both sides, as both farmers and buyers look for the best deal for a specific harvest.

Need for a clear business case of investments

Getting detailed insights in the business case of specific investments can help in the decision making process of farmers regarding these investments. These business cases should include the cost of capital to help identify the maximum feasible interest rate from a farmer’s perspective and help define a feasible finance mix.

These business cases are not yet available. Various studies have looked into aspects of the business opportunities of especially fish farming, including market potential (e.g. Rothuis et al. 2011) and product development including a cost benefit analysis based on product prices and sales prices (Kyule et al. 2014). The HortiImpact project also works with business cases, focussing on the impact of specific technologies on farm level. No (model) calculations were found about the business case of typical investments for example about their investment costs and payback time or internal rate of return, let alone calculations that also include the weighted average cost of capital to calculate the economic value added.

When the lifespan of an investment increases, it becomes more important to take into account systemic aspects including the inflation rate, business cycle, competitiveness and prospected market growth. The development of these business cases is not only important for farmers to evaluate the business sense of the investment. Also for banks, the investment needs to make business sense.

2. Supply of finance for agribusiness

The supply side focusses on the financial services available to the three sectors, as provided by financial institutions and value chain actors in Kenya. Some of these services are part of the classical standing offer of finance, others are more innovative.

a. Progress with financial inclusion, but little impact on finance for the real economy

Kenya has made enormous progress in the last 15 years, in terms of **financial inclusion**. The number of Kenyans using some form of financial service has increased from about 27% in 2006 to over 75% in 2016 (FSD Kenya 2017). Mobile money (MPESA) has been the main driver of this development: over 70% of Kenyans have a mobile money account nowadays, and also the number of bank accounts has increased since linkages between bank accounts and mobile money have been made possible (MShwari for example). Given this general increase in accessibility of the financial system, the strategy of the national financial sector development program FSD Kenya has changed. It now focuses more on the usefulness of financial services, their affordability and the trust between banks and their clients. FSD applies an M4P approach (Markets for the Poor[1]), aiming at solving systemic constraints and enabling larger-scale sustainable changes.

Notwithstanding the boom in financial sector development in Kenya, efforts of FSD and other programs to stimulate **lending for the agricultural sector have been less successful**. The impact assessment of FSD Kenya in 2016 is quite critical about this: *"The [value-chain finance] project failed to gain traction and achieved limited learning ... With the USAID project shifting their focus to other activities, FSD Kenya was left unable to deliver this technically-challenging task ... [Also] agriculture wasn't really a major priority for most finance providers".*

b. Supply of finance for agriculture and agri-business

Kenyan agribusiness has some typical characteristics in financial terms. *"**Agriculture**, with its non-uniform cash flows, rural bias, poorly capitalised and widely dispersed producers, seasonal cash flows, price and market risks differs substantially from businesses conventionally supported by traditional finance and microfinance."* (FSD Kenya 2009).

Still, some banks and microfinance institutions are more **active in agriculture and agri-business** than others. Several sources[2] mention the following:

- Banks: Equity Bank, Family Bank, Cooperative Bank, KCB Bank.
- Microfinance Banks: Faulu Microfinance Bank, Kenya Women Finance Bank (KWFT), Rafiki Microfinance Bank, Joywo, SMEP, SISDO, KADET.

Several local banks and microfinance banks offer a **range of specific and diversified loan packages** targeting agriculture and agribusiness. Examples are among others:

- Equity Bank (with specific loan products for group loans, farm inputs, farm development, agricultural equipment, remittances for agriculture, agribusiness, commercial agriculture)
- Family Bank (specific loan products for biogas, commercial crops, contract-growers, dairy, grains trading, productivity investments)
- KWFT – focused at women mainly - has specific loan products for greenhouse farming, horticulture, cereal business, poultry farming, fish farming, dairy farming, agri-asset financing (equipment), apiculture. In dairy, KWFT adopts a comprehensive financing approach, combining financing for high-quality inputs with technical support (agripreneurship, agrotechnical support, value-chain linkages) and attention to household cash flow and risk management. (KWFT 2016).
- Rafiki Microfinance Bank: offers micro, small and medium-sized loan packages for farmers (Kilimo Imara, Kilimo Bora and Kilimo Dhabiti respectively, for loans up to KSh 100k, 300k and 35mln). In addition, Kilimo Advance for farmers or farmer groups who deliver to a milk processor and want rapid advances on the milk delivered.

Most of these credit products are for individual farmers, but the microfinance banks also offer group-lending products.

In addition, the Kenyan government offers several targeted funds: Agricultural Finance Corporation (AFC) (www.agrifinance.org), Women Enterprise Fund (www.wef.co.ke), Youth Enterprise Development Fund (www.youthfund.co.ke). The AFC finances farmers directly, whereas the WEF and YEDF work via banks and microfinance institutions.

c. How do financial institutions assess the financing potential of agricultural value-chains?

Financiers will only step into value-chain financing if they consider the value-chain investable. In 2009, a study was done by FSD and USAID/KARF (Kenya Access to Rural Finance), to analyse a series of agricultural value chains and systematically assess their potential for increased **value-chain financing**. Regarding the three subsectors of interest to the 3R project, the conclusions of the study were the following (cited from FSD Kenya 2009):

- *The fruits value chain (as part of the horticulture sector) is both a rapidly developing domestic and export market. Further, it has low cost of entry for producers, while holding the interest of all levels of bankers. Some bankers expressed interest in financing producers, if the market could be locked in (with secured offtake contracts) while other bankers expressed interest in large scale financing of concentrated producers and exporters . It is further worth mentioning that USAID-KARF already had meaningful experience in financing the export market for avocados, their products and their by-products.*
- *Vegetables value chain (as part of the horticulture sector) was considered more difficult to finance. At the time of the USAID-KARF study, the vegetable value chain had demonstrated quick development: large*

[1] See http://www.m4phub.org/what-is-m4p/introduction.aspx for further explanations of the M4P approach.

[2] http://graduatefarmer.co.ke/2015/05/19/sources-of-getting-money-for-farming-in-kenya/ , https://www.loans.info.ke/2016/07/agribusiness-kilimo-loan-givers-in-kenya.html

exports of fresh vegetables and a growing urban market. Relative to some other value chains, there are large numbers of producers. However, the input supply for vegetables was considered weak and the prices had been falling in off-take markets. While the local chain with supermarkets was developing well, the majority of the value added seemed to be captured by the retailer versus the producer. This does not offer good opportunities for a commercialised producer, if he/she can choose between different options, nor for a lender to support a producer.

- *<u>Fish</u> encompasses both aquaculture and export; this includes large numbers of producers, processors and exporters; is a well-developed value chain[3] in terms of sophisticated relationships among and between buyers and sellers; enables many Kenyans to earn positive return on their activity; and is keenly interesting to lenders, given the government policy to promote aquaculture and mainly where clusters of production and processing can be found.*
- *<u>Dairy</u> is a key opportunity to expanding value chain financing in rural Kenya. Like fish, it gainfully employs many Kenyans; is a well-developed and functioning value chain; and, it remains quite interesting to lenders, because of its organisation in clusters with collection and processing, and investable financing opportunities*

In Annex 1 to this brief we present detailed information from the 2009 study, about the services of the interviewed banks' and their expectations for financing these sectors.

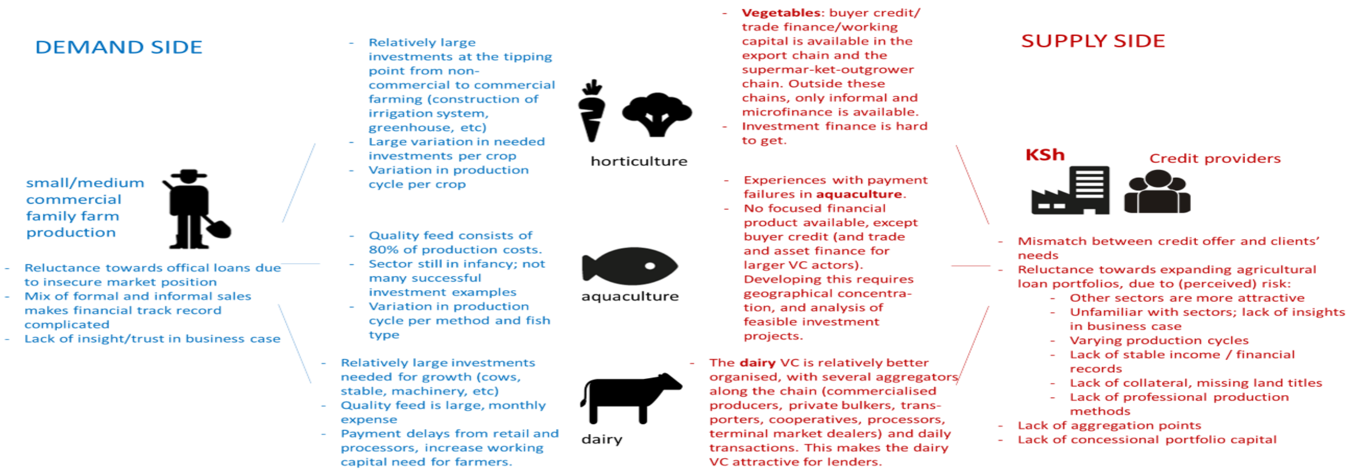
3. Bottlenecks, success factors and innovations in investments and access to finance

In this chapter, we will first summarize the bottlenecks and gaps in access to finance, both from the demand and the supply perspective. Then we will highlight a series of success factors that characterize well-performing finance initiatives. Finally, we present some initiatives for innovation, which try to address the bottlenecks and build on the success factors.

a. Experienced bottlenecks in investments and access to finance

The bottlenecks for finance can be distinguished into demand bottlenecks and supply bottlenecks.

Bottlenecks and challenges for financing investments



- **Bottlenecks at the demand side (related to farmers, their needs and their constraints)**:
  - *Reluctant attitude* of farmers towards capital intensive investments and towards borrowing for such investments among others due to irregular income streams, entrepreneurship style, uncertain investment outcome and the high interest rates which make it difficult to fulfil payment obligations.
  - *Lack of collateral* (guarantees) to gain access to credit: farmers needing credit do not always possess the land titles needed as security for the lender. Limited financial literacy results in a lack of traceable records of financial farm results. Farming assets are often not recognised as such a collateral.
  - *Lack of familiarity with existing financial products:* farmers are not always familiar with the specific products offered by financial institutions, or with the language and logic of the financial institutions. Just like not all financial institutions understand the logic of the farmer
  - *Quality of inputs*: the inputs (feed, fingerlings, seeds, pest control, fertilizer) provided by value chain actors are not always of good quality, nor adapted to local circumstances. This affects the profitability of the investments, and thus the repayment capacity.
  - *Sector specific bottlenecks:*
    - Horticulture: Lack of trust between financial institution and farmer, and between farmer and buyer. This is for an important part due to not-respected contracts, among others due to the difficulties in complying with continuous quality supply.
    - Aquaculture: problem of competitiveness with (Chinese) imports, local market

[3] Authors observation: various other sources (e.g. Ngugi et al. 2009; Rothuis et al. 2011. Furthermore, Arie van Duijn and Benson Obwanga both mentioned this in the interviews) report the Kenian aquacultural sector to be in an early development phase and relatively undeveloped compared to the horticulture and dairy sectors

channels are underdeveloped due to recent development of the sector.
- Dairy: high traction of the informal sector (over 80% of farmers sells their milk (partly) in the informal sector), problems of cooperatives to offer a good deal to farmers. Various options exist to improve this, as has been shown for example by Githunguri and Meru Dairy Central. However, identifying and exploiting opportunities requires business insights and management capacities which cooperatives often struggle to attract.
- Dairy: payment conditions between supermarket, dairy processor, cooperatives and farmers are often not favourable for farmers: farmers are actually financing the value-chain. Is there an option for overdrafts and/or invoice discounting and who pays the fees?[4]

At the demand side, we could conclude that bottlenecks in the input and product markets call for attention to the value chain as a whole. They constitute risks for farmers' and agribusinesses' investments in modernization. At the same time, they represent business opportunities for those farmers and agribusinesses that find effective solutions to these bottlenecks. All value chain actors need to professionalise to improve their cash flow and to exploit investment opportunities in the sector.

- **Bottlenecks at the supply side (related to financial institutions, their needs and constraints):**
  - *Risk of lending to farmers*, due to farmers' lumpy and irregular income streams, poor productivity, outmoded agricultural practices and seasonal crop cycle. Part of this is a real existing risk, and part is actually "perceived risk", which could be reduced by increasing knowledge and understanding among lenders and investors about agriculture and smallholder needs and potential. (Hong & Hanson 2016), and about business cases of various investments.
  - Financial products *do not always match* with sector-specific realities and demand. For example: for short-term loans, credit products are not always adapted to the specific production cycle of the crops, in terms of their disbursement and repayment schedules. For longer-term investments – with longer payback periods – and larger investment sizes, farmers are sometimes reluctant themselves (short time horizon). In addition, financing for such bulky investments is often difficult to get because financial institutions also have a short time horizon, or do not always have long-term resources to finance such loans.
  - *Lack of intrinsic commitment* of – and incentives for - the banking sector to increase lending to the real economy – such as to agriculture and SMEs (Impact study FSD Kenya 2016). The share of lending to agriculture has significantly decreased in the period 2000-2012, and FSD's activities to promote value-chain finance in the period 2009-2015 have not been very successful. The boom in financial inclusion, including mobile money, has helped people to manage their financial lives better, but the effects on improved production and incomes are less evident (Impact study FSD Kenya 2016).
  - *Lack of aggregation points*: the horticulture sector seems to be is quite fragmented, with each vegetable representing a different market, and little processing facilities. The aggregation points are more at the side of the inputs (seeds, fertilizer and pesticides, irrigation equipment), and less at the side of the off-takers market. Similar for aquaculture, with the difference that the market is less developed and competition from imports is strong. Dairy is a better-organised sector, with a certain scale and geographical clusters, around aggregators where the fresh milk is collected and processed: milk collection cooperatives and the private milk processing factories.
  - *Lack of concessional portfolio capital* for agricultural credit specifically (Hong & Hanson 2016). Such concessional capital - at lower interest rates and softer conditions than commercial capital - has contributed enormously to the growth of microfinance in the previous decade. If financial institutions would benefit from concessional capital for on-lending to agriculture, this could give a boost to agricultural finance. If well-structured, it could create real incentives for financial institutions as well as for farmers. The concessional element can lie in the duration (long-term patient capital), as well as in the other capital conditions (interest, collateral, allowance for seasonal fluctuations in agriculture). The renewed interest for "blended finance" (combining commercial and non-commercial finance) could be a solution path for this aspect.

b. Success factors for investments and access to finance

From the analysis of successful finance initiatives for farmers and agribusinesses, a series of success factors can be extracted. Annex 2 provides an overview of finance initiatives. Some of these initiatives are or were supported by the Dutch government, including F4A and the Equity Group Foundation. These success factors are often ways to resolve the most important bottlenecks as sketched above.

- The successful finance initiatives **create value at the demand side (for the farmers) and the supply side (financial institutions)** of the financial chain. In other words, they are useful and affordable for the farmers and the agribusinesses. In addition, at the same time they are attractive for the financial service providers because they de-risk their portfolio at an affordable cost and an attractive scale.
  Some recent initiatives might be contrary to this principle: for example, the interest rate ceiling agreed by the government might be beneficial to the clients, but it may reduce the incentives for the banks to lend to the real economy (FSD Impact study 2016).

[4] These solutions are variants of supply chain finance, as offered a.o. by the FACTS fund, a spin-off of the F4A programme.

- **Client-responsiveness**: successful finance initiatives are based on market research among the farmers (what are their needs), and a good understanding of the markets and value-chains in which they operate. They offer finance solutions to farmers that are easy to work with, useful and affordable. Flexibility in the credit scheme – for example by adjusting repayment schedules to the crop cycle - increases the uptake of agricultural financial products.
- **Aggregators** - who cluster individual farmers into larger portfolios - are crucial as intermediaries in the financial chain. They can channel services to farmers who are too far away or too small to be serviced directly. Examples of such aggregators are agro-dealers, mobile phone companies, farmers' organisations and cooperatives, bank agents, traders and processors. They create scale in the transactions and their outreach, as well as trust between the parties involved and the farmers. For the physical transactions – like input delivery –aggregators should have a well-ramified distribution network in the countryside. This also implies that value chains with many strong aggregators (like dairy) are easier to finance than value chains without such aggregators.
- **Partnerships** between financial institutions, value-chain actors and other organisations are often needed, to offer *bundled services* that resolve interlinked bottlenecks for the farmer. For example in DigiFarm, Safaricom collaborates with an agro-dealer network, and NGO and a learning partner. Similar configurations can be found in the FSD Smallholder finance initiative and in Equity Group Foundation's project with the NL Embassy.
- The power of **digital technology** – combining mobile platforms (M-Pesa) and big data processing – creates opportunities for new solutions that were unreachable before. They can also scale up very quickly. Digital technology can also be used for credit-scoring, to quickly assess whether a potential client is creditworthy. Examples are Digifarm, AgriWallet and OneAcre Fund.
- Agricultural financing can be **de-risked** by addressing individual risks (credit risk assessment, linkages to market) as well as systemic risks (insurance, accepting movable collateral). It requires banks and financial institutions that have affinity with agriculture. *Value chain financing* - financing interlinked processes from farm to consumer - increases efficiency and reduces lending risk.
- **Financial literacy** increases lending efficiency and reduces default rates. (Equity Group Foundation 2016).

c. Some efforts to innovate agricultural finance

Over the past 5 years, several efforts have been made to innovate the supply of financial mechanisms for agriculture in Kenya. These initiatives try to resolve known bottlenecks in agricultural finance, while building on the known success factors.

We see two types of innovations: the first type of innovation is initiated by financial institutions, the second type of innovation by value-chain actors. In figure 2, we show how each of these initiatives is positioned, some more in the upper segments of the farmer pyramid, and some more in the lower segments.

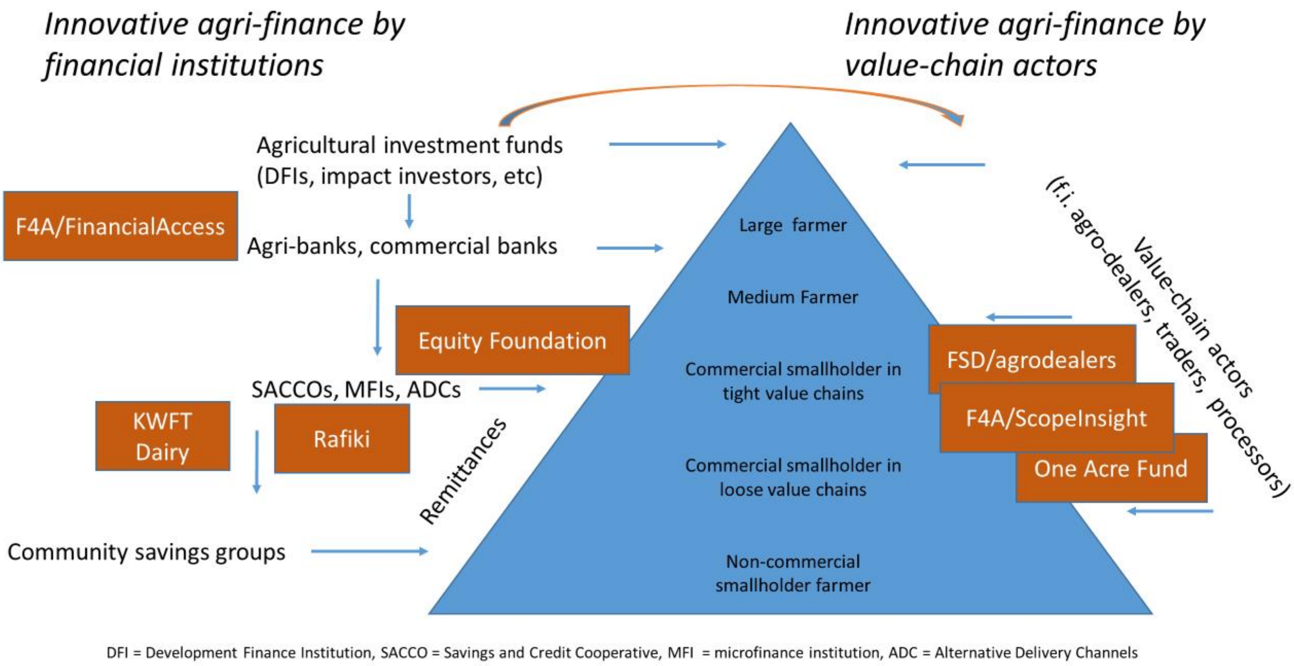


FIGURE 2: FINANCE FOR AGRICULTURE: INNOVATIONS THROUGH THE FINANCIAL CHAIN AND THE PRODUCT VALUE CHAIN

The first type of innovations is *led by financial institutions* who aspire to offer better and more adapted products to agriculture. The initiatives are described in more detail in Annex 2, but in the text below, we highlight the key ingredients of the innovations.

- **Capacity building and organisation of farmers**:

Examples: Equity Group Foundation, KWFT Dairy initiative, F4A/Scope Insight (see Annex 2 for details of each program).
In this type of initiatives, the goal is to make the farmers more investable for the financial institutions. Farmers are trained in farm practices and business skills. They are organised into groups and clusters, to make the trainings more efficient but also to enable easier access to credit. In addition, a rating tool (ScopeInsight) is applied to assess the creditworthiness of agribusiness and producer organisations: the ratings help to orient the capacity building to the producer organisations, and help the financial institutions to get insight into their businesses.
Capacity building and organisation of farmers may in itself not be so innovative. However, the fact that the financial institution is in the lead of this process makes it innovative: the critical eye of the investors increases the chances that the capacity building will indeed lead to investable business cases.

- **Designing more specific financial products for farmers and agribusinesses**:
Examples: Equity Group Foundation, F4A/Financial Access (see Annex 2 for details of each program).
In this type of initiatives, the financial institutions change their product offer, to make their financing more useful, accessible and/or affordable for the farmers. The banks customize their credit conditions to the specific cash flows and markets of the crops, and therefore the credits become more useful, thus more profitable, and less risky for the farmers. This improved credit product also performs better for the banks, because the risk of payment problems is reduced and the product attracts more clients for the bank.
- **Attracting investors to agribusiness:**
Examples: F4A, Agri-SME funds (see Annex 2 for details of each program).
In this type of initiatives, specific investment funds for agribusiness are set up, with the objective to provide specialised finance for agribusinesses and attract investors into that type of portfolio.
- **Organising networks and market places:**
Examples: F4A (see Annex 2 for details of each program).
In this type of initiatives, investors and farmers/ agribusinesses are brought together to become more acquainted with each other, to make the market for agrifinance more transparent for the farmers and agribusinesses, and to make the agri-investment opportunities more accessible for the investors. Such initiatives often include investor fairs, online platforms, events and conferences, innovation awards.

The second type of innovations is *led by value-chain actors* who desire to offer better input or market services to farmers, often combined with (costly short-term) credit. Most of the initiatives relate to combining credit services with agro-input services.

- **Organising integrated agro services**:
Examples: OneAcre Fund, FSD agrodealer initiative, Digifarm (see Annex 2 for details of each program).
In this type of initiatives, a more efficient input value chain is set up, combined with input finance solutions. Typical participants are agrodealers, farmers (or farmers' organisations) and a credit provider. The program organises a tight input value-chain, by which the credit provider prefinances the input acquisition by the farmers and the agrodealers provide the right quality inputs at the right time and place, sometimes combined with agronomic or veterinarian advice.
- **Applying ICT and mobile technology**:
Examples: OneAcre Fund, AgriWallet, Digifarm (see Annex 2 for details of each program).
In this type of initiatives, mobile phone technology is used to make transactions more efficient and transparent. This can apply to financial transactions (transfers, payments, credit, and savings) but also to product transactions (buying and selling, transportation etc). In some cases, the value of data is also exploited to construct a track record for creditworthiness.

4. Potential solutions and recommendations to deal with these bottlenecks in next MASP

First, it is important to realise that there are **no quick fixes in finance**. The bottlenecks in investments and access to finance are still quite substantial, as can be seen in section 3a above.

Still, a lot can be done to improve the situation:

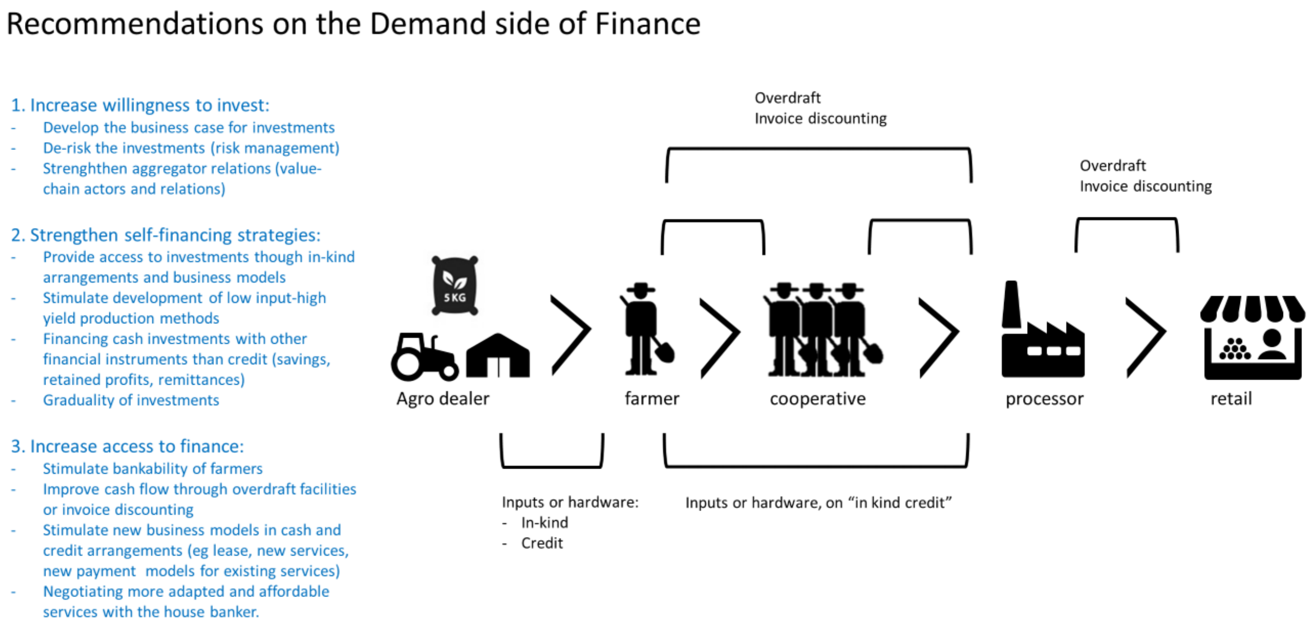
1. Main gain at demand side of finance: making agribusiness more interesting for investors.
2. Main gain at supply side of finance: systemic interventions are needed.

a. Demand side: making agribusiness more investable

This could involve the following actions:

1. **Increase the willingness to invest:**
   - Support the elaboration of *business cases (model calculations)* for prototype investments; support transparency about risk-return profiles of the business cases to financiers and to farmers/ agribusinesses. Support the submission of the business cases to investors and farmers/ agribusinesses; support in the reality check on their viability.
   - *De-risking investments*, by bringing the most important risks for producers and financial institutions under control. De-risking can entail many measures, ranging from insurance to irrigation and better soil management, and including investments in good business management and entrepreneurship. It starts with prioritising the risks that are most vital for financiers and farmers/ agribusinesses in their decision to invest.
   - Reinforcing *aggregator relations* in the value-chain (stronger aggregators, better linkages). This can be done by identifying for example by strengthening. This increases the efficiency of the value-chain and makes the value-chain more investable for financiers. This includes creating trust and track record, in finance relations but also in commercial and production relations between VC actors and aggregators. For some VC aggregators, the business case should be strengthened in order to make them more attractive for the farmers:
     - In dairy: stimulate farmers to supply to dairy value chain, by reducing the

"late payment" problem by supermarkets and the subsequent VC players (processors, coops);
  - In horticulture: if contract relations with off-takers cannot be strengthened, try out the financing options via agro-dealers and equipment and irrigation providers. And research how the Dutch cooperative vegetable auctions – at village level – used to resolve this problem (see last section on research gaps).
  - In aquaculture: work with the providers of fingerlings and feed.
2. **Support self-financing strategies for investments**. The reality is that most of the investments are financed by farmers/ agribusinesses themselves, either by choice or by lack of external capital. Self-financing strategies could be based on:
   - *reducing the cash costs of investments* (for example by leaning on in-kind delivery of inputs and services, or mutual labour assistance), or by using technologies that are less capital-intensive.
   - *financing such cash investments without credit,* for example though savings, rotating credit, remittances, retained profits, or selling of other assets held for precautionary purposes.
   - *graduality of investments:* starting with a smaller investment – in line with the capacity to invest and to take risk - and expanding it gradually, rather than making a lumpy investment at once.
   - *use of risk management tools*, such as insurance, risk prevention measures, safety nets, to create greater comfort to invest among farmers.
3. **Increase availability of financial services:**
   - Developing and negotiating *financial arrangements to optimize the cash flow* within the value chain: overdraft facilities, invoice discounting, asset finance, inputs on credit, use of mobile payments to accelerate transactions, etc.
   - Developing *new business models* that could create greater capital efficiency in the value-chain, such as equipment leasing, machinery services, etc.
   - *Negotiating – with the "house banker" of the value chain – about more adapted and affordable services*: not only credit options, but also other financial services, like goal savings (for a specific investment purpose), remittance-based investments, asset finance, equipment leasing, etc. This can be a viable option in situations where EKN's projects represent commercially attractive clusters of producers and/or agribusinesses, for which the financial institution is willing to spend time and energy to adapt their products.



b. Supply side: systemic interventions

A structural increase of the supply of finance for agricultural VCs would require a major long-term systemic intervention. Such an intervention should have a similar ambition level as the joint FSD Kenya – USAID project in 2009-2015, or the EKN/F4A initiative in 2013-2016: aiming at sector-wide impact on the availability of agricultural finance. However, it should be robustly organised to be successful: with a strong program management and leadership on the ground, sufficient in-house expertise on value-chain finance innovation, and sufficient oversight from the donors. It should entail a sector-wide intelligent M4P approach for agri-VC-finance, involving a variety of actors from the financial sector as well as actors from the value chain and primary production. Such an intervention might be beyond the scope of action of EKN, although EKN might become a strategic partner if a renewed joint initiative of for example FSD Kenya, World Bank and USAID might take shape.

In the meantime, the Dutch Embassy could make progress with a pragmatic approach to the finance supply side, by appointing a **Value Chain Finance focal point**. This expert will take leadership in promoting value-chain finance solutions for the food security field programs of the Embassy. He/she will facilitate linkages with finance supply initiatives and will help strengthen the focus on investability for the food security projects. The VC Finance focal point could be charged with the following tasks:

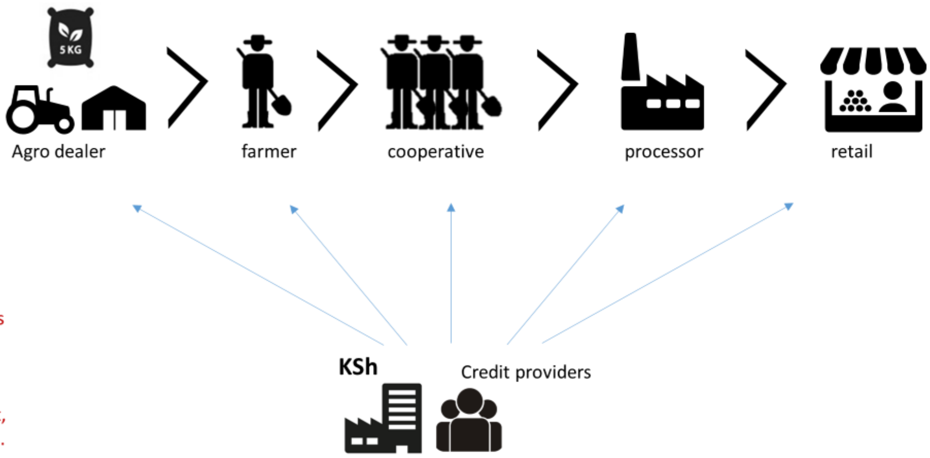
- Staying connected and up-to-date with the existing agri- and VC finance providers and with innovative promising initiatives in Kenya.
- Exploring collaboration with the Dutch offer of inclusive finance investors (FMO, members of the NPM Inclusive Finance platform, impact investors), who could be interested in financing larger investments in viable chains.
- Referral of finance demand questions from the horti/ dairy/ aqua sectors to the most appropriate finance suppliers and initiatives.
- Stimulating and supporting EKN's horti/ dairy/ aqua sector programs to make their initiatives more investable or creditworthy.
- Advocacy among financial sector players to increase their ambition levels to work towards a financial sector that stimulates the real economy of Kenya, including agriculture and agribusiness.
- Update the FSD-USAID 2009 study on value-chain finance, with a renewed round of interviews among financial service providers about their perspectives for horticulture, dairy and aquaculture
- Capitalise on the achievements of EKN's initiatives at the finance supply side (F4A, EGF), by stimulating practical adoption of developed products from F4A (credit scoring, assessments SI, etc.) and the further roll-out or replication of the EGF initiative (after its evaluation).
- Stimulate innovation in the field of agri-VC finance, orchestrating the initiation of effective PPP coalitions that could make use of the standing facilities at MoFA (FMO/MASSIF, DGGF, RVO instruments).
- Supporting innovation initiatives of key players in agri-finance, such as the EGF-EKN initiative on medium-sized farmers. Such initiatives should be selected based on the real commitment and commercial interest of the financial institution to increase its agri portfolio.

Policy recommendation from Food for Thought (IOB Evaluation 419, 2017)

"Use a differentiated targeting of farmers, anticipating agricultural transformation and rural transition. Some farmers may be helped by enabling them to transition to commercial farming (stepping up). For others it would be better to leave agriculture and to find off-farm employment (stepping out). In addition, policies should also acknowledge that for many others, subsistence farming remains their only livelihood option for the time being (hanging in). For the commercially-oriented farmers, it is important for the focus to be on helping them to be assured of income, but for subsistence farmers, a stronger focus on nutrition will be important. By emphasising commercial agricultural development, the Netherlands tends to address mainly the stepping-up farmers, yet an inclusive policy for development in a broader sense also needs a strategy to address the farmers who

Recommendations on the Supply side of Finance

1. Pragmatic : VC Finance focal point:
    - Stay connected with VC finance initiatives
    - Collaboration with Dutch investors
    - Referral function
    - Stimulating investability in horti/dairy/aquaculture projects
    - Advocacy about finance for the real economy (useful, affordable, accessible)
    - Update FSD-USAID 2009 study on VCF
    - Capitalise on achievements F4A and EGF-EKN
    - Stimulate innovative PPPs and partnerships with FIs and VC actors
2. More ambitious: participation in a renewed M4P program on agri-VC finance (long-term, cross-sectoral, robust, with players like FSD Kenya/ USAID/ WB).



3R Kenya Project

The 3R Kenya (Resilient, Robust, Reliable. — From Aid to Trade) project is a learning initiative supported under the Agriculture and Food and Nutrition Security (FNS) program of the Embassy of the Kingdom of the Netherlands. 3R Kenya seeks to assess evidence and lessons from FNS and other related programmes that support competitive, market-led models in spurring agricultural development. It focuses on the aquaculture, dairy and horticulture sectors. 3R Kenya is executed at a time when Dutch government's bilateral relations in Kenya are transitioning from a focus on Aid to Trade to enhance the development of agri-food sectors. Through evidence generation and stakeholder dialogue, 3R seeks to contribute to an understanding of effective conditions for sustainable inclusive trade for transforming resilient, robust and reliable agrifood sectors.

Resilient: dynamic and adaptive capacities that enable agents and systems to adequately respond to changing circumstances

Robust: systematic interactions between agents that enable them to adjust to uncertainties within the boundaries of their initial configuration

Reliable: the ability of a system or component to perform its functions under changing conditions for a specified period of time, to create opportunities for (inter)national trade.

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ANNEX 1: FINANCIAL INSTITUTIONS INTERESTS (2009) IN DAIRY, FISH, FRUITS AND VEGETABLES

In this annex, we present a compilation of observations about Financial Institutions' interests for financing our value chains of interest. The texts are literally taken from the study undertaken by FSD Kenya and USAID/ KARF (Kenya Access to Rural Finance) (FSD Kenya 2009). As they contain valuable detailed information for each VC, we chose to literally cite them in this annex.

The nine financial institutions interviewed about these value chains were:

- Banks: Equity Bank, Family Bank, Fina Bank, KCB,
- Microfinance banks / MFIs: K-REP Bank, Kenyan Women's Finance Bank (KWFT), Faulu Microfinance Bank
- Others: ECLOF, K-REP Development Association

DAIRY
• "All financiers interviewed continued to hold a strong interest in financing dairy. There were in fact multiple inquiries regarding when FSD and KARF would assist the banks with product development. Particular interest in savings mobilization among producers and development of leasing for vehicles and milk processing equipment were noted in interviews. As before, lenders continued to hold specific interest in the particular opportunities in Kabete, Nyeri, Nakuru and Eldoret. • With respect to existing credit and risk management the dairy value chain was very strong according to the documents reviewed. Commercialised producers, private bulkers, transporters, the majority of cooperatives, processors and terminal markets dealers realize returns capable of attracting commercial finance and are thus creditworthy. Several financial institutions are lending to the dairy value chain (Equity Bank, Coop Bank, KCB, K-Rep and Family Bank, and others). Livestock mortality and theft insurance products are available and accessible. • While performance of the dairy value chain and its constituent businesses was strong, diversification of financial services to support the chain was not presented in the literature reviewed. There is some formal credit to the diary sector and this seems to be growing. For the most part, however, dairy businesses receive generic credit products if they receive credit at all. With respect to savings products, payments by processors and cooperative bulkers are made through financial institutions but there is limited evidence to suggest that the beneficiaries and financial institutions consider these cash flows savings. • Access to buyer credit from buyers to sellers in the dairy value chain included: equipment provided by the bigger processors (both Brookside and New KCC provide cooling equipment to a number of bulkers and also quality testing and volume measuring equipment to contracted transporters); feed suppliers and veterinary drugs dealers offering inventory credit to some of their agents and stockists; limited producer credit from feed and vet drugs stockists; and cooperatives extending inputs credit to their farmer members that is recovered from milk deliveries."
FISH
• "Several lenders have been engaged in the financing of live catch and fish farming. K-Rep Bank noted that they were entering an agreement with the Government to assist in the extension of credit to aquaculture. They further noted that their branches along the shores of Lake Victoria were already lending (though not purposefully) for fishing and developing a product would be very relevant in order to assure that financing was done in the best way possible. • Equity Bank noted that they offer a financing for fisher-folk under their agricultural loan product. This could benefit from greater focus. • KCB had in the past engaged in financing fish under their Lake Victoria Fishing Scheme but it encountered recovery problems. Though KCB has no specific product for fish, there are fish farmer clients who are financed based on their other enterprises with existing loan products. Thus, KCB is interested in reviving financing fish (particularly processing and production) if client concentration is identified and proper analysis of feasible financing is done. • Fina Bank, while presently not financing fish, though again they may be indirectly financing it through other existing financial products, is interested in financing fish processing, fish by-products and (may be) aquaculture. Because of the emphasis by Government on increasing aquaculture, the bank expects to play a collaborative role. • KWFT has not yet developed financial products for fish, but there are quite a number of clients involved in fishing as a key economic activity. KWFT is also in the process of promoting aquaculture targeting women within the Nyanza region. Because traditionally in Kenya, women trading fish encounter horrific and degrading demands when buying from fish mongers, KWFT sought support from Ford Foundation, to carry out a study for promoting aquaculture in Nyanza province and this is expected to be ready by end of 2009. There will definitely be a need for refining the product and training KWFT staff.

• Credit and risk management, particularly for larger actors in the fish value chain, are commonplace. Specialised trade finance, large asset financing and insurances underpin the more sophisticated segments of the value chain. Un-specialised microfinance products are available to fisher-folk. • Diversification of services, like credit and risk management above, was as well present for the more sophisticated players in the fish value chain. • Access to buyer credit for fish traders, and to a lesser degree for fishing operations, was present according to the literature. The literature noted that credit to fisher-folk from buyers was inadequate and at times unfair in its terms, but present nonetheless.
FRUITS
• "CFC-Stanbic noted that it was very interested in financing fruit, particularly structured trade for inputs, if a limited off-takers' market could be identified. Further, providing large-scale investment for processing equipment for export could further be interesting. • Family Bank noted that they are currently already financing urban fruit processing operations. They would be further interested in expanding this portfolio especially with larger potential clients. • K-Rep Bank has not ventured into financing commercial fruits producers but would interested in understanding the financial dynamics of this value chain with a view to actively engaging in financing it, with a properly developed finance product. A feasibility study/value chain analysis would be very important for this purpose. Of particular focus would be the existing fruit value chain operations. • KCB noted that it did not currently engage in financing fruit but financing irrigation and cold chain equipment for fruits would be of interest to the bank if support for market analysis could be accessed. • Existing credit and risk management for the fruits value chain received a score of two percent of the four percent available for this rate. There was a little evidence of financing of fruit producers with generic microfinance loan products. This is not surprising given the relatively few producers of the commodity. There was no evidence of risk management strategies or products. • From the literature made available for the review there was no specialisation of services for financing the Fruit value chain. • Access to buyer credit was documented. There was limited credit available from processors to their agents and some of their farmers to facilitate supply. Production finance, other than that provided by financial institutions, was not in evidence in the literature reviewed."
VEGETABLES
• "Commercial and semi commercial producers clearly access both credit and insurance. Subsistence vegetable producers are, of course, excluded from these services. • In terms of diversification of services, there was evidence of specialised financial products to support the export market for vegetables and the supermarket-outgrower value chain including structured trade finance and working capital financing arrangements • Access to buyer credit was also evident for the export and supermarket-outgrower vegetable value chains. Particularly, buyers provide the farms with seeds on credit and technical advice while other inputs are purchased locally.

Source: textual citations from FSD Kenya (2009).

ANNEX 2: INNOVATIVE FINANCE INITIATIVES IN MORE DETAIL

The following initiatives aimed at solutions through financial institutions:

- **Equity Group Foundation**: initiative with NL Embassy to develop medium-sized farms in Kenya (2014-2017). The project targets 2000 farmers, in three regions. These farms are medium-sized, with 15-30 acres per farms in Eastern and Central regions, or 10-100 acres in the Rift Valley. Farmers are organised in peer groups (8-15 farmers), which are clustered into business groups (= 3-4 peer groups = 30-60 farmers). The project offers technical training, field days and farmer exchange visits. This technical support covers topics such as soil management, farm business planning, agricultural marketing, use of inputs, creation of market linkages, farm records (FSD 2017).
  Achievements 2016 (from the Annual Report 2016 of the project):
  - Finance demand side:
    - trained more than 1.2M people on financial literacy
    - trained farmers in financial management and record keeping and business planning, making it easier for them to access financial services and the bank has better credit rating when records are available.
  - Finance supply side:
    - developed a wide range of agriculture products for all the players in the VC
    - designing a bundled financial product suitable for SME farmers (EGF, SI, FSD)

- **F4A**: in the Finance for Agriculture programme, financed by EKN in 2013-2016, the Dutch financial consulting company Financial Access worked together with the Dutch agri-business intelligence firm ScopeInsight worked together to accelerate lending to SME agribusinesses in agri and food. F4A was an ambitious programme, including the creation of a series of technical tools like agri-risk scoring tool, supply chain finance platform, agro-portal AMEA, mapping of guarantee and insurance providers; financial mechanisms like the missing middle fund FACTS (Financial Access Commerce & Trade Services); and a series of rating assessments of agribusiness and producer organisations (POs) that would be used for capacity building towards greater creditworthiness.
  By the end of the programme in 2016, an evaluation was done by PWC. The participating financial institutions had started to increase their active involvement in agriculture, but the agri-risk tools were not yet fully deployed. The producer organisations assessed had not yet made much progress in gaining creditworthiness, because the capacity building was not well articulated in the programme. The collaboration between the two project partners (FA and SI) was not optimal, which limited the synergies in the program. (PWC 2017). A missing middle fund was being launched (FACTS), which focuses on supply chain finance for a wide range of SMEs in Kenya, including agribusinesses. (Website FACTS). The overall impression of the evaluation is that many technical tools and initiatives were launched, but that – at that moment - the real impact of the programme was still to be harvested.

- **KWFT Dairy programme**: KWFT is one of the largest microfinance banks in Kenya. In this dairy programme, it finances farmers to buy high quality dairy cows for milk production, including an animal insurance to cover the most important risks, and offers asset financing for farm equipment, as well as value-chain finance for agribusinesses like agro-dealers and processors, transporters and traders of agricultural commodities. KWFT provides "agro-preneurial" training to farmers, and links with the government (county) extension officers. (KWFT 2016).

- **Rafiki finance schemes for dairy**: *"in the dairy sector, equipment such as walking tractors and road compaction rollers can be introduced through bank loan and leasing schemes or RAFIKI finance schemes. Commercial fodder production equipment can also be financed or leased to commercial farmers. However, increased use of equipment requires capacity building in mechanical support services and spare parts supply. The Kenya Market-Oriented Dairy Programme (KMDP could assist in building such capacity partly through creating awareness on such needs and facilitating acquisition of requisite skills for these critical companion services. Furthermore, the concept of contractors, having high capacity equipment, providing services to farmers might also be a solution towards increased mechanisation at farmers' level."* (Source: Strategic Review KMDP, 2015, p.24).

- **Chase Bank with KMDP Eldoret**: Chase Bank has collaborated with KMDP, to finance Eldorect Dairy Farmers Association (EDFA) with asset improvement and working capital, and to support private milk processors with asset financing, trade finance and working capital. (Chase Bank 2016).

- **Private equity for agribusiness?**: private equity could also be a solution to financing of growth capital for existing agribusinesses, where no security can be offered, the business is willing to use equity to secure the investment, and is willing to receive business advice from the investors. (Gichini 2016). In a similar line of thinking, Van Maanen has described challenges and potentials for agri-SME investment funds in Africa (Van Maanen 2018).

The second group of initiatives aims at solutions through value-chain actors:

- **FSD initiative for credit for smallholders through agro-dealers**: FSD Kenya collaborated with Farm Shop, a social enterprise with a network of agro-dealers. They developed a lending methodology and data collection mechanism to create credit scoring for farmers. Farm shop granted its franchisees (3 in the pilot) inputs on credit and the franchisees in turn issued the farmers loans in the form of farm inputs. The soft information that franchisees had on the farmers was turned into four risk profiles. FSD is piloting a point-of-sale data collection system with Farm Shop and its franchisees. FSD’s ambition is to roll out this pilot to other franchisees and to other agro-dealer networks in Kenya (FSD Annual Progress Report 2016).

- **One Acre Fund**: offers a complete bundle of services to maize producers, using a market-based model for offer in-kind credit for key inputs (seed, fertilizer), distribution and delivery of those inputs close to the farmer, training on agricultural techniques, and storage and market facilitation increase sales prices for the farmer. Actually, One Acre Fund operates somehow as a not-for-profit agricultural service company.
  They operate at 74% financial sustainability (2014) and cover the losses through donations (MCF a.o.). Loan repayments are 99% and the farm income is 50% higher per acre than for non-participants (Hong & Hanson 2016). This model involves 280,000 farmers in Burundi, Kenya, Rwanda and Tanzania.
  One Acre Fund has also been experimenting with repayments of their loans via MPesa mobile money channels, starting in 2014. This system proved to be appreciated by the farmers (quick payment confirmation, reduction of fraud with repayments) and One Acre Fund itself (lower transaction cost, transaction staff redeployed to farmer services). Initial problems with reconciling accounts were solved, and a single ID is being tested to make the system more efficient. (Waldron et al 2017).

- **Digifarm** (Safaricom-Mercycorps): Digifarm is an integrated mobile platform in partnership between Safaricom and Mercycorps. Digifarm provides the farmers with farm inputs (fertilizer, phytosanitary products, and seeds) at affordable prices and/ or loans to acquire such inputs, accompanied with training modules about their use. The farm inputs are provided by agro-dealer Inprocure, the learning content by Arifu, and the credits in the form of e-vouchers that can be changed for inputs at Inprocure. Digifarm was piloted early 2017 in three counties, and already has 167,000 farmers registered.

- **Agri-Wallet**: Agri-Wallet is an innovative mobile business account to save, borrow and pay for income-generating activities. The Agri-Wallet is a specific-purpose account, used by farmers, buyers/ traders and agro-dealers. It enables them to pay on time to each other, even when their buyers pay them themselves later. AgriWallet enables the farmer to save money specifically for buying inputs. And for the buyers and agro-dealers it gives them short-term working capital credit, to bridge the period between paying their suppliers and getting paid by their buyers. AgriWallet is fully integrated with MPesa.

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