Agricultural Value Chain Finance
Forward

The Agricultural Value Chain Finance Guide and the accompanying e-course are intended to provide development practitioners, learners and market actors (smallholder farmers, private sector actors, etc.) with an overview of key Agricultural Value Chain Finance (AVCF) concepts (Modules 1-3), as well as how they may be applied in designing value chain initiatives (Module 4).

Much of the content of this course is based on MEDA’s experience in Agricultural Value Chain Finance within various projects across the world. It also draws heavily from the printed publication “Agricultural Value Chain Finance: Tools and Lessons” authored by Calvin Miller and Linda Jones and published by the Food and Agriculture Organization of the United Nations and Practical Action Publishing in 2010. The development of this course was made possible through funding support from the Government of Canada through Global Affairs Canada through the Agricultural Transformation Through Stronger Vocational Education (ATTSVE) program led by Dalhousie University and implemented in Ethiopia.

The core content development team was led by Ashlea Webber, Catherine Walker and Nikesh Ghimire. We would like to thank all contributors to this course and hope that the result is a useful tool for development practitioners, learners and market actors.

Introduction to the Guide

This guide can be utilized as a stand-alone guide or as a companion to the Agricultural Value Chain Finance E-course available at www.medac.org. This guide is intended to complement the information provided in the e-course and is organized using the same module structure.
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MODULE 1: Introducing Agricultural Value Chain Finance
1.1 Introduction to Course

Welcome to the Agricultural Value Chain Finance Course, prepared by Mennonite Economic Development Associates (MEDA) as part of the Agricultural Transformation Through Stronger Vocational Education (ATTSVE) project funded by Global Affairs Canada and implemented in partnership with Dalhousie University Faculty of Agriculture, McGill University and Jima University of Agriculture and Veterinary Medicine.

This course has two components: this resource guide and an accompanying e-course. The resource guide provides information on key topics covered in the course, and the e-course is an interactive set of modules that cover the same topics as the resource guide, allowing the user to test, refresh and deepen their knowledge. Users may choose to read the resource guide first, using the e-course to refresh their knowledge; conversely, users may decide to take some or all of the e-course first, and then read the resource guide to deepen their understanding.

The Agricultural Value Chain Finance Guide and the accompanying e-course are intended to provide development practitioners, learners and market actors (smallholder farmers, private sector actors, etc.) with an overview of key Agricultural Value Chain Finance (AVCF) concepts (Modules 1-3), as well as how they may be applied in designing value chain initiatives (Module 4).

This course will provide you with an understanding of AVCF, key financial instruments used in AVCF, and how they can be integrated in project design in relation to AVCF solutions. It is expected that by the end of the course you will be able to:

- Explain key AVCF concepts
- Identify the critical elements in financing a business
- Understand a range of different financing instruments commonly used in AVCF
- Appreciate the concept of risk as it relates to financial lending
- Apply the key steps involved in developing, implementing and monitoring agricultural value chain finance solutions.
1.2 Learning Objectives

By the end of this introductory module it is expected that you will be able to:

1. Introduction to Agricultural Value Chain Finance (AVCF)
   • Understand what AVCF is and its importance.
2. Issues within AVCF
   • Recognize some of the issues that make AVCF unique from other streams of finance.
3. Considerations within AVCF
   • Understand some of the considerations financial institutions working in AVCF make.

1.3 Introduction to Agricultural Value Chain Finance

In understanding Agricultural Value Chain Finance (AVCF), the term can be broken down into three parts:

1. Agriculture
2. Value Chain
3. Finance

Each three can be defined at a time to arrive at the definition of the term.

1. Agriculture:

Agriculture can be defined as “all forms of activities connected with growing, harvesting and primary processing of all types of crops, with the breeding, raising and caring for animals, and with tending gardens and nurseries”.¹ While traditionally, the focus was more on improved productivity, recent focus leans towards being more environmentally friendly, organic farming, farmer health and safety concerns and quality of value chain relationships.

2. Value Chain:

A value chain is the full range of activities required to bring a product or service from conception (an idea) through the various stages of production and delivery to a final consumer. It consists of a

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network of companies that buy and sell to each other in order to supply a particular set of products or services to a particular group of final consumers. As seen in the below figure, a value chain can include all different types of actors; input suppliers, producers, wholesalers, retailers and consumers (end markets).

It is important to distinguish and understand how various value chains interact with each other. A coconut oil value chain would look like this, for example:

Seedling Distributors → Farmers/Growers → Processors → Vendors/Retailers → Consumers
While producing coconut for oil purposes, coconut water is also obtained. However, it does not contribute in any way to the oil production. So, although similar, the coconut water value chain would include different entities from the processor and onwards.

In another example, the Sugar Value Chain uses sugar cane, produces molasses and extracts sugar. The molasses is also used in the beer industry. However, the sugar cane value chain and beer value chain are not the same thing – although both draw on the same farmers and same product – sugar cane.

The term ‘value chain’ is different from ‘supply chain’ as it recognizes that there is a certain amount of value addition (value of a product is increasing) happening at each stage in the chain. It’s present in all value chains but especially important for agricultural value chains due to perishable products or processing necessary for consumption.

Above are some examples of ‘Value-Add” in a value chain:

- **Preservation** extends the shelf life of agricultural products for example, salting meats or fish, drying fruits, canning vegetables, pasteurizing dairy.

- **Processing** transforms the product in some way, for example, wheat to flour, lemons to lemonade, fresh fish to canned/preserved fish.

- **Segmentation** is when products are differentiated based on specific market requirements (needs of a customer) for example, high quality fruit sold to markets for customer consumption versus lower quality fruit (e.g. bruised, overripe) sold to factories as inputs e.g. jams, juicing, etc.

The fundamental purpose of looking at a value chain from a **financing perspective** is to capture the flow of credit or other financial services along the value chain. This may or may not include formal financial institutions.
A related concept is **subsectors**, which are defined as the network of enterprises involved in the production of a particular product or service. While a value chain is focused on one specific end market, a subsector includes all of the actors involved in the buying/selling of a particular product or service to diverse end markets. Thus, a subsector typically includes multiple value chains as in the example below illustrating the goat subsector in Uganda.

Value Chains operate within a wider system of market actors and functions. A **Market System** is defined as the ecosystem in which market actors conduct business transactions. Value chain transactions form the core of the overall market system as this is where business transactions take place as a good, product or service moves along the value chain to an end consumer. As discussed in the previous section, the value chain itself is made up of individual enterprises operating with their own business models. Outside the core transactions taking place along the value chain, there are a variety of important supporting functions and rules, performed by a variety of market players, that are also needed for markets to operate effectively.
3. **Finance:**

Any project, business or task needs resources to fund it. Finance is the art and science of making sure there is the **sufficient** and **optimal** amount of **funds** available in the **right time frame**, to complete the project/business task.

There are four main variables to always have in mind when you are talking finance:

1. **Assets** – these are what you **OWN**. Ex. Agriculture equipment

2. **Liabilities** – these is what you **OWE**. Ex. A loan

3. **Timeline** – When money comes in, when it goes out and the mismatch between them. Time is a resource, and Finance monetizes it in terms of interest to measure how expensive or cheap time is. Ex. If the interest rate on a loan is high, delaying your interest payments may be expensive.

4. **Risk** – When you measure resources in time, it involves the future. And the future is uncertain. Therefore, conversations around finance always involves an element of risk. Risk is captured within the amount of the interest rate.
1.3.1 What is Agricultural Value Chain Finance?

As mentioned, this is the flow of credit or other financial services along the value chain. These may include both financial and non-financial intermediaries.

<table>
<thead>
<tr>
<th>Financial Intermediaries</th>
<th>Non-Financial Intermediaries</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Commercial banks</td>
<td>1. Input suppliers</td>
</tr>
<tr>
<td>2. Credit unions</td>
<td>2. Equipment suppliers</td>
</tr>
<tr>
<td>3. Co-op banks</td>
<td>3. Marketing companies</td>
</tr>
<tr>
<td>4. Agriculture development banks</td>
<td>4. Traders and wholesalers</td>
</tr>
<tr>
<td>5. Microfinance institutions</td>
<td>5. Exporters</td>
</tr>
<tr>
<td>7. Leasing companies</td>
<td>7. Corporate investors</td>
</tr>
<tr>
<td>8. Insurance companies</td>
<td>8. Farmers’ organizations</td>
</tr>
<tr>
<td>10. Investment funds</td>
<td>10. Family and friends</td>
</tr>
</tbody>
</table>

There are three purposes of value chain finance:

1. To make appropriate financing options available and sustainable for all value chain actors
2. To finance expansion and investment into the value chain
3. To break the cycle of low investment/low return production at the producer and small entrepreneur levels

Agricultural Value Chain Finance finances the cash-flow gaps in the agriculture value chain to bridge a financing gap [your business needs money now, but cash flows (money coming into your business) are expected in two months’ time]. However, it can also be used to capture a business opportunity, since it is known that agriculture is seasonal and therefore the price for a product changes depending on the time of year. For example, if your product is onions and sells for a low price during harvesting season, finance could support you to sustain your business and store your product to sell in 3 months’ time when harvest is over and prices for onion are higher.

Of all value chains across the world, agriculture value chains are unique. AVCF applies across all the layers in the economic pyramid – from the poorest to the largest businesses in the world, each step in the various value chains is different from the other step in the nature of their business. Also,
within each step, there is a range of variety – e.g. a producer may be a subsistence farmer or a very large producer, either farming through physical labor or through sophisticated machinery and technology. The financing solutions are unique for each value chain, distinct for each step in the value chain, and yet still distinct within such each step based on location, size, sophistication, etc.

**External vs. Internal AVCF**

There are two types of AVCF:

- **External AVCF** consists of financial support from outside the value chain. As seen in the graphic, external AVCF can come from commercial banks, non-banking financial institutions (such as mortgage companies, equipment leasing companies, investment funds), grassroots organizations, microfinance institutions, non-governmental organizations, and cooperatives.

- **Internal AVCF** consists of support within the value chain. For example, producer groups could provide warehouse receipts and/or traders/processors could provide loans guaranteed by the future sale of product.
There are pros and cons to both options:

<table>
<thead>
<tr>
<th>Internal AVCF</th>
<th>Pros</th>
<th>Cons</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>+ It builds on existing relationships and</td>
<td>– Normally, only short term credit</td>
</tr>
<tr>
<td></td>
<td>market realities</td>
<td></td>
</tr>
<tr>
<td></td>
<td>+ Helps overcome information gaps</td>
<td>– There are no avenues for financing</td>
</tr>
<tr>
<td></td>
<td>+ Easier agreement and payment options</td>
<td>investment opportunities</td>
</tr>
<tr>
<td></td>
<td>+ Facilitates technical assistance by</td>
<td>– Credit is “conditional” (i.e. Credit is</td>
</tr>
<tr>
<td></td>
<td>actors in the chain</td>
<td>linked to a crop or product) and may</td>
</tr>
<tr>
<td></td>
<td></td>
<td>develop dependence of small farmers on</td>
</tr>
<tr>
<td></td>
<td></td>
<td>one buyer or processor</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>External AVCF</th>
<th>Pros</th>
<th>Cons</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>+ Financial institution is ‘specialized’</td>
<td>– May not be appropriate for production</td>
</tr>
<tr>
<td></td>
<td>in financial products</td>
<td>cycles of business</td>
</tr>
<tr>
<td></td>
<td>+ Cost of financial service is transparent</td>
<td></td>
</tr>
<tr>
<td></td>
<td>+ Better suited for investment capital</td>
<td>– Trust, Repayment is less assured – no</td>
</tr>
<tr>
<td></td>
<td>+ Facilitates provision of technical</td>
<td>ongoing business relationship</td>
</tr>
<tr>
<td></td>
<td>assistance by value chain actors</td>
<td></td>
</tr>
</tbody>
</table>

### 1.3.2. Importance of AVCF

While a deeper focus on value chains is beneficial for any sector; it is even more beneficial for agriculture because of the agriculture industry’s unique features.

1. Agriculture is one of the oldest, most relevant and critical industries to all people across the world. While economies rise and fall, and food preferences keep shifting, the demand for food is always stable.

2. The supply side of the food market is always very unstable. The global food commodity market struggles to predict the supply of a particular commodity year-to-year and the price fluctuates along with it. Poor global harvests will cause products to have higher prices and the opposite is true as well, if everybody is producing well, there is over supply and the price goes down. That being said, the demand side is stable in that every person requires food but the type and amount is not as stable. The world population is growing and food preferences of one food over other creates shifts in demand of particular commodities over others. All of these big questions about future trends are very difficult to predict.
3. The need for good weather conditions, exposure to disease and pests, vulnerability towards price falling very low if harvest is good for all farmers across the world, etc. makes agriculture a very risky business – especially in the producer/grower level. While these risks cannot be controlled, taking a value chain integrated approach to financing helps keep external risks less threatening with instruments such as insurance, invoice discounting, warehouse receipts, advance orders, etc. Each of these instruments will be discussed in detail in later sections of this course.

4. Agriculture value chains have seasonal pricing structures where the produce is cheaper when in season and expensive when in off-season. However, with AVCF, all actors in agriculture can use financial resources to protect themselves against this seasonality and allows them to hold-off sales when the price is low.

5. All of these above points need financial instruments that either make cash available when needed or decreases risks within the system.

1.4 Issues in AVCF

AVCF is unique since the agriculture sector is unique, as a result there are particular issues that arise in AVCF that are important to understand.

1. **Industrialization and Mechanisation**

Most value chains comprise of similar players in terms of technical expertise, capital capacity, resource availability and production capacity. In the agriculture sector, however, this ranges from small-holder farmers to large scale input suppliers, smaller retailers and wholesalers, and again large traders, processors and distributors. This mix is unique – and given the difference in size, the financial institution or tools used to cater to their needs vary. This makes it very difficult for a large bank that caters to a processor, to also cater to the needs of a small-holder farmer that supplies to the processor.

2. **Reliance on Critical External Factors**

Heavy rainfall means the harvest will go bad. Low rainfall means the harvest will go bad. No rainfall is always bad. Insect and disease infestations are always a problem. Then there is a problem that in a particular year all the harvest is great. Everybody rejoices, but there is so much food that it cannot all be bought, and some of the harvest goes to waste. That is again a big loss to the farmers, and to the aggregators who could not foresee these circumstances.

3. **Storage, Transportation and Pricing**

Capacity to store food when the harvest was good and price was low, and to sell it when the price is high helps reduce the risk inherent in the agriculture industry. Being able to transport food from a place where the harvest was good and in plenty to another place where the harvest was bad – again helps keep the prices attractive and reduces the risk of external
factors. Storage facilities need to be financed. Since the food stored does not yield cash flows immediately, the time gap until products can be sold needs to be financed.

4. **Diversity within Value Chains**

The players in different steps of any value chain have varying characteristics, traits, and needs. In a developing economy, producers are usually smaller in scale, rural, geographically spread, relatively under educated, many in number and having smaller credit needs. This stereotype could cut across a range of value chains across similar economies. Similar patterns can be observed for multiple value chains in the same economy, such that, there is similarities within a particular step across multiple value chains and diversity across an entire single value chain.

<table>
<thead>
<tr>
<th>Value Chain Actors</th>
<th>Rice, Maize, Poultry Value Chains</th>
<th>Credit Need</th>
<th>General Financing Needs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input Suppliers</td>
<td>Medium - Large</td>
<td>Medium - Large</td>
<td>Working Capital</td>
</tr>
<tr>
<td>Producers</td>
<td>Small</td>
<td>Small</td>
<td>Micro Credit</td>
</tr>
<tr>
<td>Aggregators</td>
<td>Medium</td>
<td>Medium</td>
<td>Working Capital</td>
</tr>
<tr>
<td>Processors</td>
<td>Medium to Large</td>
<td>Large</td>
<td>Assets, Working Capital</td>
</tr>
<tr>
<td>Distributors</td>
<td>Medium</td>
<td>Medium</td>
<td>Working Capital, Trade</td>
</tr>
<tr>
<td>Retailers</td>
<td>Small - Large</td>
<td>Small - Large</td>
<td>Working Capital</td>
</tr>
</tbody>
</table>

Due to similarities of actors within a particular step, it is relatively easy and less risky for a financial institution to focus its resources and improve intelligence in a particular step in a value chain, rather than focus on all the steps of one particular value chain; as you can see from the above table. As far as possible, a financial institution would seek efficiencies from larger loans to bigger players, and expand their portfolio in that particular step across various value chains, rather than expanding loans to many diverse players in one value chain as this is more risky and expensive.

It is usually an expensive and a relatively high-risk move to expand to another step in the value chain. Please note, risk is not in simply the loan not being paid back, risk is in not knowing the market well. Even your own home is a risky place and you have lower confidence when you have to move around blindfolded. However, with open eyes, your confidence in walking across a busy street is remarkably high. It is not that the risk in the environment changed – but the visibility and understanding of such risk when they approach you is what matters. Comfort of financial institutions can be won with data, improved familiarity with the industry and capacity to gage cash flows and industry performance early on (e.g. consolidated data on global weather patterns is a better/early indicator of future market prices than present commodity exchange prices and demand/supply patterns on the commodity market).
1.5 Considerations in AVCF

There are several considerations that financing institutions make in AVCF, it is important for you to understand these when thinking about financial support for your business.

1. **Demography and Stage in Business**

Most significant considerations in AVCF revolve around demographic factors that range from geography, topography, culture, state of economy, climatic conditions in the geography, and even the socio-political factors play a big role in how you can operate in the various value chains.

For example, in Muslim countries, Islamic Finance practices mean AVCF financing tools and instruments would be somewhat different. The term Sharia Compliant is often used in the Islamic banking industry, it is an act or activity that complies with the requirements of the Shariah, or Islamic law.

Further, as seen in the graphic, the same value chain in different locations can vary too, for example the rice value chain in Asia, Latin America and Africa vary in their structure and who takes a lead position in the value chain. For example, Galvez demonstrated in his studies for the Food and Agriculture Organization of the United Nations (FAO) that in the rice value chain millers played the central role in financing in Asian markets; however, wholesalers were central in African markets. In Latin America, both millers and wholesalers played the central role.

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2. Scale of Business

While some of the largest businesses across the globe are in the agriculture sector, the majority of the world’s population lives below the poverty line and are also deeply engaged in the agriculture sector. The factor for this contrast comes in scale. Benefits of mechanization are best realized when there is scale — and the machines and tools are put to most efficient use. A scale business has easier access to cheaper insurance and cheaper credit as well. The market negotiation capabilities also work in the business’s favor. This is why smaller farmers find value in working together through cooperatives to realize such benefits when their individual farmlands and/or operations are small.
Global Partnership for Financial Inclusion published a report in 2012 titled “Innovative Agricultural SME Finance Models” highlighting this trend across global markets. The graphic below describes this, segmenting farmers in groups by key characteristics and relates it to the annual net income. The study also observes that small scale farmers are observed to be more efficient in some forms of farming that require expertise in local ecology and a labor supply that is easily adjusted for seasonal variability.
Cooperatives

Cooperatives bring scale, improve bargaining power (in negotiating, this is the capacity of one party to dominate the other due to its influence, power, size, or status, or through a combination of different persuasion tactics) and are better suited to deal with natural disasters and global price fluctuations than individual farmers in isolation.

Robert Owen (also called the father of cooperatives) was among the first to see this when he formed a cooperative for cotton millers in New Lanark of Scotland. It was evident that the working class would experience better environment and quality of life – including better access to education for their children and higher income as well if they worked together. Robert’s idea of cooperative was later refined and made more popular outside of Europe by Dr. William King through his monthly periodicals called “The Cooperator” which popularized cooperatives as a ‘society within a society’.

INDIA’S WHITE REVOLUTION:

India was receiving substandard milk post World War II and started a campaign of “fighting fire with fire and milk with milk.” With support from the World Bank, a self sustaining system of 43,000 village cooperatives covering 4.25 million milk producers was created in 1989. Power Milk production increased from 20K tonnes to 140K tonnes in that one year alone. India was able to attain the status of highest volume milk producer in the world by 1998.

Source: India’s White Revolution: Operation Flood, Food Aid and Development
—Bruce A. Scholten, 2010

Cooperatives also make it easy, efficient and safe for financial institutions to extend credit either directly to the cooperative or to its members individually as well.

Cooperative movements in developed economies have seen ‘cooperative of cooperatives’ come together, various cooperatives coming together to work as one, for the same reason as farmers come together to form cooperatives in the first place. Scale is good, and the diversity that comes with spread demography adds a lot of stability (low risk, predictability, etc.) to all individuals involved.

3. External Business Environment

When working in agriculture, you are heavily dependent on the performance of others. Furthermore, a great global harvest sometimes is bad news – since prices drop, sales are low, and your produce goes to waste. There are additional challenges posed by artificially created hurdles from taxes, duties, etc. that make your competitive product relatively uncompetitive. Each
government pays close attention to protecting its local farmers and liberal trade policies often find exceptions for the agriculture sector.

External environments are often tricky, unpredictable and require adaptation. This means, looking at each harvest season in isolation always looks risky – since you do not know what the next harvest will look like. However, a longer-term engagement always pays off. Investments in good storage mechanisms, scale insurance programs, and technologies that help adjust to external environments quicker are some of the popular mechanisms used to cope with it. The bigger the scale of business and stronger the cooperative union between farmers – the easier it is to deal with the external business environment.
1.6 Summary

Agricultural Value Chain Finance is the financing of agriculture businesses to create a balance between assets and liabilities within the value chain by funding the cash-flow gaps at each steps of the value chain and creating a parity in profit distributions that helps reduce risks across the chain.

When understanding AVCF, one needs to be clear about the concepts of what are your assets, what are your liabilities, what are the timelines of your cash flow and what they mean to your business profitability, and finally, what are the risks involved in the business cash flow that make it difficult for you to receive financial support.

This module focused on the below learning objectives:

1. Introduction to Agricultural Value Chain Finance (AVCF)
   • Understand what AVCF is and its importance.

2. Issues within AVCF
   • Recognize some of the issues that make AVCF unique from other streams of finance.

3. Considerations within AVCF
   • Understand some of the considerations financial institutions working in AVCF make.
MODULE 2: Agricultural Value Chain Finance Instruments
2.1 Introduction

This module will focus on a variety of Agricultural Value Chain Finance Instruments. It will firstly focus on the elements of financing a business that are important for all stakeholders to be aware of when entering into a financing agreement. The module will provide an overview of several agricultural value chain financing instruments concentrating more heavily on product-based financing, receivable financing, and physical asset collateralization. Finally, this module will touch upon key considerations in selecting a particular agricultural value chain finance instrument.

2.2 Learning Objectives

By the end of this module it is expected that you will be able to:

1. Critical Elements in Financing a Business
   - Define and understand the key elements in the financing of a business

2. Agricultural Value Chain Finance Instruments
   - Understand a range of different financing instruments commonly used in AVCF

3. Selecting an Agricultural Value Chain Finance Instrument
   - Understand key considerations for how to select the best AVCF arrangement

2.3 Critical Elements in Financing a Business

Financing any business involves a few critical elements that define how the financing arrangement is going to make sense for all relevant stakeholders.

2.3.1 Purpose

Any loan provided needs to be for a specific purpose. A borrower will make a request to borrow for a certain purpose, which will be evaluated by the lender (for example, a bank). The lender will provide that loan only if certain criteria are met.

If a borrower is not clear on the purpose of the loan while making the application to the lender, the entire financing arrangement fails. For example, the bank may have wanted to spread its risk by allocating a certain amount as loan for input financing purpose, and may have evaluated the industry risks and performance measures by investing resources in it. But if the money is used for something completely different by the borrower even though it benefits the company; trust,
confidence and capacity for the lender to support will be lost. So, if something goes wrong, the bank’s capacity to provide advisory support or restructure the loan would likely not be possible.

The start of any financial relationship between a borrower and a lender starts with a very clear definition of the purpose of the money that is borrowed. It should be clear:

1. What the money pays for?
2. When the money will be spent?
3. How the money will be spent?
4. How the money is expected to be paid back? (Will the company generate income that allows the payback of the loan along with interest?).

2.3.2 Loan Repayment Period

When the purpose of the loan is clear, it is also clear when the business activity will be able to generate enough income that it will be able to pay back the loan principal (meaning the total loan amount) and the interest as well.

If the timing of income is very clear then the comfort to the lender to lend the money is high. The repayment date of the loan is usually set to very close to when the borrower states they will receive this income. However, if the timing of income is not very clear (as is the situation in most agriculture value chains), the length of the repayment period will be set to the maximum possible length of time with the provision to pay the loan back earlier.

The purpose here, for the lender is to make sure the length of the repayment period is timed just right – not too early that the borrower has not received income and does not have the money to pay back the loan; and not too late that the borrower is left with extra money which may be spent in other unplanned activities. There is also an added need or desire from the lender to track the business performance and the timing of when income has flowed into the borrower's business. In addition, it's often preferred by the lender that the borrower have their business income flow through the bank for visibility and so repayment of the loan occurs as early as possible.

2.3.3 Performance

Performance is the efficiency at which the borrower creates value with inputs from the loan money (along with the borrowers’ own resources) and generates income. In financing, performance has nothing to do with the product and everything to do with the payments received for it. The flow of money and the flow of value (products and/or services) does not happen at the same time. In financing terms, a business’s performance is not measured by the quality of the product specifically but the price at which the company can sell the product.
2.3.4 Primary Source of Repayment

Remember the “Purpose” of the loan discussed earlier, this is what the loan will be used for. When looking at a business loan, the “Purpose” is the primary method of how the loan will be paid back. If the purpose is not the source of paying back the loan, then it is not a business financing arrangement.

The primary difference between a business loan and a consumer loan (for example, a loan to buy personal electronics or a car) is that a business loan is expected to generate income allowing the business to pay the loan back while a consumer loan is expected to be paid by the borrower’s own source of income (ex. their job) from somewhere else other than the purpose of the loan.

A major portion of the lenders’ risks rests on this primary source of repayment. If the business is not able to pay back the loan, there will be additional costs involved for the lender in follow ups, liquidation of collateral, etc. and this erodes the banks’ profits.

This is also the reason why the purpose of the loan should be clearly articulated at the beginning of any borrower – lender relationship.

2.3.5 Secondary Source of Repayment

Oftentimes, things may not go as planned so lenders plan for this by establishing one or more secondary sources of repayment. This could include other sources of income of the borrower (for example, a second job) or a guarantee from others (this means that a third party, such as family, guarantees the pay back of the loan and if it is not paid back they will become responsible for paying it back). However, the most used secondary source of repayment is often property which is used as collateral for the loan. This is preferred by a lender for several reasons:

- It is tangible (something that is physical and can be touched)
- It is easy to transfer ownership from the borrower to the lender
- Laws are well established around this type of arrangement
A strong secondary source of repayment adds comfort to the lender and usually results in a lower interest rate and better terms for the borrower.

2.3.6 Interest Rate

The relationship between the interest rate and the risk of doing business is directly related. The higher the risk then the higher the interest rate the lender expects. Industry competition also impacts the interest rate, but business risk is always the primary driver.

Let's look at an example, the bank is making loans to two sectors – the banana value chain and to the poultry value chain. Say 100% of the loans in banana value chain are paid on time, while 98% of the loans in the poultry value chain are paid on time for various reasons. The bank would start pricing the poultry value chain at least 2% higher to cover this loss. If you compare interest rates in various countries, ones with high loan default rates (meaning loans that do not get paid back) also have high interest rates.

Note: that loan application processing and other fees are not a part of ‘risk’ and are meant to cover the cost of administering the loan. While such fees make up the overall ‘cost of borrowing’ (found in the interest rate), they are not part of the business risk that the lender takes on when providing a loan.

2.3.7 Regulation

Banking is one of the most regulated sectors of the economy. This is because banks use public money in order to give loans to businesses. This means, when you deposit money into your bank account, banks use this money to take risk – and if they are careless then it is the general public that lose their money. It is because of this that banks are required to have large amounts of capital as collateral to cover losses (for example, money lost when loans are not repaid), before the bank can use the money that is deposited into bank accounts by the general public.

2.4 Agricultural Value Chain Finance Instruments

There are five key categories of financing instruments used in Agricultural Value Chain Finance: 1) Product-based Financing, 2) Receivable Financing, 3) Physical Asset Collateralization, 4) Risk Mitigation Products, 5) Financial Enhancements

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2.4.1 Product-based Financing

Product-based financing is the most frequently used form of value chain financing. These include credits that are most often in two forms:

1. ‘Pre-financed Sales‘: this is when credit is provided to farmers by vendors who sell farm inputs

2. ‘Advance Payments‘: these are given to farmers by buyers who purchase farm outputs.

Various forms and instruments of product-based financing have been used for centuries and are often in-kind credit (meaning the use of a good or service as payment instead of money), such as in the form of seeds and fertilizer.

Product financing instruments are very important, especially in the lower end of the value chain. Yet, because of linkages these instruments can also be useful to banks and other financial institutions that provide financing to the chain, since they allow financing to agribusinesses higher in the chain that can then provide financing through the chain to those further down. For example, financing the farmers indirectly through the agribusiness may be less costly and risky.

The following four product-based financing instruments have many things in common as well as differences in application in terms of a) who is providing the credit or financing b) what is the purpose c) how repayment is made.
Trader Credit

Trader credit is a traditional form of finance that is present in informal and fragmented agricultural value chains. In these systems, traders play a critical role in connecting farmers to markets, while providing farmers with funds for harvest, inputs or other needs, such as family emergencies. In many cases traders are members of the rural community who not only have capital and often transportation, but most importantly frequently have specialized knowledge of markets and contacts that enable them to reach those markets. Traders are therefore able to advance funds with the guarantee that the crop to be harvested will be available to them for resale according to the price that is fixed at the time of financing. The funds used by local traders are from a variety of sources – their own equity, financing from banks or wholesalers, and/or they may work as intermediaries of processors or wholesalers who advance them the funds they then use for procuring products from farmers. The trader role in providing financing, especially to small producers is important

a. Who is providing the credit or financing? Traders to Farmers
b. What is the purpose? To purchase inputs and other upfront costs.

c. How is repayment made? In Kind

Input Supply Credit

Like trader credit, input supplier credit is a common form of in-kind financing to farmers at all levels, both in a fragmented and informal agricultural system and in strongly linked value chains in developing and developed countries. Input supplier credit enables farmers to access supplies or even equipment for production purposes in a timely fashion. Suppliers provide this because credit is a critical marketing tools to make their inputs and goods more attractive for sale. The key
agricultural inputs – seed, fertilizer, agro-chemicals, equipment and fuel – are commonly financed. An advantage of the supplier providing finance to the farmer is that it can reduce the farmer’s transaction costs, since interest is included and paperwork is minimal, and it secures sales. However, this ties the farmer to one particular supplier and he/she is therefore unable to take advantage of what might be cheaper offers in the market. For input suppliers, providing credit facilitates sales. These suppliers also often know the farmers and reduce their risks by being able to choose to whom to offer credit or not. In addition, they have a vested interest to provide their clients technical advice since they are dependent on the success and trustworthiness of the farmer, all of which helps to strengthen the linkages of the value chain.

a. Who is providing the credit or financing? Input Supplier to Farmer
b. What is the purpose? To purchase inputs
c. How is repayment made? Embedded into price

Lead Firm Financing

In fact, finance is often a major incentive and binding link between the firm and the producers in such contract farming relationships. Such financing can be in cash advances or more commonly in-kind such as the provision of inputs. However, the lead firm can also directly or indirectly facilitate financing to those in the chain without providing the finance itself. It can set up connections with financing entities or frequently, based on the contractual relationship, producers are able to access finance through a third party.

Lead firms often operate on the basis of contracts, such as contract farming. Lead firm financing is a ‘service package’ and is noted as a financial instrument only because of the overarching nature of the financial application. It combines directed credit (i.e. specific use credit), guaranteed markets, fixed price or pricing parameters, technical assistance, and strict standards and delivery commitments. The financing can typically be used only for the sector or for the specific use indicated in the contract, but the source of the financing can be either from the lead firm itself or by arrangement or facilitation with a third party.

a. Who is providing the credit or financing? Lead Firm to Producer
b. What is the purpose? To purchase needed inputs, etc. and technical assistance is also provided
c. How is repayment made? Involves a contract and buy-back clause

What is a Lead Firm?

• A lead firm is the driver of a value chain, and is typically a large retailer, exporter, processor or distributor that is a recognized market actor.
• A lead firm commonly takes the initiative to establish a contract or out-grower farming relationship with a number of producers. It can directly provide finance to those under contract; this is called lead firm finance.
Marketing Company Credit

Buyers from firms such as marketing and processing companies offer finance that works in a similar way to trader credit at the farm level. However, whereas traders tend to run smaller operations and act as intermediaries between farmers and upstream companies, these companies are larger and are acting on their own behalf. Also, this type of credit can be advanced directly to farmers, to farmer organizations and to local traders, as well as being used by larger companies to advance funding to local processors and marketing companies. Market company finance or other types of buyer credit are normally driven by the upstream company’s product needs for its sales commitments or to fulfil its processing or manufacturing capacity. There often is an established relationship between the company and the producers or producer groups. For these groups it can be beneficial to work with marketing companies since these are closely linked with the market information and have more and often better marketing options. In addition, marketing companies are often able to secure advance sales prices for their commodities and therefore have a more secure basis for setting prices of the products they offer to the traders and producers. Marketing finance is very important worldwide, often the primary source of funding for commodities, even though the relative roles of marketing company finance varies by region and by commodity.

a. Who is providing the credit or financing? Marketing Company, Processor, etc. to a Farmer or other value chain actors

b. What is the purpose? To purchase inputs and other needed materials

c. How is repayment made? Most often In Kind
2.4.2 Receivable Financing

Receivable Financing is a general term for financing which is secured by accounts receivables and sales contracts. A receivable is any incoming money or something of tangible value that is owed to a company in the future. It is sometimes referred to as an invoice as this is the promise of future finance into a company. Accounts receivables financing is essentially the process of raising cash against your book’s debts, so an asset finance product, rather than ‘lending’. Accounts receivables finance require companies to have receivables or book debts. As funds will not be paid immediately, this type of finance can help unlock funds.4

Normally a loan is made in cash or in-kind whereby security is provided by the assignment of those receivables and the repayment comes from the sales proceeds directly to the lender. It is based on money that is owed to a company for products or services to be provided.

Factoring

A supplier sells or assigns receivables from contracts of sales of goods to a specialized agency called a ‘Factor’ who assumes the responsibility for the customer/buyer’s ability to repay. If a company needs cash, it can receive an advance on its invoice by using a factor. The factor advances a percentage of the invoices’ value. This might be 70 to 90 percent. Once the factor receives payment on the approved invoices, it will advance the remaining percentage minus a fee. This fee can be between 1 to 4 percent of the overall value of the invoices.5 Factoring combines access to working capital, credit risk protection, accounts receivable bookkeeping and collection services.

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The general purpose of factoring results in financing for inputs or sales of processed and raw outputs that are sold to reliable customers/buyers. It reduces seller risks for input supply sales and/or sales from agribusiness producers or marketing companies. FACTORING IS THE SALE OF ACCOUNTS RECEIVABLES FOR A DISCOUNT PRICE. The advantage of this to farmers is that suppliers and buyers have more financing that can be passed to them.

The following is an example of factoring by the factoring company DGV Capital:

**Phase 1: The Product Sale**
- A coffee co-op buys coffee from producers and sells $100,000 worth of coffee to its large client, Star Coffee.
- Star coffee issues an invoice for the amount of the sale, payable after 30 days. The co-op registers the sale as $100,000 in its accounts receivable. Star Coffee registers the purchase as $100,000 in its accounts payable.

**Phase 2: The Factoring**
- The co-op needs funds to pay its suppliers. It sells the invoice to a factoring company.
- DGV Capital gives the co-op cash of 70% of face value ($70,000) of the invoice.
- The factoring company charges 6% plus a commission of 0.5% on the total value of the invoice.
- Star receives a notice of the factoring transaction.

**Phase 3: Final Payment of the Factor**
- After 30 days, Star Coffee pays the outstanding invoice directly to the factor company.
- The factoring company pays the remaining value of invoice to the co-op, minus interest and commissions.

**Reverse Factoring**
Reverse Factoring also exists which is an accounts payable solution (instead of receivable). It is just the opposite of factoring – where payables or purchases are financed. Here, the lender takes risk on the customer/buyer and provides cash to the customer/buyer – who then uses the loan to make payments to the suppliers. The suppliers do not necessarily need to know where the funds came from. This helps maintain the reputation of the buyer.
2.4.3 Physical Asset Collateralization

A key concept of value chain financing is to use the chain and its products and transactions for securing finance. In agriculture this involves some physical commodity or asset. Financing secured by commodities or moveable assets can often be achieved even when the value chain linkages are weak or fragmented.
**Warehouse Receipts**

Warehouse receipts are part of the broader term ‘Inventory Finance’ where inventory of a commodity or asset serves as the guarantee. In some cases, the credit that is advanced is relationship based and requires no paperwork. More commonly, inventory credit is a form of collateralization finance known as **Warehouse Receipts**. A warehouse receipt system provides both secure storage and access to credit for the value chain actors that ‘owns’ the inventory (for example a farmer) – usually a commodity. Warehouse receipts enable farmers (or other value chain actors who store goods) to access credit from third party financial institutions, ensures quality of inventory, and provides opportunities to sell for a higher price during the off-season or at a later date.

For example (see image below), a farmer can store grain in a certified public or private warehouse, receive a receipt for the deposit, and use the stored commodity as collateral against a loan from a financial institution. Because these commodities are stored in a licensed warehouse, the receipt proves both that the commodities are physically in the warehouse and that they are safe and secured. This receipt serves as the guarantee or collateral basis for financing, whereas in traditional lending, the underlying collateral is only a secondary source of repayment that needs to be mobilized when something goes wrong. *In collateralized commodity lending, it is the first source of repayment.*
Example: Ghana Grains Council

In December 2012, the Ghana Grains Council launched the first Regulated Warehouse Receipt in Ghana; the first of this kind in West Africa sub-region with financial and technical support from United States Agency for International Development (USAID) under the Ghana Agricultural Development Value Chain Enhancement Program (ADVANCE).

The use of a Warehouse Receipt allows GGC members to deposit their grains in a GGC certified warehouse and to meet short term need for cash by borrowing from a GGC member bank or other member lending institutions.

It has enabled the many GGC member small holder farmers in particular to avoid selling their grains immediately after harvest when the supply of the commodity is usually highest and sometimes result in low prices. Warehouse receipts have also helped address the problems of price volatility and lack of quality standards usually attributed to market liberalization in the Ghana grain industry.

Since its commencement, the GGC Warehouse Receipt has focused on maize, a key food security crop in Ghana as part of a package of innovation that has modernized and enhanced the efficient marketing of this crop. The Warehouse Receipt System has played a very important role in the development of the maize value chain by enabling GGC member producers, traders and processors to hold stock back until the lean season, allowing them to access markets on more equitable terms, and enhancing the efficiency of the entire maize value chain.

So far over 29,000MT of maize have been stored under the GGC Warehouse Receipt Program. While the GGC, under a project that was supported by the Common Fund for Commodities, currently works with only four commercial banks – the Agricultural Development Bank, Ecobank, CCH Finance and Stanbic Bank – the system is expected to help build confidence amongst financial institutions to invest in agricultural enterprises.
Who benefits from Warehouse Receipts?

Banks & MFIs seeking secure & easily liquidated collateral

Input suppliers seeking finance for stockholding

Traders seeking storage and credit

Traders and other players wishing to engage in arbitrage

Warehouses receipts system: efficient and of high integrity

Farmers seeking higher prices, accurate weights and measures and credit

Millers and processors seeking supplies of raw materials

Parastatals and food aid managers seeking to procure and recycle stocks more efficiently

Investors in storage capacity

Lease Financing

Another form of using an asset as security is a lease. A lease contract between a party that owns an asset (the lessor) who lets another party (lessee) use the asset for a predetermined time in exchange for periodic payments. It is a purchase on credit which is designed as a lease with an agreement of sale and ownership transfer once full payment is made (usually in instalments with interest). The lessor maintains ownership of the asset until full payment is made, which facilitates the recovery of the asset in case the lessee cannot make the payments.

The general purpose is that it allows value chain actors, including farmers, to use and purchase machinery, vehicles and other capital assets and the seller to secure the payment by maintaining ownership until fully paid. Lease financing is considered safer for the lender, as it is comparable to renting out an asset in ownership. However, it requires the lender to be savvy and well informed in the field of such asset management before they are willing to offer lease finance.
An example of lease financing from Nigeria, in 2013, the UK aid-funded Propcom Maikarfi project commenced working with financial institutions and tractor vendors to develop a financing mechanism and guarantee scheme which would encourage banks to give tractor loans to service providers within associations. Propcom Mai-karfi also partnered with the Tractor Owners and Hiring Facilities Association of Nigeria (TOHFAN), an association with a “farm mechanisation for food security” slogan. Early in the project, members of TOHFAN were each given loans worth NGN 3.4 million for a tractor through partnership with a commercial bank – First City Monument Bank (FCMB) and with a tractor vendor – Springfield Agro. The individuals who received the loans are required to make monthly repayments until the tractor is paid off.\(^6\)

2.4.4 Risk Mitigation Products & Financial Enhancements

The final two financial instruments to be discussed will be covered in more detail in Module 3: Risk Mitigation and Financial Enhancements.

**Risk Mitigation Products:** Reducing risk is one of the most critical consideration in finance. These are classified into three types of risk – production, price and credit (client) risk. The value chain approach helps to reduce price risk through secured markets and sales and production risk through improved access to seeds, farming practices and technology, and agricultural development services. Client risk is also reduced through a better understanding of the client and his/her risks, and through the common use of loan repayments discounted at the point of sale. Value chain finance also includes many financial and value chain related instruments which are specifically designed to better manage both systemic and individual risks. These instruments include physical tools for product and price risk and financial tools such as insurance and loan guarantees.

**Financial Enhancements:** Financial enhancements describe a wide range of often complex financing arrangements which are meant to reduce the risk. These include structured financial instruments, guarantees and joint equity investments, among others. In general within financial markets, structured finance instruments reduce the risk of borrower credit-worthiness through ‘packaging’ of cash flow returns or other receivables which are subject to strict agreements to securitize their repayment. The most critical element of structured finance is the quality of the receivables that form part of the structure finance income streams.

2.5 Selecting an Agricultural Value Chain Finance Instrument

It is a tough call to make – selecting the right model for a given market and segment within the value chain. The trick is to follow the money flow, instead of the product flow, and provide a facility that supports the cash-flow gap that will maximize the profits to that segment. Sometimes such efforts will shift profits along different segments in the value chain (e.g. Warehouse receipts may shift profit shares from aggregators/processors to the farmers) while other times it will create value to a segment that on its own is not able to optimally utilize its facilities (e.g. Receivables financing to allow more business cycles in a year).

The market systems’ approach requires an intervention to be well balanced between increasing value for a segment and maintaining flow of value across the value chain in a fair and sustainable manner. Looking at only one particular step in the value chain might have adverse effects on other levels that may go ignored.
The right value chain financing instrument always ensures net increase in value across the value chain system. If added working capital credit to a large processor allows it to make early payments to the aggregators, who in turn are able to make early payments to producers, then such producers may not need to borrow (which is usually at a higher interest rate than the rates at which large processors borrow from big banks) from local cooperatives and microfinance institutions. Such chain reactions can go both ways and the bigger picture should always be considered.

2.6 Summary

In this module, you learned what are the basic elements involved in any financing arrangement and reviewed various AVCF instruments particularly in relation to product-based financing, receivable financing, and physical asset collateralization. The key takeaway from this module is to look at the bigger picture in the value chain, and find the right product that improves the efficiency within the value chain. A competitive value chain produces at lower costs and also secures higher earning for each step in the value chain.

This module focused on the following learning objectives:

1. Critical Elements in Financing a Business
   - Be able to define and understand the key elements in the financing of a business
2. Agricultural Value Chain Finance Instruments
   - Understand a range of different financing instruments commonly used in AVCF
3. Selecting an Agricultural Value Chain Finance Instrument
   - Understand key considerations for how to select the best AVCF arrangement
MODULE 3: Risk Mitigation and Financial Enhancements
3.1 Introduction

A lender is always responsible and held accountable for making safe loans. This means that the first question asked by any lender is: “what are you doing to minimize the risk of the loan not being paid back?” Mitigating risk is a key consideration for both financial institutions and other market actors engaged in agricultural value chain finance (AVCF).

While a financial institution always looks for collateral (something pledged as security for repayment of a loan, such as land or physical assets, that the lender can take ownership of if the borrower is unable/willing to repay a loan), this is not the preferred mechanism to recover losses. The process is cumbersome, expensive, and usually results in sale of asset at a price much lower than the market price.

Keeping this in mind, lenders use additional strategies to manage risk, including those risks specific to the agriculture sector. A value chain or market systems approach, where smallholder farmers and Micro-Small Medium Enterprises (MSMEs) gain access to improved markets, knowledge, training, or skills through engagement with other market players is an important strategy for mitigating risk. There are also specific financial instruments that can be used to mitigate risk such as insurance and guarantee funds and products. Effective risk management benefits both lenders and borrowers as well as it enables financial institutions and other market actors to lend with increased confidence to underserved markets, while offering better terms and lower interest rates as risk levels decrease.

This module will provide an overview of common risk mitigation and financial enhancement products and strategies employed by lenders throughout agricultural market systems to help manage and share risk. As introduced in Module 2, Risk Mitigation Products are financing
instruments specifically designed to better manage both systemic and individual risks. These instruments include physical tools for product and price risk and financial tools such as insurance and loan guarantees. Financial enhancements describe a wide range of often complex financing arrangements which are meant to reduce risk. These include structured financial instruments, guarantees and joint equity investments, among others. As outlined in the diagram below, Risk Mitigation and Financial Enhancements are key categories of financial instruments employed in AVCF alongside Product-based Financing, Receivable Financing and Physical Asset Collateralization which were described in detail in Module 2.

3.2 Learning Objectives

By the end of this module it is expected that you will be able to:

1. Major Risks in Lending to Agricultural Value Chains
   • Understand the concept of risk as it relates to agricultural lending
   • Identify challenges and common risks in agricultural lending

2. Financial Sector Risk Assessments
   • Understand how financial institutions assess individual and portfolio risks

3. Risk Reduction Strategies and Financial Enhancements
   • Identify strategies which can be used to reduce risk
3.3 Major Risks in Lending to Agricultural Value Chains

Reducing risk is one of the most critical considerations in finance. The major risk categories affecting the agricultural sector are summarized below:

- **Production risks:** These arise from a variety of factors (input supplies, lacking or late credit, low quality standards, improper storage and packing, weather risks, diseases, etc.).

- **Supply risks:** This refers to situations where producers (farmers) may not honour their contractual supply obligations. A commonly observed problem in contract farming is “side-selling,” which derails the built-in repayment mechanisms for farm credits.

- **Finance risks:** These relate to the non-repayment of credit provided to farmers, other producers, or other value chain actors. This risk is borne by the financial service provider (FSP) or the market actor acting as the retail-finance provider for farmers/other actors or by both. Non-repayment may be willful (the borrower does not want to repay the loan) or non-willful (the borrower is unable to repay the loan).

- **Marketing risks:** These relate to the inability to sell on time, in the right quantities and/or at an acceptable quality standard. This includes the short- and long-term market situation and the use or absence of marketing contracts.

- **Price risks:** These arise from fluctuations in market prices in the period between, for example, the time a farm contract is signed and the delivery date. These risks are borne by producers/farmers or the buyer, depending on the type of contract.

- **Climate risks:** These relate to shocks produced by weather, such as droughts or floods. Weather shocks can trap farmers and households in poverty, but the risk of shocks also limits farmers’ willingness to invest in measures that might boost their productivity and improve their economic situation.7

- **Regulatory Risks:** This is the risk that changes in government regulations or legislations will limit the ability of banks or other actors to make loans or utilize specific lending approaches. Sometimes, even if the bank appears to have a higher risk appetite, regulations do not allow them to be innovative with public money. Governments may also introduce regulations or policies which impact pricing and market conditions in specific sectors.

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3.4 Financial Sector Risk Assessments

FSPs use a number of strategies to assess the level of risk that they are willing to take on at both the Individual Loan and Portfolio level, taking into account the risks outlined earlier. It is important to note that in order to effectively assess risk in agriculture, lenders must have an understanding of both the value chain overall and the specific role of the individual actor requesting financing in that value chain.

**Individual Loan Risk Assessment**

FSPs typically begin by applying the 5C’s to assess the credit worthiness of the borrower: Character (the individual and their family), Capacity (business performance), Collateral (loan guarantee), Capital (investments in the business) and Conditions (loan terms and market conditions).

Key considerations in assessing the 5 C’s are outlined in further detail below:

**Character**
- Honesty and Integrity
- Family Situation
- Ability to manage a business
- Changes in business and family assets
- Reputation in community
- Openness and compliance
- Ability to repay previous loans
### Capacity
- Indication of income generation and profitability?
- Can the project generate cash needed to cover principals and interest with some safety cushion?
- When can the loan be repaid?
- Effects of seasonal fluctuations, production and price?
- How does the business compare with others in the industry?

### Capital
- What assets are invested in the business?
- Any growth in assets within the last few years/months?
- What is the family contribution to the business?

### Collateral
- Does the client have savings or assets that can be claimed if are unable to make payments?

### Conditions
- Is there an adequate and stable market to sustain a business?
- Do loan terms allow for adequate repayment capacity?
- What are the price and production risks?

In addition to considering the 5 Cs, the lender should consider the crop and agriculture specific risks outlined above, incorporating these factors into their risk assessment process. Key areas to consider include value chain relationships, price volatility, changes in yield over time, amount of time the crop takes to mature, and climate change impacts.

**Portfolio Risks**

The portfolio of a financial institution is the complete list of loans and assets being managed by that institution. In addition to considering risks at the individual level, the lender must consider the risk level of its portfolio overall based on region and sector. Key factors influencing regional and sector risk are summarized in the following diagrams:
Regional risks relate specifically to concentration in specific geographic areas – which could be countries, regions, woredas or kebeles depending on the size and scope of the lender. Risks under this category relate both to the natural environment (in the case of geographic and ecological conditions) as well as to the economic, social, physical infrastructure, and political conditions. Looking at the natural environment, there is the risk that a natural disaster or pest may affect a specific region disproportionately. There are additional risks that government policies, political unrest, changing population demographics, damage to key infrastructure or a slowing economy in a specific region will impact loan performance.

Sector risk relates to concentration in a specific area of the economy – this may be broad (such as agriculture, manufacturing, technology) or more specific (such as within agriculture a focus on coffee or a specific variety of coffee). Risks in this category relate to growth, profitability, market structure (for example governing bodies or how a market operates) and macroeconomic risks (slowing economic growth).

In addition, the lender must consider loan concentration risk which refers to the risk that the loan portfolio is concentrated in a few, large loans. If one loan fails in this scenario, then there would be a big impact on the portfolio performance overall. Similar risks exist if a considerable portion of the portfolio has similar features (for example, all loans are due for repayment in the same month).

Lending institutions will analyze their overall portfolio and the key regions/sector/concentration of companies that they are invested in considering the risk categories outlined above. While institutions may focus on certain regions or sectors based on their expertise and market conditions, portfolio diversification is an important strategy used to manage risk. FSPs typically aim to have sufficient diversity in geography, and sector so that if, for example, there is a drop in national coffee prices or a natural disaster in a specific region and borrowers are unable to pay, they would not experience losses at a level that would put them out of business.
3.5 Risk Reduction Strategies and Financial Enhancements

Key financial products and strategies used by FSPs to reduce risk include the following:

- Insurance
- Guarantees
- Technical Assistance

This section of the course will review these key tools in detail and how they are typically applied in AVCF.

3.5.1 Insurance

Insurance is a contract, represented by a policy, in which an individual or entity receives financial protection or reimbursement against losses from an insurance company. The company pools clients’ risks to make payments more affordable for the insured. There are two key types of insurance: 1) life insurance and 2) non-life insurance.

1. **Life insurance**: life insurance offers coverage for financial losses to a family related to the death, disability, etc. of an individual family member

2. **Non-life insurance**: non-life insurance offers compensation for loss of or damage to an asset – like a building, car, cargo, etc.

Insurance products offer protection to purchasers but also reduce lending risks for financial institutions as insurance makes it more likely that the borrower will be able to maintain its business in times of crisis and repay its loans.

In the agricultural sector there are many non-life insurance products which are helpful for value chain actors to consider for managing the risk of loss or damage to key assets. Traditionally, insurance products were too expensive for smallholder farmers and small enterprises; however, a number of financial institutions and governments have introduced more cost-effective products to help farmers and small agri-businesses manage risk. As noted below, some of these products remain too expensive for smallholders but may be relevant for other actors. Specific insurance instruments include the following:

1. **Multi Peril Crop Insurance (MPCI)** – protects against crop yield losses by allowing participating producers to insure a certain percentage of historical crop production. There are typically high costs associated with verification of claims and this product is usually inefficient and expensive for smallholder farmers.

2. **Weather Index Based Insurance (WIBI)** – protects against crop losses due to adverse weather patterns, such as excessive or insufficient rainfall by using weather indices to
decide if insurance payment is triggered. Clean and simple determinants of payout to all the insurers in a particular geographic area makes it an easy system for large numbers of producers.

3. **Stock Insurance** – once products are harvested; they need to be stored at various stages. The stocks are susceptible to damage due to fluctuation in moisture, temperature, exposure to sunlight, etc. along with damage from pests (rodents, insects), natural disasters or unrest (riots). Stock Insurance usually requires standard conditions of warehousing, and standard precautionary measures to be in place, and when not in place needs to be declared while buying the insurance.

4. **Receivables Insurance** – insurance protection against the possibility of events taking place that render it impossible to collect on payments owed to the business. Providers usually require review of creditors prior to awarding such insurance. Also, each creditors’ portfolio may be differently priced.

It extremely important to ensure that borrowers are aware of what insurance policy they are buying and if they have declared all necessary facts while buying the insurance. Small-scale insurance
clients in particular may not be aware of the conditions of specific insurance products and end up being declined for payments by the insurance company when a claim is made. Overall, while insurance is a valuable risk management tool, clients must carefully consider if the cost and terms of the insurance policy are aligned with their needs and worth the cost involved.

Given the growing impact of climate change, weather insurance products are growing in importance; however, given the cost involved (particularly in underserved areas) there is often reluctance from farmers to voluntarily pay for this insurance. However, other actors further along the value chain (for example processors or aggregators) who understand these risks and have a vested interest in the performance of their suppliers may either require it for their suppliers or build it into their operational costs. If an aggregator has a binding sales contract it is important to have secure procurement. If a crop fails not only will the crop not be available, but neither will the repayments for any advances that may have been provided, meaning that there will not be funds to purchase from other producers as well. Projects may leverage the incentives of other market actors in support of increasing insurance access at the smallholder farmer level.

3.5.2 Credit Portfolio Insurance

Insurance products discussed earlier are products that borrowers would take for themselves, and lenders would demand that they have in place to protect the assets that their loan helped purchase. Credit Portfolio Insurance is purchased by banks for a standard portfolio of products to protect against gross risk of industry non-performance, large-scale economic challenges, etc.

Insurance providers in developing economies usually have small-size insurance providers with capital funds less than the portfolio banks may want to insure. In such case, the insurance companies buy ‘blanket’ insurance from large international providers capable of taking this risk, and re-issue the insurance against the cover that they have purchased.

Sometimes portfolio insurance is taken for a specific loan product the bank finds particularly risky. Such coverage might be a challenge if the portfolio is relatively small, has risky elements in the product design (e.g. No land and building collateral for women entrepreneurs in Uganda) and engages a segment not considered very ‘credit safe’ for any reason. From a development perspective, these are usually situations in which access to finance for unserved populations is a project goal. Finding a good relationship between insurance providers and the bank, in such case, can be challenging.

3.5.3 Guarantees

A guarantee is a risk mitigation/financial enhancement product consisting of a certificate from the bank or another actor promising to pay an individual a specific sum of money if the borrower is unwilling or unable to pay. While de-risking instruments offered by insurance companies cover against specific risks related to the borrower’s lack of capacity to pay, guarantee instruments also cover the borrower’s willingness to pay. This mechanism is called a “guarantee” because it is
guaranteeing (confirming or promising) that payment will be received, reducing risks around both the capacity and willingness to pay of borrowers. Guarantee instruments are sometimes preferred over loans, as funds from the partnering business in the value chain are cheaper than the ones the target business could secure on its own. Guarantee instruments commonly offered by banks include the following:

a. **Performance guarantees**

A performance guarantee is an assurance of compensation if the guaranteed party delays performance or performs inadequately on a contract. If a business has secured a performance guarantee from a bank and issued it to its client, it is providing an assurance to the client that if the business doesn’t deliver services on time, the client may simply go to the bank and receive payments from the bank directly equal to the value of that contract. For example, if a pest control company issues a performance guarantee to a commercial tomato farm, the farmer can go to the bank if the services are not adequate and get its money back. This arrangement would make the tomato farmer more comfortable contracting with the pest control company because it has confirmation that the job will be done well and if not, they will be compensated. A business (in this case the pest control company) would typically be willing to provide a performance guarantee if it is eager to push sales, is liquid, and does frequent business with the client.

b. **Financial guarantees**

A financial guarantee is a guarantee that the guaranteed party shall pay under certain conditions, and if they don’t, then the bank will pay. If we return to the contract between our pest services company and our commercial tomato farm, the pest services company may issue a performance guarantee to the farmer, and the farmer might issue a financial guarantee to the pest service company so they know they will be paid for their services.

While it may sound like a guarantee instrument takes away the need for a collateral, the issuing bank usually has collateral, cash held by the bank, and completes all other due diligence processes undertaken when issuing a loan.

c. **Credit Guarantee Fund**

A credit guarantee fund is an example of a financial enhancement. It is a fund which encourages the financial institution to take more risk on certain sector, industry or demography of borrowers by committing to pay the loan back if borrowers fail to pay for certain reasons. What triggers the guarantee fund could be different for different funds, and that is a negotiation between the fund manager and the financial institution willing to extend credit in the prescribed area.

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8 Thorough review of the business's legal, financial and other aspects to ensure that analysis of and decisions taken in relation to such business are fairly informed and accurate decisions.
Unlike Credit Portfolio Insurance, where the decision to payout is dependent on performance of the insurance company, and actual payouts take time and undergo deep scrutiny post claim, Credit Guarantee Funds usually stay with the bank in most cases and are triggered more easily and quickly – making the risk of provisioning less burdensome for the bank. Also, such funds can be designed to be in line with the risk mitigation needs of the specific bank without much hassle. However, Guarantee funds, similar to credit insurance portfolio, run the risk of moral hazard. This is the risk that a party has not entered into a contract in good faith or has provided misleading information. In this case if borrowers know that if they don’t pay, the guarantee fund will cover the loan, they may believe that the bank will not follow through in the case of non-repayments and enter into loans they cannot or have no intention of paying. Also, there are concerns that the bank staff will not work as carefully to issue and manage the loans as they would have if the guarantee fund was not there.
It is advised that best efforts be taken to ensure the borrowers do not know about the credit guarantee fund being available. It is also beneficial to keep this confidential from the frontline credit staff if possible – both in loan disbursement and recovery.

Moreover, such funds should be limited, time bound, and specific in the definition of how the fund would be triggered and how the bank is expected to perform with the loan product being protected/encouraged. Whether the loan product is successful or a failure, the purpose of the guarantee fund should be considered achieved if the spirit and words of the fund’s constitution and the contract with the bank are properly followed. If it is successful, the intention is that the bank and other banks in the market realize that such a product is safe for them to invest in on their own and continue to do so. If it is unsuccessful, and there is a loss, then such loss is partially (or fully) absorbed by the guarantee fund and the market fund is not hurt. This builds trust and confidence with the banks to try another new product in the future – building on the learnings from the guarantee fund. Either way, it is a good roadmap to improved access to finance and innovation in financial services.

### 3.5.4 Technical Assistance

Technical assistance de-risks loans through training and other support activities focused on improving business performance. “What if the business stops producing good products?” is something lenders review during their credit analysis but have limited ability to influence other than keeping a close watch on performance and building some performance conditions into the loan contract. For example, a bank may ask an SME to start selling to additional clients if it is currently only selling to one major client to help protect the business against failure of its one major customer.

Training in specific business areas, for example, improved record-keeping and regular reviews, could help businesses improve their efficiency and save costs. With the right technical skills, businesses could make more profit from the same business, with the same resources available to them which is beneficial to the lender as it means more consistent repayment.

Business training protects lenders against the risk of borrowers’ actual capacity and performance. A trained borrower is less risky in performance than an untrained one. Development projects can always tailor a training program to meet a bank’s specific needs and make it more attractive and less risky for the bank to extend credit in such trained businesses. Once the value of this program is recognized the hope is that the bank itself would incorporate these programs into their own business models as a de-risking mechanism.

Training can also be a cost reducer. Specific trainings can help borrowers frame their requests in the right format, structure, etc. and also help them create the right reports in the standard formats to submit to banks. This can save bank staff time in credit appraisal. In addition to being a risk-reducer, trainings also add profit (reduced cost is increased profit).
3.6 Summary

In this module, you learned about the common risks and mitigation strategies employed in AVCF. We reviewed the 5C’s used by banks to assess the credit worthiness of borrowers: Character (the individual and their family), Capacity (business performance), Collateral (loan guarantee), Capital (investments in the business) and Conditions (loan terms and market conditions). In addition to considering risks at the individual level, the lender must also consider the risk level of its portfolio overall based on region, sector, and loan concentration. Finally, we discussed three key risk mitigation and financial enhancement products: insurance, guarantees, and technical assistance. The key take-away from this module is that effective risk management benefits both lenders and borrowers as it enables financial institutions and other market actors to lend with increased confidence to underserved markets, while offering better terms and lower interest rates as risk levels decrease.

This module focused on the following learning objectives:

1. Major Risks in Lending to Agricultural Value Chains
   - Understand the concept of risk as it relates to agricultural lending
   - Identify challenges and common risks in agricultural lending

2. Financial Sector Risk Assessments
   - Understand how financial institutions assess individual and portfolio risks

3. Risk Reduction Strategies and Financial Enhancements
   - Identify strategies which can be used to reduce risk
MODULE 4: Designing and Implementing AVCF Solutions and Interventions
4.1 Introduction

This module is intended primarily for development practitioners and will focus on the key steps involved in developing, implementing, and monitoring AVCF solutions and interventions using the models and principles outlined in the first three modules of the course. MEDA’s Market Systems Project Design and Implementation course provides a detailed overview of the full market systems development (MSD) project design cycle, summarized below:

This module will provide a condensed overview of this cycle, focusing on the 4 key phases outlined below:
For further details and guidance on market systems project design we would highly encourage you to complete the full Market Systems Project Design and Implementation course available on MEDA’s website (www.meda.org).

4.2 Learning Objectives

By the end of this module it is expected that you will be able to:

1. Value Chain Finance Analysis
   • Assess the financing needs of a particular value chain/market system

2. Incentives and capacities of market actors
   • Analyze the incentives and capacities of relevant market actors

3. Design Financing Strategy
   • Design appropriate solutions and interventions to meet financing needs (gaps) drawing on the financial instruments presented in previous modules

4. Implement and monitor strategy
   • Implement and monitor the performance of AVCF programs

4.3 Phase 1 – Value Chain Analysis

The starting point for designing effective AVCF programs is a strong analysis of the market system focused on understanding: 1) the structure of the value chain and financing actors; 2) the current flows of finance, 3) the gaps in financing flows.

This information is gathered using Market Research that focuses on the following questions:

- Is the value chain connected to a viable market? If so, how big is that market and how many suppliers or other participants are engaged in it?

- Are there links in the value chain where incremental access to capital adds value?

- Are there value chain actors who can effectively support a local value chain if provided with access to financial services?

- Are there external factors that could increase the risk of lending to any particular value chain or value chain participant?
This analysis phase follows the key steps outlined below:

**Phase 1**
Value Chain Analysis

**STEP 1**
Map the chain and analyze the strategies

**STEP 2**
Map the flow of internal and external finance

**STEP 3**
Identify and prioritize the critical gaps in financing flows
**Step 1 – Map the chain and analyze the strategies**

The graphic below shows an example of a value chain/subsector map developed for the horticulture sector in the Ukraine, drawing on extensive market research. The map outlines the structure and key players within the sector and illustrates the sources of financing for these actors along the righthand side of the chart. In this case financing is provided primarily from external sources such as banks, leasing companies, etc.:
An alternate visual using the example of the honey value chain in Kenya developed by the International Institute of Rural Reconstruction is presented below. This visual format provides further details on finance (as well as product and service) flows within the value chain itself:

![Honey Value Chain Diagram]

Overall financing needs can also be broken down into two major categories:

1. **Short term loans** – to finance regular operations, mostly working capital

2. **Capital loans or Long-Term Loans** – to finance permanent growth, mostly capital asset procurement

As you conduct your analysis, it may be helpful to add further details on the specific financing needs of value chain actors, drawing on these categories.

**Step 2 – Map the flow of internal and external finance**

Once you have identified current sources of financing, you can analyze the levels of financing flows comparing them with the actual needs of value chain actors. You can use a tool such as the chart below which uses colour coding to show the level of financial access from each source of financing, on a scale from sufficient to poor at each level of the value chain, including notes to provide additional details as applicable.
### Step 3 – Identify and prioritize the gaps in financing flows

It is impossible for a project to do everything, so following your mapping of financing flows, you must consider where the critical gaps are that your project is well-positioned to address. In the case of Ukraine, the design team identified that access to agricultural technology and machinery like tractors is critical to improving productivity within the context of the horticulture sector. There are leasing companies which offer financing solutions to access this technology; however, they are focused primarily on industrial farming with only a small number of agricultural enterprises and no household plots able to access this financial solution (see Table to the right). This represents a critical gap in financing flows which could be addressed by an AVCF intervention or project.

<table>
<thead>
<tr>
<th>Value chain elements</th>
<th>Sources of financing</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Banks</td>
</tr>
<tr>
<td>Input suppliers</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Household plots (up to 100 ha)</td>
<td></td>
</tr>
<tr>
<td>Individual farms</td>
<td></td>
</tr>
<tr>
<td>Private farms (up to 200 ha)</td>
<td></td>
</tr>
</tbody>
</table>

**Level of access to financial sources (from sufficient to poor)**

<table>
<thead>
<tr>
<th>VC Actor</th>
<th>Leasing companies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input suppliers</td>
<td>Depending on the supplier (from sufficient to limited access)</td>
</tr>
<tr>
<td>Household plots</td>
<td>No possibility to use this service</td>
</tr>
<tr>
<td>Private farms</td>
<td>Limited access</td>
</tr>
<tr>
<td>Ag enterprises</td>
<td>Small number of enterprises have ample opportunities to attract leasing companies</td>
</tr>
<tr>
<td>Industrial farming</td>
<td>Sufficient access (leasing of agricultural machinery)</td>
</tr>
</tbody>
</table>
4.4 Phase 2 – Incentives and Capacities of Market Actors

Market systems programming (including AVCF) focuses on ensuring long term change and recognizes that implementors will not be present in the system long term. As such implementing agencies employ a **facilitation approach**, seeking to catalyse others within the market system to bring about system level changes through temporary activities or **interventions**. These short-term interventions are used to implement **solutions** - long-term, systemic changes to the market system that will address the prioritized constraints and capitalize on the strengths you have identified through the market research and analysis process.

This means that rather than working directly with end clients, MSD projects work with a range of actors operating within targeted market systems to improve the way that the market functions long term. Using a facilitation approach, it is extremely important to carefully analyze the interests or incentives (will) and capacities (skill) of various market actors to identify the right partners to provide AVCF options in the long term. This phase of the design process follows the steps outlined below:

**Phase 2**
Analyze incentives and capacities of actors

**Step 1 – Diagnose incentives and capacities of value chain actors**

An **incentive** is a factor that makes an actor want to do something. As incentives are what drive behaviour, we need to ensure that the solutions and interventions we propose are guided by a clear understanding of what motivates market actors. Market systems often do not operate effectively because incentives are misunderstood or misaligned.

Incentives operate at various levels, within and between individuals, groups, and organisations. They are shaped by attitudes towards risk and reward (losing or gaining money, status, reputation, opportunity, assets or resources). When partnering with businesses, incentives are often material, namely money, as businesses are typically driven by profitability; however, this is not always the case. The clearest example is social enterprises where the mission of the business includes creating both social benefits and financial gains. However, individual entrepreneurs may also be driven
by similar social motivations such as creating jobs or a source of nutritious food for people in their communities. In addition, government and civil society actors, also key partners in market systems programming, are often social or purpose oriented.

**Capacity** is the ability of an actor to perform a specific function or task. In the context of market systems, understanding the capacities of market players means assessing their skill level and thus ability to play a needed role in the market. Capacity can be viewed at the level of individuals, groups and organisations and divided into 5 key categories:

- **Technical**: the knowledge and ability to execute actions to a required standard
- **Financial**: the money to execute actions
- **Physical**: the structures, assets, human resources, scope or outreach (customer base, distribution system) to execute actions
- **Strategic**: the vision, governance and networks to perform appropriate roles in the system
- **Personal or cultural**: the ethos, attitude and leadership to shape effective performance

There is the tendency for project implementers to overestimate the capacity of market players. Be careful to assess capacity realistically through your market research by asking questions and looking at examples of current/previous relevant work.

A useful tool to analyze the incentives and capacities of market actors being considered as future providers of services is **Will/Skill analysis** (Will = Incentives and Skill = Capacities). The following
chart developed by the Springfield Centre and included in the *Operational Guide for the Making Markets Work for the Poor (M4P) Approach*, summarizes the characteristics of actors with varying levels of will/skill and the impact of these characteristics on partnering decisions/intervention approaches.

Implementers typically work with actors that have either a high level of skill, but lower level of will or a low level of skill and relatively high will. If actors have both low skill and low will they likely are not a good fit as a partner as they have neither the incentives nor the capacity to play this market role long term. If actors have high skill and will then you should ask yourself why the actor is not providing these services currently – they may still be an appropriate provider of this solution, but your interventions may be focused increasingly on addressing external obstacles preventing them from performing well.\(^9\)

In conducting your Will/Skill analysis you should consider the following questions:

- Is the actor **committed and willing** to invest the resources necessary to introduce AVCF as a new product line?

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\(^9\) This section is adapted from Springfield Center (2015). *The Operational Guide for the Making Markets Work for the Poor (M4P) Approach*. 
• Does it have sufficient **financial, administrative, and technological capacity** to engage in AVCF?

• Does it have, or is it willing to hire, the necessary **personnel** to implement the methodology and offer these new products?

• What are the commercial interests of this actor in seeing financing occur?

Returning to our example of the horticulture sector in Ukraine, two main actors were identified that could provide financing for agricultural equipment. Details on their incentives and capabilities are summarized below:

• **Banks** – Only a few banks provide services to the agricultural sector; however, most do not provide start-up capital and investments in modernization of capacities in agricultural enterprises.

• **Leasing companies** – Leasing has shown significant growth; however, agri-leasing is relatively new in Ukraine. There is strong demand for agri-leasing but only 20% of leasing companies currently offer these services as the agricultural sector is considered the riskiest sector for leasing companies.

Banks have relatively low capacity and incentives as they do not currently operate in this area and have limited interest in doing so. Leasing companies on the other hand have some capacity in agri-leasing; however, given the high level of real/perceived risk they may be hesitant to offer this as a product line. With some existing capacity, leasing companies are likely the more appropriate partner to work with on this initiative compared with commercial banks.

**Step 2 – Identify Constraints to Financing**

The next step is to conduct further research/analysis to understand the constraints to providing financing for that market actor. The key question to ask yourself is: **What are the reasons that this actor does not currently facilitate financing?** *I.e.: Why is this not happening currently? What are the barriers to participation?* In the case of our Ukraine example, constraints identified were as follows:

• High risk in the agricultural sector

• Leasing market distorted by government interventions aimed at helping agricultural enterprises

• Government offering interest subsidies for bank loans, but farmers do not have collateral to qualify

• High interest rates from banks
An understanding of these constraints will help inform the strategies we implement to improve how the system functions in phase 3.

4.5 Phase 3 – Design Financing Strategy

In Phase 3 we will use the information we’ve collected so far (as well as our knowledge of value chain finance models introduced throughout the course) to inform the development of a program financing strategy following the steps outlined below:

**Phase 3**

Design financing strategy

1. **Step 1 – Design Alternative Mechanisms of Financial Linkages**

Returning to the research and analysis conducted in phase 1 and 2, the next step is to draw on the information collected throughout your market research, as well as your knowledge of financing models as outlined in Module 2, to consider what alternative financing options might be viable in your specific context. This decision should be based on what we know about opportunities and constraints in priority areas. In Ukraine, we have identified a need for increased access to agricultural equipment and noted that leasing companies offer financing solutions to access this technology; however, they are primarily focused on industrial farming given high levels of risk in agricultural leasing as well as distortions to the current leasing market.

As leasing is already a model being employed in Ukraine, there is potential to introduce a series of interventions to expand this model to reach smallholder farmers. A lease has several advantages over a loan making this an attractive option as an alternative financing linkage:

- The financial institution remains the owner of the item until the lessee has paid it off fully. That makes it easier for the bank to repossess the item if the lessee fails to keep up the payments.
- The financial institution has more control over how the money is used: it buys the item, so it can choose the supplier and make sure the item is good quality. With a loan, the financial
institution has much less control over how the borrower uses the money once it has been handed over.

- The financial institution can negotiate with suppliers to provide items in bulk at a low price.
- The borrowers also benefit, since they are assured that the items are good quality and reasonably priced.

Based on this analysis the Ukraine team has decided to focus on the leasing market.

**Step 2 – Identify allies and explore potential relationships**

Returning to our mapping of actors in Phase 1 and our Will/Skill analysis in Phase 2, we can now identify specific actors that would have the incentives and capacities to engage in a leasing-focused project. At this stage we identified leasing companies as the most appropriate source of financing rather than commercial banks so the next step would be to have follow-on discussions with specific leasing companies to identify their level of interest and understand their needs (including approaches to risk management as explored in Module 3).
In order to share risk and take a systems approach, it will be important to consider what other actors have a role to play beyond financial service providers like leasing companies. Equipment providers will be critical partners and could be engaged to develop and promote products more appropriate for smallholder farmers. In addition, as we discovered in our market research, the government is distorting the market by providing subsidies and interest savings intended to support the development of the agricultural sector. These financial resources could be redirected to a guarantee fund or other, more market-driven instrument to further both government and project goals.

Step 3 – Design a Financing Strategy and Model

Based on discussions with potential partners and an in-depth analysis of the needs of the system and the incentives/capacities of the actors involved, the project team decided to introduce the following interventions:

- Market study with equipment providers to identify smallholder demand for agricultural equipment
- Support memoranda of understanding (MOU) establishment between leasing companies and equipment providers to develop and implement a tailored leasing product focused on needs of smallholders
• Capacity building on agricultural risk management for leasing companies
• Establishment of a guarantee fund with contributions from the government and project to de-risk initial loan provision and increase confidence of value chain actors in providing financing during the 5-year project period

This example focuses on one specific financing need; however, projects may use a variety of value chain finance instruments to address needs within the system. Returning to the example of the Kenyan honey sector introduced earlier. In this case, implementors used a variety of financing models and tools to address a number of issues (including access to agricultural equipment) to address the financing needs of actors throughout the value chain including micro-leasing, short-term loans and factoring, described in further detail below:10

Beekeepers, hive makers and honey traders: Micro-leasing services – In the Kenya example, K-Rep Bank and financial services associations use “micro-leasing” to encourage various actors to invest in the honey chain (see diagram #1-4). Honey production and processing require relatively large one-time investments in things like hives, bee colonies and processing equipment. Such purchases lend themselves to a leasing arrangement.

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10 Diagram and example adapted from: International Institute of Rural Reconstruction (2010). Value Chain Finance
The micro-leasing scheme works like this: K-Rep (or the village financial services association) buys an item (such as a hive or processing equipment), then allows the lessee to use it for a certain period, during which the lessee must pay for it in instalments. The item becomes the property of the lessee at the end of the period.

**Collection Centers: Short-term loans for working capital** – When they deliver their honey to the collection centre, the beekeepers want to be paid straight away; however, the collection centres do not have the cash to pay them until they sell the honey – and that may not be for several months. To address this constraint the financial services associations loan them money so they can pay the producers immediately (#5).

**Traders: Leases and Short-term loans for working capital** – The traders need money so they can buy the honey from the collection centres. K-Rep Bank and the financial services associations provide them with short-term loans during the honey harvesting season at a much higher amount than they could get as a first loan from other lenders (#6). The loans and leasing arrangements are subject to MOUs between the trader, collection centre, the financial services association and K-Rep Bank, in which the trader agrees to buy all the honey that the collection centre has available, trains the producers and maintains their hives. The collection centre agrees to sell its honey to the trader, giving it an assured market and the trader an assured supply.
**Final processor: Factoring to enable purchase of semi-processed honey** – In value chains, especially towards the end, supermarkets and other buyers often pay for products months after receiving them. That leaves the sellers short of the cash they need to keep their operations going. The honey traders and TARDA, the final processor, suffer from this problem. They need constant cash so TARDA can buy the semi-processed honey from the traders, and traders can continue to buy crude honey from the collection centres.

K-Rep Bank’s solution was factoring. When TARDA’s refinery receives a delivery of honey, K-Rep Bank pays the traders 80% of the price on TARDA’s behalf. Three months later, after TARDA has processed and sold the honey, it pays the bank the full amount, and the bank pays the traders the remaining 20%, minus a fee equivalent to 20% a year flat rate (see #7).

This arrangement ensures there is enough liquidity in the value chain for it to work smoothly. The traders get their money on time, so can buy more honey in turn from the collection centres. This also prevents honey going to waste during the harvest season because of actors further down the chain not having the immediate cash to buy it.

As evidenced by this example, often a variety of interventions and partners are needed to address the varied financing needs within a value chain. Project designs must prioritize needs and address the most critical areas, keeping in mind the length, budget availability and scale of the project.

### 4.6 Phase 4 – Implement and Monitor Strategy

The final phase is to implement and monitor your strategy following the steps outlined below:

**Phase 4**
Implement and monitor the strategy

<table>
<thead>
<tr>
<th>STEP 1</th>
<th>STEP 2</th>
<th>STEP 3</th>
</tr>
</thead>
</table>
| **Formalize working agreements** | **Design action plans**
  (activities, responsibilities, deadlines, etc.) | **Evaluation of the implementation and model** |

**Step 1: Formalize Working Agreements**

The commitments that value chain actors make to one another and to the financial institutions involved in the initiative are fundamental for mitigating risk and increasing probability of loan
repayment. It is recommended that these commitments be formalized, where possible, by having all value chain actors sign legally binding contracts that include:

- a product floor price
- clear quantity, quality, and timing specifications for the product to be delivered
- a well-understood repayment process, where the buyer channels payments to producers via the financial institution
- a description of all non-financial activities that will improve efficiency and productivity, such as technical assistance, and
In addition, contracts should be developed between the project implementer and its key partners to clearly define roles and responsibilities that are being supported using project funds. These contracts will have a more limited duration and scope, focused on project interventions.

**Step 2: Design action plans (activities, responsibilities, deadlines, etc.)**

Action plans including specific deliverables should be developed for the overall initiative and included in the contracts or MOUs between the project and key implementing partners or grant recipients. A variety of formats can be used for these action plans but the key elements that should be included are summarized in the chart provided below.

<table>
<thead>
<tr>
<th>Performance Objective (desired goals, outputs, outcomes, deliverables)</th>
<th>Performance Indicator (how will you measure your performance for each objective)</th>
<th>Performance Target (Specific Measurable Achievable Relevant Time-bound)</th>
<th>Activities (to achieve targets)</th>
<th>Responsible Person</th>
<th>Due Date</th>
<th>Status</th>
</tr>
</thead>
<tbody>
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</tbody>
</table>

When developing metrics, ensure that the indicators you select are SMART:

- **Specific** – Consider who, what, when, where, why and how in developing the goal.
- **Measurable** – Include a numeric or descriptive measurement.
- **Achievable** – Consider the resources needed and set a realistic goal.
- **Relevant** – Make sure the goal is consistent with the mission.
- **Time-bound** – Set a realistic deadline.

At the project level, you should develop a causal model and theory of change which clearly outlines project activities and the higher-level market systems change to be achieved through a series of AVCF interventions as well as clear metrics for measuring success. The activities being implemented by project partners and falling within their specific action plans should align with and contribute to the project’s overall goal. See the MEDA Market Systems course Module 10 – Causal Models and Module 11 – Monitoring and Impact Measurement (MIM) for more detailed guidance in this area.
Step 3: Evaluation of implementation and model

Being able to learn quickly and adapt to changing circumstances is integral to successful value chain finance work and to market systems approaches generally. Market systems consist of multiple actors with their own goals and points of view and your programme will operate in complex, dynamic and unpredictable situations. In the early phases of a project, it’s especially important to experiment and embrace trial and error. Given that market systems are composed of multiple actors, each with their own goals and points of view, it is that much more important to be attentive to market responses and nimble to change.

Your project’s early market research and detailed implementation plans are vital to construct your project’s strategy but are constructed at the beginning of the project. They are unable to provide perfect information about what the project should do throughout its lifespan. The project must validate its assumptions by engaging with the market, and consistently integrate observations of the market into determining its activities. By acknowledging this uncertainty, the project can embrace a learning mentality to minimize the impact of mistakes and maximize its ability to respond to new information.
Businesses often use a process called “lean start-up” or adaptive management which emphasizes investing minimally, learning quickly if something might work, and if it doesn’t, having the ability to change course. One strategy to learn quickly whether an intervention works is by piloting it. Piloting refers to the process of testing an idea, intervention, or entire project on a small scale before proceeding to implement the full version.

This process of testing a small-scale or “lean” prototype version of the project, collecting preliminary data on the key performance indicators, and adjusting project design to incorporate key learnings all forms what is referred to in project development as an iterative design process. While the prototype is being piloted, project teams can monitor key indicators and engage in reflexive exercises to evaluate what is working and what is not, as well as if the ultimate goal the project seeks to achieve is still relevant.

The findings of this process can then be used to make adjustments to the project’s activities and outcomes, monitoring and evaluation strategies, and even the ultimate goal, in order to inform a second version of the project. Projects can be piloted once before launching an adapted full-scale version, or multiple times in order to reach a workable design. Even after the full version of the project is launched, the iterative design cycle continues throughout the life of a project, as emerging data and learnings feed into continuous adaptations in order to continue to work towards the project outcomes and goal.

Key elements to monitor when monitoring and evaluating the effectiveness of an AVCF intervention are as follows:

1. Improved profitability of the business receiving finance
2. Improved profitability of other players in the value chain that the business operates within
3. Maintained quality of the portfolio financed by the lending institutes that finances such products

See the MEDA Market Systems course Module 11 – MIM as well as Module 12 – Implementation for more details on adaptive management and monitoring and impact measurement approaches.

4.7 Summary

In this module, you applied the knowledge gained in modules 1-3 of the course to design AVCF solutions and interventions. We completed the 4 phases of the design process - 1) Value chain analysis, 2) Analyze incentives/capacities, 3) Design financing strategy, and 4) Implement monitoring strategy - while applying case study examples from the horticulture sector in Ukraine and the honey sector in Kenya. The key takeaway from this module is that careful analysis of the specific value chain and wider market system, including financing and product flows, is essential in designing and implementing effective AVCF programming. Ensure you select appropriate partners with incentives and capacities that align with the project goal and draw on your knowledge of
financing instruments to select the appropriate tool(s) to help facilitate the change needed. While implementing, ensure that roles and responsibilities are clearly defined and employ a flexible, adaptive management approach which enables you to learn quickly and adjust to changing circumstances.

This module focused on the following learning objectives:

1. Value Chain Finance Analysis
   • Assess the financing needs of a particular value chain/market system

2. Incentives and capacities of market actors
   • Analyze the incentives and capacities of relevant market actors

3. Design Financing Strategy
   • Design appropriate solutions and interventions to meet financing needs (gaps) drawing on the financial instruments presented in previous modules

4. Implement and monitor strategy
   • Implement and monitor the performance of AVCF programs
MODULE 5: Conclusion
5.1 Introduction

This is the final module of the *Agricultural Value Chain Finance Guide*. To review, this course started by introducing the key concepts of Agricultural Value Chain Finance (AVCF) and important considerations to understand when financing a business. This course also introduced various AVCF instruments and the importance of risk mitigation and financial enhancement. Modules 1-3 were intended to provide development practitioners, learners and market actors with an overview of these areas. The audience for Module 4 is primarily development practitioners as it covered how these value chain finance concepts and tools may be applied in designing value chain initiatives. Now that you have completed this course, you should be able to:

- Explain key AVCF concepts
- Identify the critical elements in financing a business
- Understand a range of different financing instruments commonly used in AVCF
- Appreciate the concept of risk as it relates to financial lending
- Apply the key steps involved in developing, implementing, and monitoring AVCF solutions.

5.2 Learning Objectives

By the end of this module it is expected that you will:

1. Review key AVCF concepts
2. Review the AVCF instruments introduced in this course
3. Review the importance of risk mitigation and financial enhancement
4. Review key considerations in designing AVCF solutions
5.3 Review of Key Agricultural Value Chain Finance Concepts

Agricultural Value Chain Finance (AVCF)

The definitions of the three core components of AVCF:

1. **Agriculture**: Agriculture can be defined as “all forms of activities connected with growing, harvesting and primary processing of all types of crops, with the breeding, raising and caring for animals, and with tending gardens and nurseries”.  

2. **Value Chain**: A value chain is the full range of activities required to bring a product or service from conception (an idea) through the various stages of production and delivery to a final consumer. It consists of a network of companies that buy and sell to each other in order to supply a particular set of products or services to a particular group of final consumers. A value chain can include all different types of actors; input suppliers, producers, wholesalers, retailers and consumers.

3. **Finance**: Any project, business or task needs resources to fund it. Finance is the art and science of making sure there is the sufficient and optimal amount of funds available in the right time frame, to complete the project/business task.

**There are three purposes of value chain finance:**

1. To make appropriate financing options available and sustainable for all value chain actors
2. To finance expansion and investment into the value chain
3. To break the cycle of low investment/low return production at the producer and small entrepreneur levels

*Agricultural Value Chain Finance* finances the cash-flow gaps in agricultural value chains to bridge a financing gap [your business needs money now, but cash flows (money coming into your business) are expected in two months’ time]. However, it can also be used to capture a business opportunity, since agriculture is seasonal and therefore the price for a product changes depending on the time of year. For example, if your product is onions and sells for a low price during harvesting season,

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finance could support you to sustain your business and store your product to sell in 3 months’ time when harvest is over and prices for onion are higher.

AVCF is unique since the agriculture sector is unique. As a result there are particular issues that arise in AVCF that are important to understand, including:

- **Industrialization and mechanisation:** Most value chains are comprised of similar players in terms of technical expertise, capital capacity, resource availability and production capacity. In the agriculture sector, however, this ranges from small-holder farmers to large scale input suppliers, smaller retailers and wholesalers, and again large traders, processors and distributors. This mix is unique – and given the difference in size, the financial institution or tools used to cater to their needs vary. This makes it very difficult for a large bank that caters to a processor, to also cater to the needs of a small-holder farmer that supplies to the processor.

- **Reliance on Critical External Factors:** Most importantly, weather. Extreme weather, whether it is too much sun, too much rain, or natural disasters, will impact harvest negatively. However, if weather is perfect then most farmers will have a good harvest and there will be so much produce that it can not all be bought and sold. That is again a big loss to the farmers, and to the aggregators who could not foresee these circumstances.

- **Storage, Transportation and Pricing:** Storage and transportation is critical in agriculture - to be able to store food when the harvest is good and price is low in order to sell when the price is high, or transport to an area where the harvest is bad to sell at a high price is ideal. Storage facilities need to be financed as does transportation. Since the food stored does not yield cash flows immediately, the time gap until products can be sold needs to be financed.

- **Diversity within Value Chains:** The actors in the different steps of agricultural value chains (input suppliers, producers, aggregators, processors, distributors, retailers) have varying characteristics, traits and needs. Due to similarities of actors within a particular step, it is relatively easy and less risky for a financial institution to focus its resources and improve intelligence in a particular step in a value chain, rather than focus on all the steps of one particular value chain. As far as possible, a financial institution would seek efficiencies from larger loans to bigger actors and expanding their portfolio in that particular step across various value chains, rather than expanding loans to many diverse players as this is more risky and expensive. It is usually an expensive and a relatively high-risk move to expand to another step in the value chain. Please note, risk is not in simply the loan not being paid back, risk is in not knowing the market well. Comfort of financial institutions can be won with data, improved familiarity with the industry and capacity to gage cash flows and industry performance early on (e.g. consolidated data on global weather patterns is a better/early indicator of future market prices than present commodity exchange prices and demand/supply patterns on the commodity market).
5.4 Review of Agricultural Value Chain Finance Instruments

Critical Elements in Financing a Business

Financing any business involves a few critical elements that define how the financing arrangement is going to make sense for all relevant stakeholders.

- **Purpose:** Any loan provided needs to be for a specific purpose. A borrower will make a request to borrow for a certain purpose, which will be evaluated by the lender (for example, a bank). The lender will provide that loan only if certain criteria are met. If a borrower is not clear on the purpose of the loan and the loan is used for something else; trust, confidence, and capacity of the lender to support will be lost.

- **Loan Repayment Period:** When the purpose of the loan is clear, it is also clear when the business activity will be able to generate enough income that it will be able to pay back
the loan principal (meaning the total loan amount) and the interest as well. If the timing of income is very clear, then the comfort to the lender to lend the money is high. The repayment date of the loan is usually set to very close to when the borrower states they will receive this income.

• **Performance:** Performance is the efficiency at which the borrower creates value with inputs from the loan money (along with the borrowers’ own resources) and generates income. In financing, performance has nothing to do with the product and everything to do with the payments received for it.

• **Primary Source of Repayment:** When looking at a business loan, the “Purpose” is the primary method of how the loan will be paid back. The primary difference between a business loan and a consumer loan (for example, a loan to buy personal electronics or a car) is that a business loan is expected to generate income allowing the business to pay the loan back while a consumer loan is expected to be paid by the borrower’s own source of income (ex. their job) from somewhere else other than the purpose of the loan.

• **Secondary Source of Repayment:** Oftentimes, things may not go as planned so lenders plan for this by establishing one or more secondary sources of repayment. This could include other sources of income of the borrower (for example, a second job) or a guarantee from others (this means that a third party, such as family, guarantees the pay back of the loan and if it is not paid back they will become responsible for paying it back). However, the most used secondary source of repayment is often property which is used as collateral for the loan.

• **Interest Rate:** The relationship between the interest rate and the risk of doing business is directly related. The higher the risk then the higher the interest rate the lender expects. Industry competition also impacts the interest rate, but business risk is always the primary driver.

• **Regulation:** Banking is one of the most regulated sectors of the economy. This is because banks use public money in order to give loans to businesses. This means, when you deposit money into your bank account, banks use this money to take risk and if they are careless then it is the general public that loses its money. For this reason, banks are required to have large amounts of capital as collateral to cover losses (for example, money lost when loans are not repaid), before the bank can use the money that is deposited into bank accounts by the general public.
Agricultural Value Chain Finance Instruments\textsuperscript{13}

Remember, as per the graphic below, there are 5 key categories of financing instruments used in Agricultural Value Chain Finance:

1. Product-based Financing

Product-based financing is the most frequently used form of value chain financing. These include credits that are most often in two forms:

- \textbf{‘Pre-financed Sales’}: this is when credit is provided to farmers by vendors who sell farm inputs
- \textbf{‘Advance Payments’}: these are given to farmers by buyers who purchase farm outputs.

In Module 2, we discussed four product-based financing instruments:

a. Trader Credit
b. Input Supply Credit
c. Marketing Company Credit
d. Lead Firm Financing

These four instruments have many things in common as well as differences in application in terms of a) who is providing the credit or financing b) what is the purpose, and c) how repayment is made.

2. Receivable Financing

Receivable Financing is a general term for financing which is secured by accounts receivables and sales contracts. A receivable is any incoming money or something of tangible value that is owed to a company in the future. It is sometimes referred to as an invoice as this is the promise of future finance into a company. Accounts receivables financing is essentially the process of raising cash against your book’s debts, so an asset finance product, rather than ‘lending’. Accounts receivables finance require companies to have receivables or book debts. As funds will not be paid immediately, this type of finance can help unlock funds.

Normally a loan is made in cash or in-kind whereby security is provided by the assignment of those receivables and the repayment comes from the sales proceeds directly to the lender. It is based on money that is owed to a company for products or services to be provided.

In Module 2, we discussed two receivable financing instruments:

   a. Factoring
   b. Reverse Factoring *remember this is just the opposite of factoring and is an ACCOUNTS PAYABLE solution.

3. Physical Asset Collateralization

A key concept of value chain financing is to use the chain and its products and transactions for securing finance. In agriculture this involves some physical commodity or asset. Financing secured by commodities or moveable assets can often be achieved even when the value chain linkages are weak or fragmented.

In Module 2, we discussed two physical asset collateralization instruments:

   a. Warehouse Receipts
   b. Lease Financing

The right value chain financing instrument always ensures net increase in value across the value chain system. If added working capital credit to a large processor allows it to make early payments to the aggregators, who in turn are able to make early payments to producers, then such producers may not need to borrow (which is usually at a higher interest rate than the rates at which large processors borrow from big banks) from local cooperatives and microfinance institutions. Such chain reactions can go both ways and the bigger picture should always be considered.
5.5 Risk Mitigation and Financial Enhancement Review

Major Risks in Lending in Agricultural Value Chains

Reducing risk is one of the most critical considerations in finance. The major risk categories affecting the agricultural sector are summarized below:

- **Production risks**: These arise from a variety of factors (input supplies, lacking or late credit, low quality standards, improper storage and packing, weather risks, diseases, etc.).

- **Supply risks**: This refers to situations where producers (farmers) may not honour their contractual supply obligations. A commonly observed problem in contract farming is “side-selling,” which derails the built-in repayment mechanisms for farm credits.

- **Finance risks**: These relate to the non-repayment of credit provided to farmers, other producers, or other value chain actors. This risk is borne by the financial service provider (FSP) or the market actor acting as the retail-finance provider for farmers/other actors or by both. Non-repayment may be willful (the borrower does not want to repay the loan) or non-willful (the borrower is unable to repay the loan).

- **Marketing risks**: These relate to the inability to sell on time, in the right quantities and/or at an acceptable quality standard. This includes the short- and long-term market situation and the use or absence of marketing contracts.

- **Price risks**: These arise from fluctuations in market prices in the period between, for example, the time a farm contract is signed and the delivery date. These risks are borne by producers/farmers or the buyer, depending on the type of contract.

- **Climate risks**: These relate to shocks produced by weather, such as droughts or floods. Weather shocks can trap farmers and households in poverty, but the risk of shocks also
limits farmers’ willingness to invest in measures that might boost their productivity and improve their economic situation.\textsuperscript{14}

- **Regulatory Risks**: This is the risk that changes in government regulations or legislations will limit the ability of banks or other actors to make loans or utilize specific lending approaches. Sometimes, even if the bank appears to have a higher risk appetite, regulations do not allow them to be innovative with public money. Governments may also introduce regulations or policies which impact pricing and market conditions in specific sectors.

\textsuperscript{14} IFAD. (2012). *Agricultural value chain finance strategy and design: A Technical Note.*
Financial Sector Risk Assessments

Financial Service Providers use a number of strategies to assess the level of risk that they are willing to take on at both the Individual Loan and Portfolio level, including the above.

**Individual Loan Risk Assessment:** Remember, FSPs typically begin by applying the 5 C’s to assess credit worthiness of the borrower: Character (the individual and their family), Capacity (business performance), Collateral (loan guarantee), Capital (investments in the business) and Conditions (loan terms and market conditions).

**Portfolio Risks:** The portfolio of a financial institution is the complete list of loans and assets being managed by that institution. In addition to considering risks at the individual level, the lender must consider the risk level of its portfolio overall based on region and sector. Key factors influencing regional and sector risk are summarized in the diagrams below:

Risk Reduction Strategies and Financial Enhancements

FSPs use three key financial products and strategies to reduce risk:

1. **Insurance:** Insurance is a contract, represented by a policy, in which an individual or entity receives financial protection or reimbursement against losses from an insurance company. The company pools clients’ risks to make payments more affordable for the insured. There are two key types of insurance: a) life insurance (life insurance offers coverage for financial losses to a family related to the death, disability, etc. of an individual family member) and b) non-life insurance (non-life insurance offers compensation for loss of or damage to an asset – like a building, car, cargo, etc.). Insurance products offer protection to purchasers but also reduce lending risks for financial institutions as insurance makes it more likely that the borrower will be able to maintain its business in times of crisis and repay its loans.

   • **Credit Portfolio Insurance:** Insurance products discussed above are products that borrowers would take for themselves, and lenders would demand that they have in place to protect the assets that their loan helped purchase. Credit Portfolio Insurance is purchased by banks for a standard portfolio of products to protect against gross risk of industry non-performance, large-scale economic challenges, etc.

2. **Guarantees:** A guarantee is a risk mitigation/financial enhancement product consisting of a certificate from the bank or another actor promising to pay an individual a specific sum of money if the borrower is unwilling or unable to pay. While de-risking instruments offered by insurance companies cover against specific risks related to the borrower’s lack of capacity to pay, guarantee instruments also cover the borrower’s willingness to pay. This mechanism is
called a “guarantee” because it is guaranteeing (confirming or promising) that payment will be received, reducing risks around both the capacity and willingness to pay of borrowers. The three guarantee instruments discussed in Module 3 were:

a. **Performance guarantees**: A performance guarantee is an assurance of compensation if the guaranteed party delays performance or performs inadequately on a contract.

b. **Financial guarantees**: A financial guarantee is a guarantee that the guaranteed party shall pay under certain conditions, and if they don’t, then the bank will pay.

c. **Credit Guarantee Fund**: A credit guarantee fund is an example of a financial enhancement. It is a fund which encourages the financial institution to take more risk on certain sector, industry or demography of borrowers by committing to pay the loan back if borrowers fail to pay for certain reasons.

3. **Technical Assistance**: Technical assistance de-risks loans through training and other support activities focused on improving business performance. “What if the business stops producing good products?” is something lenders review during their credit analysis but have limited ability to influence other than keeping a close watch on performance and building some performance conditions into the loan contract.

### 5.6 Review of Designing AVCF Solutions

There are a number of steps involved in developing, implementing, and monitoring AVCF solutions and interventions. In Module 4, four key phases were discussed including: 1) value chain analysis, 2) analyze incentives/capacities, 3) design financing strategy, and 4) implement and monitor the strategy.
Phase 1: Value Chain Analysis

The starting point for designing effective AVCF programs is a strong analysis of the market system focused on understanding: 1) the structure of the value chain and financing actors; 2) the current flows of finance, 3) the gaps in financing flows. This information is gathered using Market Research and following three steps:

- Step 1: Map the chain and analyze the strategies
- Step 2: Map the flow of the internal and external finance
- Step 3: Identify and prioritize the critical gaps in the financing flows

Phase 2: Incentives and Capacities of Market Actors

Using a facilitation approach, it is extremely important to carefully analyze the interests or incentives (will) and capacities (skill) of various market actors to identify the right partners to provide AVCF options in the long term. This phase of the design process follows 2 steps:

- Step 1: Diagnose incentives and capacities of value chain actors/FSPs
- Step 2: Identify constraints to financing

Phase 3: Design Financing Strategy

In Phase 3 the information collected so far (as well as knowledge of value chain finance models introduced throughout the course) informs the development of a program financing strategy following the steps below:

- Step 1: Design alternative mechanisms of financial linkages
- Step 2: Identify allies and explore potential relationships
- Step 3: Design a financing strategy and model

Phase 4: Implement and Monitor Strategy

The final phase is to implement and monitor your strategy following the below steps:

- Step 1: Formalize working agreements
- Step 2: Design action plans (activities, responsibilities, deadlines, etc.)
- Step 3: Evaluation of the implementation and model
5.7 Summary

This module focused on the following learning objectives:

1. Review key AVCF concepts
2. Review the AVCF instruments introduced in this course
3. Review the importance of risk mitigation and financial enhancement
4. Review key consideration in designing AVCF solutions

You have now completed the Agricultural Value Chain Finance Guide. We hope that this guide and the accompanying e-course have left you with a deeper understanding of AVCF core concepts and instruments as well as considerations in designing AVCF solutions and interventions. We hope that this course has demonstrated that AVCF is a powerful approach that can increase smallholder farmer’s productivity, improve their financial wellbeing and that of actors throughout the value chain, while increasing agricultural production leading to higher levels of food security.

MEDA’s Market Systems Project Design and Implementation course provides a detailed overview of the full market systems development (MSD) project design cycle. For further details and guidance on market systems project design we would highly encourage you to complete the full Market Systems Project Design and Implementation course available on MEDA’s website (www.meda.org).