Agricultural Value Chain Financing

improving the lives of rural farmers

A Toolkit for Jamaica and the English-speaking Caribbean
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<tr>
<td>ACDI/VOCA</td>
<td>Agricultural Co-operative Development International/Volunteers in Overseas Co-operative Assistance</td>
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<td>ATM</td>
<td>Automated Teller Machine</td>
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<tr>
<td>AVC</td>
<td>Agricultural Value Chain</td>
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<td>AVCF</td>
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<td>Caribbean Micro-finance Capacity Building Programme Phase 2</td>
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<td>D2C</td>
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<td>DS</td>
<td>Direct Savings</td>
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<td>FAO</td>
<td>Food and Agriculture Organisation of the United Nations</td>
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<td>FID</td>
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<td>FHC</td>
<td>First Heritage Co-operative Credit Union Limited</td>
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<td>GDP</td>
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<td>Government of Jamaica</td>
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<td>LAC</td>
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<td>MOAF</td>
<td>Ministry of Agriculture and Fisheries</td>
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<td>MOFP</td>
<td>Ministry of Finance and Planning</td>
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<tr>
<td>Abbreviation</td>
<td>Full Form</td>
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<td>MSME</td>
<td>Micro, Small, Medium Enterprise</td>
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<td>MSR</td>
<td>Member Service Representative</td>
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<td>NDP</td>
<td>National Development Plan</td>
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<td>Project Management Unit</td>
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Acknowledgements

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Valuable technical guidance, inputs, insights and suggestions came from Holly-Rose Robinson, Manager of the Direct2Client Project. Narado Richards, Technical Consultant, provided in-field support and agricultural expertise that enhanced the delivery of the assignment. Information from the Credit, Operations and MIS Departments provided perspectives that added value to the assignment and aligned it to project outcomes.

Also to be credited are the Project Steering Committee, under the guidance of Mr Hopeton Morrison, General Manager of the former STCCU and the CEO of the FHC, Mr Basil Naar, whose feedback led to the refinement and finalisation of the document.

Most importantly, a big thank you to all the farmers in the parish of St. Thomas and other actors in the value chains who participated in the pilot project. Their cooperation enhanced the documentation of proof of the sustainability of this innovative model for financing rural agriculture.

RADA, SDC and UWI Consulting Inc. must be recognised for their invaluable contribution towards the development of the AVCF model and for the technical support which they provided by serving on the PSC. The implementation of the model will require auxiliary services from several organisations.

The Direct2Client Project recognises the future roles which might be played by the following organisations:

- ACDI/VOCA
- Caribbean Agricultural Research and Development Institute
- Caribbean Microfinance Alliance
- Department of Co-operatives and Friendly Societies
- Development Bank of Jamaica
- Environmental Foundation of Jamaica
- GEF Small Grants Programme
- Inter-American Institute for Co-operation on Agriculture
Finally, the financial support of the Inter-American Development Bank Multilateral Investment Fund that made the design and roll-out of the model possible and also facilitated the production of this document, adding to the body of knowledge on rural agricultural financing.
The journey began some four years ago. We started out with a different plan; however, as time progressed our mission changed and we reinvented ourselves to launch a brand new product that will stand to revolutionise micro-financing in Jamaica and the wider Caribbean Basin.

As one of the 20 proposals approved of the over 450 submitted to the IBD at the time, this was a significant feat for the St. Thomas Co-operative Credit Union. The rapid decline in growth and the resultant increase in poverty faced by the parish of St. Thomas forced us to respond to avert further decline. Combining some of the best social, economic, financial and technical tactics that drive growth and economic independence, we decided on agricultural value chain financing.

The approval of the Direct2Client project provided a great opportunity, significantly enabling us to fulfil our responsibilities to our stakeholders while at the same time enhancing the sustainability of the Credit Union. It was, therefore, not difficult to get the buy-in of the Board and Staff.

Results from the market research conducted pointed to lack of financing as one of the major problems faced by the agriculture sector. Further examination of the value chain entry points indicated that the weakest link was at the producer level. Economic growth and development in the parish and Jamaica on a whole is heavily dependent on agricultural growth, so we felt that providing financing for small farmers would stimulate recovery in the Parish.

Then we moved to fully understand the cultural, economic and technical factors that determined value chain dynamics. Considerable time was spent getting to know the farmers, their farming practices and their business cultures.
From that we could determine how to target and tailor the most appropriate methods for successful implementation.

Agri-lending is much different from other types of lending. To ensure farmers’ capacity to repay and reduce their debt burden, only one loan per crop cycle was allowed. The constant monitoring provided by the agronomist on the project was also an important success factor. In addition, we intervened at critical entry points dealing with trade and distribution to ensure the balance of power and protection of the farmers. From there farmers received purchasing contracts based on set prices.

Interest rates are a product of the market. We took the bold move to undertake 90% of the credit risk with the first set of borrowers, allowing farmers to access loans, some for the first time. We have helped farmers to improve their perceptions of credit financing and build understanding and appreciation for the model. Already we have reports of between 100% and 400% increase in production acreage. Now farmers are on the path to self-reliance and sustainability.

The merger of the STCCU and FHC has now opened the prospect for rapid national replication. We are confident that we have progressed in the right direction with FHC now continuing the momentum.

I want formally to recognise the invaluable support of the IDB team led by Wayne Beecher, who held us to the highest standards. Also to be acknowledged are the members of the PSC, who brought their expertise to the table in order to guide the PMU and the wider STCCU/FHC in a direction to address the needs of the beneficiaries adequately.

Hopeton Morrison
General Manager
Former St. Thomas Co-operative Credit Union
Preface

The merger of St. Thomas Cooperative Credit Union Limited (STCCU) and First Heritage Cooperative Credit Union Limited (FHC) on March 1, 2015 heralded a new chapter in micro-financing history.

Years before this merger was even considered, STCCU and FHC held discussions on the financing of rural agriculture. So when the merger took effect, we welcomed the opportunity to take on the Agricultural Value Chain Financing (AVCF) project that was being implemented by STCCU.

STCCU and FHC had shared values, so this merger was mutualistic, with synergies to be gained. FHC sees AVCF as an excellent product to upscale and expand its agriculture lending portfolio. The St. Thomas programme was good; STCCU has completed tremendous groundwork and FHC intends to solidify what has been accomplished and upscale the outcomes to create a national rural financing programme.

Years ago, First Heritage established a Micro and Small Entrepreneurship Division to respond to some of the critical issues faced by micro-entrepreneurs. It was always our intention to extend micro-financing opportunities to our members in all parishes and to provide financial support for the development of rural agriculture. We were accustomed to providing support, mentorship and coaching for our borrowers as we viewed each member as more than just a loan statistic.
Therefore, the holistic nature of AVCF in the provision of training as well as technical and marketing support for farmers was in keeping with our modus operandi as a credit union. As we place emphasis on microenterprise development, we want to encourage entrepreneurs to borrow and expand their businesses.

The timing is perfect as the adoption of AVCF has spring-boarded our mission and has given FHC a unique product that provides an opportunity for small farmers to succeed and to take their businesses to the next level. It is my hope that this knowledge toolkit will inspire development and growth in the microfinance sector, as well as increase financial inclusion among small farmers.

I want to thank all those who paved the way to make this an easy assimilation for the FHC, especially Mr Hopeton Morrison, General Manager of the former STCCU, for his leadership of the Direct2Client Project.

Basil Naar  
Chief Executive Officer  
First Heritage Co-operative Credit Union Limited (FHC)
The Toolkit

Purpose
This knowledge toolkit is developed as partial fulfilment of the requirements of component 4 of the Direct2Client Project. The Toolkit documents the progress of a rural agriculture value chain financing model piloted by STCCU/FHC and the lessons learnt in four supply value chains. The Toolkit is intended to explain the concept of extending financial services directly to rural Jamaican farmers and the transformative role of the value chain approach.

While great emphasis was placed on funding, the Toolkit demonstrates how to integrate all the main entry points for a robust response and create the enabling environment for rural agricultural financing. Developed from the perspective of lending to the farmer, it is heavily reliant on producer-driven experiences. The information contained is defined within the context of the four cash crops investigated and is suitable for production areas of up to six acres.

However, the methodologies are easily replicable and scalable. Therefore, information may be adjusted to suit the needs of other value chains and production capacities.

The AVCF Toolkit posits as an example of financial inclusiveness, poverty reduction, economic growth and development. The document outlines key strategies for mitigating or reducing risks such as price volatility and production inconsistencies within value chains.

Target Audience
The Kit is intended to be a guide for micro-financing institutions in the English-speaking Caribbean that engage in, or have an interest in non-traditional forms of lending, but, in particular, agricultural credit. The
document will further prove to be very useful to legislators, policy makers and other players at all levels in the agriculture sector and aid in removing constraints to agricultural credit.

Players in value chains from planning, to research and development right up to the retailer, including students of agriculture, finance and business should find this document useful. International development partners may also be influenced by the results of this model that could inform how development funds are targeted.

Benefits and Features
The overall impact of this Toolkit is the catalysing role it plays in providing practical guidance on developing financial services in the Caribbean region. It is anticipated that this Toolkit will increase the knowledge of and imbue appreciation for value chain financing.

Readers should also learn how to modify financial products to suit the cultural, legal, infrastructural, social and financial needs of clients. This will lead to increased lending in agriculture and financial inclusion among vulnerable populations.

Its proper use should also lead to better management of credit portfolios in agriculture and reduce the risks both to the lender and borrower. Those desiring to enter into value chain financing will find the standard templates for the development of tools and products. The various annexes should be used in conjunction with the main document as they include comprehensive guidance notes not contained in the main Toolkit.

Structure
The document is developed in four parts and eleven chapters. In Part I, the concepts of value chain, supply chain and rural agricultural value chain are introduced and defined. A full overview of agricultural value chain financing and the rationale and feasibility as developed for the business model piloted by the D2C is given.
In addition, the strategies required to support successful implementation are presented. Furthermore, the significance of, and the basis for this approach and the priority areas are also explained, giving the rationale for the STCCU/FHC approach.

Part II examines the product, processes and people involved in developing and administering the AVCF portfolio. The Part goes into details about how loans are established as well as the disbursement and repayment protocols. The agronomic practices of the four value chains, the monitoring schedule and oversight activities are also outlined. It further examines the financial risks, mitigation measures and technical support that enabled successful execution.

Part III documents the design phases of the business model according to the chronological steps. The steps are covered under three broad instruments incorporating the associated tools supporting them. These tools were used in the development and implementation of the model. Each general tool is analysed in detail looking at the result of each, their limitations and recommendations for use. The tools, while gender-neutral, are adaptable and may be made gender-specific.

Finally, Part IV wraps up the Toolkit with a case study summarising the impact of the business model. Additional guidance for data collection, administration and operational policies are given. Lessons learnt and recommendations are shared. A monitoring and evaluation framework that may be utilised to assess the practice and the impact of the AVCF model is provided.

Links to the various annexes with templates for loan applications, detailed guidelines and operational procedures are included to assist further. Background information on the project, the D2C, STCCU/FHC, the IDB and the MIF are included. This copy is supported by an online version retrievable from Caribbean Microfinance Alliance. The document may be downloaded in full or in segments and navigated according to parts, chapters, value chain or desired tool.
Methodology
Tremendous efforts were made to garner empirical evidence to guide the production of the Toolkit. These measures included observations, consultations and interviews. These were supported by discussion groups and secondary research of technical notes from the STCCU/FHC’s monitoring activities along with drawing on the knowledge of expertise in the fields of agriculture and finance. Primary data was gathered from in-field study. The Toolkit is expected to be updated as the AVCFM is fully utilised and refined.
Executive Summary

St. Thomas is home to over 94,000 persons, 3.5% of the total population, and is reportedly one of the poorest and most economically depressed parishes in Jamaica. Changes in the major industries in the parish such as sugar and banana have led to most of the Credit Union’s members becoming either unemployed or underemployed. The economic landscape of the parish was dominated historically by specific agricultural subsectors, including sugar, banana, coffee and coconut.

However, for decades there has been limited economic development within the Parish. The closure of the Eastern Banana Estate and Bowden Banana Shipment Port has exacerbated economic challenges and increased unemployment levels. Nevertheless, farming continues to be a primary source of livelihood, especially for the rural poor, within the parish where poverty is highest.

In Jamaica, agricultural production added just about 6.8% to GDP and in the Caribbean 3.8% in 2012, an evident decrease when compared to previous years. Agriculture remains among the largest labour force players, accounting for 21.0% to 32.0% in Jamaica and the Caribbean respectively. Globally, the agricultural trade employs just over 1.2B persons. Its employees amounts to almost 40.0% of the workforce, making it the single largest employment sector.

Agriculture has long been posited as the basis for economic growth and independence. For economies such as Jamaica, agriculture makes a significant contribution to GDP. The MOAF recognises the critical role that agriculture plays in enhancing food security, generating employment and reducing imports. Various projects and programmes to stimulate growth within the sector have been implemented over the years. In spite of its significance, investments in agriculture continue to decline.

Therefore, the opportunity was provided for the STCCU/FHC to create the kinds of lending products that farmers need and position itself as a partner in their development.
Without financing and technical assistance, the small farming population that plays a critical role in enhancing food security and poverty reduction will not be able to develop their operations. Although the microfinance sector has been growing, this did not result in increased access to financing for small farmers. The nature of small farming and the low levels of financial and technical literacy among farmers, excluded them from access to traditional loan products.

The requirement for collateral, repayment at fixed intervals and in equal instalments did not suit the needs of the farmer. Within the framework of national commitments to increase investments in agriculture, STCCU/FHC distinguished itself from its competitors. This is due in large part to STCCU/FHC addressing some of the financial and non-financial impediments to agricultural microenterprise development within the parish.

A Feasibility Study conducted in 2013 concluded that formal financial institutions, with the exception of STCCU/FHC and the National People’s Co-operative Bank (PC Bank), are reluctant to lend to small-scale agricultural entrepreneurs. Financial institutions were unwilling due to the perceived risks and the lack of familiarity with this type of lending.

Research conducted by STCCU/FHC indicated that farmers were producing below optimal levels due to a lack of financial resources, technical knowledge and record-keeping skills. Further analysis indicated that STCCU/FHC would be the only financial institution within the parish that would offer both financing and technical services, and would be the first in Jamaica to offer AVCF. With this new product line, an opportunity for significant market positioning was opened up.

STCCU/FHC took the strategic decision to provide financing for rural small farmers in order to stimulate economic growth and enhance livelihoods. Global advances in AVCF and micro-lending prompted STCCU/FHC to test this financing model as a driver for economic development in eastern Jamaica.
Entering the VCs at the most vulnerable level, necessitated the development of relevant approaches to rural micro-financing.

As a result, farmers were enabled to develop their farms sustainably into viable, growing businesses. Responding to a major gap, loan repayments were tied to the individual crop production cycle and guaranteed by crop lien. The agricultural value chain financing methodology is being used to strengthen entire supply and demand systems. It is intended to foster long-term growth in the local agricultural sector and enhance the outcomes of this pilot D2C project.

The design phase included nine stages:

1. **Market Research** to gather demographic, production and income data on the target market; their current use of financial institutions and their level of need for financial services.

2. **Value Chain Stakeholder Mapping** to identify and delineate the value chains in St. Thomas with high-yielding potential as well as key stakeholders along these chains.

3. **Feasibility Study** to determine the practicability and potential viability of financing the selected AVCs. The Study included strategic and business risk assessment to analyse the economic and legal contexts within which AVC lending may be conducted.

4. **Institutional Capacity Gap Analysis** to determine readiness levels and the gaps in the people, processes, products and infrastructure required to support AVCF.

5. **Value Chain Product Design and Development** to develop the loan products to match production cycles and the financing and technical services needed to support credit.

6. **Business Systems Development** to outline the characteristics of the human, financial, organisational, marketing and management systems required to provide the AVC lending framework.
7. **Business Model Prototype Development** to identify and document a clear business plan strategy for the design and implementation of AVCF. This Model was based on the following:

- Value Propositions
- Customer Segments
- Customer Relationships
- Marketing Strategies
- Delivery Channels
- Risk Management
- Financial Strategy
- Key Strategic Partners

8. **Technology Application to Support AVCFM** to configure the loan management system to facilitate AVCF processing and enable mobile customer support.

9. **VCF Product Rollout and Testing** to allow use and refinement of the model according to the operations plan and to facilitate lessons learnt and knowledge sharing.

While the current regulatory framework is favourable to AVCF, it may need strengthening to encourage wide scale replication. The success stories from the farms that participated in the Pilot are inspirational. Production and harvesting moved from between 100% and 400%.
Chapter 1

Agricultural Value Chain Defined
To comprehend the concept of agricultural value chain financing, we first need to understand some key terms. These are:

- Supply Chain
- Value Chain
- Value Drivers
- Value Chain Financing
- Agricultural Value Chain
Supply Chain
A Supply Chain is a network of all the players involved in the process of getting goods or services from the creator to the user.

Value Chain
Though similar and used interchangeably, a Value Chain, on the other hand, is the sequence of bringing a product through a series of connected value-added activities in order for it to reach the final consumer in the desired manner.

Put another way, the USAID defines a value chain as encompassing the full range of activities and services required to bring a product or service from its conception to sale in its final markets.

Markets could be local, national, regional or global. Value Chains include input suppliers, producers, processors and buyers. Value Chains are supported by a range of technical, business and financial service providers.

The concept of the Value Chain was, however, made popular by business strategy influencer and university professor, Michael Porter. For him, value chains are an interlinked value-adding set of activities that convert inputs into outputs that, in turn, add to the bottom line and help create competitive advantage.

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1 USAID FS SHARE.2012. Lending to the Agriculture Sector
A value chain typically consists of the primary activities of:

1. Inbound distribution or logistics
2. Manufacturing or production operations
3. Outbound distribution or logistics
4. Marketing, sales and service

These primary activities are supported by secondary activities that include:

1. Purchasing and procurement
2. Research and development
3. Human resource development
4. Corporate infrastructure

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2 Porter’s Value Chain retrieved from [www.mindtools.com](http://www.mindtools.com) accessed February 06, 2015
Value Drivers
Value drivers, when introduced, increase the value of a product and improve it for competitive advantage. Value drivers could be speed, quality, etc. For these purposes, the chief value driver is financing.

Value Chain Financing
Value chain financing refers to the flow of money or other financial products to and within the supply value chain that funds the various
actions, and/or alleviate constraints to aid its efficiency.

**Agricultural Value Chain**

An agricultural value chain is, therefore, the value added to an agricultural product as it moves through the various stages in the link to get the produce to the table of the consumer. Through these linkages, all actors within the chain collaborate to operate more efficiently to intensify production, minimise waste and ultimately increase income.

Putting these concepts all together, we get the foundation for agricultural value chain financing, which is discussed in the next chapter.
Chapter 2

Agricultural Value Chain Financing (AVCF)
AVCF is the flow of funds or other financial arrangements among the various links in the agricultural value chain. It is any or all of the financial services, products and support services flowing to and/or through a value chain. AVCF can be internal financing directly from one value chain actor to another, or external, for example, from a financial institution or investor based upon the borrower’s value chain relations and activities.  

The approach is based on a comprehensive knowledge of actors and their relationships within production and delivery systems. It is, therefore, a powerful tool for designing products that are tailored to meet the particular needs of the various actors within these systems.

This knowledge-based approach to financing benefits both borrowers and financial institutions. Production techniques are improved and inputs and access to markets are guaranteed. Pooling the business and science of agriculture, AVCF reduces risks and improves efficiencies, thereby increasing sustainability.

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Benefits of AVCF

The AVCF approach takes a systemic view of entire actors, processes and markets within the agricultural sector. Financing is not just geared towards the individual borrower but is based on a comprehensive view of production and economic indicators throughout the entire value chain.

AVCF has the advantage of facilitating an in-depth analysis of the variables that could affect an individual borrower, as well as the entire system. Benefits are provided for both financial institutions and actors along the chain.

- AVCF is not solely the provision of financial services. It also includes auxiliary services such as marketing, research and technology, training and extension. The AVCF approach is a potent tool for transforming the agriculture sector and increasing incomes through the application of sound agricultural practices and agri-business development.

- Traditional financing products are usually based on a homogenous “one size fits all” approach. However, AVCF can facilitate the design of financial products that are tailor-made to meet the peculiar needs of both borrower and lender. This approach lessens the risk faced by financial institutions as they have an understanding of the system in which they are investing, rather than lending based solely on the point of view of the borrower.

- AVCF enhances financial inclusion which is an imperative for poverty alleviation among poor and marginalised groups. Usually, small farmers are unable to qualify for loan services from traditional financial institutions.

- The flexibility allows the borrower to be in a better position to repay loans.
• AVCF provides an integrated knowledge platform sharing among actors. This aids in making timely adjustments to changes in market conditions, production scenarios and environmental factors. Therefore, the approach provides a framework that facilitates communication, problem-solving and improved marketing competitiveness.

• AVCF increases efficiencies by consolidating linkages, refining production and delivery systems and consequently reducing costs.

• Working with value chain actors in a closed loop that seeks to optimise production can enhance livelihood development, community building and food security. The system increases social cohesion and the creation of long-lasting business relationships that consolidate and stabilise both production and delivery.

• Another key benefit of the AVCF approach is sustainability. Using comprehensive data driven and responsive systems and adopting policies and strategies that strengthen actors along the chain can lead to the creation of viable and robust systems that are self-sustaining. The result is higher financial returns and stimulation of growth within the system.

• AVCF provides risk management mechanisms for financial institutions as well as other value chain stakeholders. Producers benefit from the access to guaranteed markets that are created; processors and traders benefit from consistent supplies from farmers and financial institutions
benefit as their risk is reduced by lending to clients with stable business relationships.

- The comprehensive approach used in AVCF produces the kinds of vertical and horizontal integration that not only benefit the value chain actors, but can stimulate regional and national economic growth and improve a country’s balance of payments.

- AVCF also benefits the lender. According to the USAID, agricultural loans usually have higher returns than conventional loans over similar time periods. AVCF attracts additional business by leveraging the connections from the current customer, offering other products for growth.\(^4\) This position was strengthened by the results of the Feasibility Study conducted by STCCU/FHC. It indicated that projections from an annual loan portfolio of 250 could yield a return on investment of 45.0\(^\circ\).\(^5\)

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\(^4\) USAID. FS Share.2012. Lending to the Agriculture Sector, Page 11

\(^5\) St. Thomas Co-operative Credit Union.2014.AVC Financing Business Model. Page 20
Disadvantages of AVCF

Although AVCF has significant benefits, the approach has some inherent risks that have to be managed to improve the efficiency and sustainability of the system.

One of the foremost risks associated with the approach is side-selling. Numerous examples of farmers breaching contractual arrangements and selling to other buyers in order to obtain higher prices exist. Side-selling breaches marketing contracts and reduces reliability among the actors. Based on securing immediate gains rather than a long-term, strategic approach towards agricultural entrepreneurship, side selling can also indicate the underdeveloped status of players.

Side-selling is often a result of fluctuations in market prices. Sometimes when farmers are confined to set rates through contractual arrangements they are not able to take advantage of higher prices that might emerge in the market.

However, the converse is also true, as they will be able to obtain the high prices agreed in marketing arrangements, even if market prices fall.
Chapter 3

Why AVCF for St. Thomas
St. Thomas is home to over 94,000\(^6\) persons, 3.5% of the total population and is reportedly one of the poorest and most economically depressed parishes in Jamaica. Changes in the major industries in the parish such as sugar and banana have led to most of the Credit Union’s members becoming either unemployed or underemployed. The economic landscape of the parish was dominated historically by specific agricultural subsectors, including sugar, banana, coffee and coconut.

Small farming is the primary form of micro-entrepreneurship and overall employment in eastern St. Thomas, with 10,927 farmers being registered by RADA in 2013 and 1,886 of them were active members of PMOs. However, for decades there has been limited economic development within the parish, and the closure of the Eastern Banana Estate and Bowden Banana Shipment Port has exacerbated economic challenges and increased unemployment levels.

The December 2013 Market Research indicated that the main crops grown on these farms were plantain and banana (39.6% and 33.8% respectively); ginger 10.4%; hot pepper 11.7%; legumes 23.5%; tomato 9.2%; carrot 13.3%; sorrel 16.4%; orchard crops 40.6%; staple 16%; cash crops 46.4%; and livestock farming 45.1%. Most farmers operate on one to six acres of land but are producing below optimal levels due to lack of financing and technical skills.

Nevertheless, farming continues to be an important source of livelihoods, especially for the rural poor within the parish, and the dynamics of this economic sector makes it a formidable player in poverty reduction and food security. The positives to be derived from farming, however, require continued

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\(^6\) Planning Institute of Jamaica. 2012. Economic And Social Survey of Jamaica
efforts to innovate and reposition the sector to connect benefits and maximise its impact.

This will need to be predicated on in-depth analyses of small farming in St. Thomas, the various needs of farming households and market characteristics. The production cycles and investment requirements among farming groups are non-homogenous, and, therefore, require a suite of individually tailored financing options. This necessitates the development of relevant approaches to rural micro-financing that will enable farmers to develop their farms sustainably into viable, growing businesses.

![Figure 3.1: Barriers to Production](source: STCCU survey, December 2013)

Without funding and technical assistance, the small farming population, which plays a critical role in enhancing food security and is a significant contributor to the parish’s economy, will not be able to develop viable businesses, and economic declines will be exacerbated. Therefore, STCCU/FHC took the
strategic decision to provide financing for rural small farmers in order to stimulate economic growth and enhance livelihood development.

The traditional lending models for agriculture have not yielded the desired results. STCCU/FHC conceptualised a different approach informed by the findings and recommendations of a Feasibility Study that was conducted in 2014. Building on this position the concept was bolstered by lessons from ACDI/VOCA, WOCCU and Opportunity International.

Jamaica is classified by the World Bank as a middle-income developing country, and in 2012 had a per capita GDP of US$5,120. The country has made significant strides since gaining independent status in 1962. Nevertheless, little economic growth has been persistently recorded over several periods. The average real GDP per capita growth rate for the past 30 years amounted to 1% per year (PIOJ).

Jamaica’s internal challenges are compounded by external pressures imposed by global economic factors and environmental disasters such as hurricanes and other tropical storm systems. The Country is also faced with a dollar that is experiencing devaluation against several major currencies, including the United States and Canadian Dollars and British Pound Sterling.

Further, the economy contracted as a result of the 2008/2009 global recession. Performance indicators revealed that the years 2010 to 2013 were characterised by periods of limited growth and recession. GDP showed annual growth rates of -1.5% for 2010 and 1.3% and -0.2% for 2011 and 2012 respectively.
Downturns in the Jamaican economy have had a negative impact on the poverty rate. The Jamaica Survey of Living Conditions 2010 indicates that between 2008 and 2010, the poverty rate increased in all demographic regions. Additionally, the poverty prevalence projections articulated in the Vision 2030 Jamaica - National Development Plan have not been achieved. Poverty is highest in rural areas, where incomes and opportunities for growth are more limited when compared to cities and major towns.

The economic outlook indicates that the Credit Union will need to develop a strategic approach to lending that capitalises on positive developments in the macroeconomy and minimises risks posed by instability and sluggish economic growth.

Globally, the agricultural trade employs just over 1.2B persons, almost 40.0% of the workforce. This makes agriculture the single largest employment sector. In the Caribbean region, and more so Jamaica, agriculture employs 32% and 21.0% respectively. In Jamaica, agricultural production adds just about 6.8% to GDP and in the Caribbean 3.8%, an evident decrease when compared to previous years.

In recognition of the critical role that agriculture plays in enhancing food security, generating employment and reducing imports, the Ministry of Agriculture and Fisheries has implemented various projects and programmes to stimulate growth within the sector. Agriculture has also received multilateral funding and technical assistance from donors.

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7 Food and Agriculture Organisation of the United Nations
8 Caribbean Community Secretariat extracted from http://www.caricom.org/jsp/speeches/44food_crops_society_bourne.jsp
9 Planning Institute Of Jamaica. 2012.Economic And Social Survey of Jamaica
10 Planning Institute Of Jamaica. 2012.Economic And Social Survey of Jamaica
11 Caribbean Agribusiness retrieved from http://www.agricarib.org/primary-dropdown/general-statistics
such as the Inter-American Development Bank, European Union, Global Environment Facility, USAID and the Food and Agriculture Organisation of the United Nations (FAO).

An analysis of the operating environment indicates that STCCU/FHC would be the only financial institution within the Parish that would offer both financing and technical services. Although the Credit Union has over 50% of market share, it is seeking to design products aimed at capturing a greater percentage of the market.

STCCU/FHC will distinguish itself from its competitors by offering auxiliary services to complement its loan products. The goal is to remove some of the non-financial impediments to agricultural microenterprise development within the Parish so that the loans granted will have an optimal effect on business development and livelihoods.

In order to provide the auxiliary services, the Credit Union will seek to form partnerships with stakeholder agencies to provide a composite of products and services that will grow the small farming sector in St. Thomas.

The Jamaican economy is currently going through a period of transition. Close monitoring of growth indicators and initiatives to strengthen the economy must be done in order to position the Credit Union and its AVCF line of business to respond to these changes.
The agricultural value chain financing methodology is being used to strengthen entire supply and demand systems. It is intended to foster long-term growth in the local agricultural sector and enhance the outcomes of this pilot project.

In recent years, there has been an increase in the number of MFIs in Jamaica. The money lending industry (microfinance institutions) is said to have about 100 firms. The proliferation is in response to the high rate of growth in the development of micro-enterprises, as many see this as a viable source of income in the face of high levels of unemployment.

However, most loan products are based on traditional models, such as the requirement for repayment at fixed intervals and in equal instalments.

Although the microfinance sector has been growing, the nature of small farming (seasonal income generation) and the low levels of financial and technical literacy among farmers, exclude them from access to these products. STCCU/FHC is seeking to fill this gap by increasing financial inclusion among the small farming population.

Through the Direct2Client project, the institution stimulated development within the local agricultural sector by making micro-financing available to small farmers. Understanding and addressing their peculiar needs is critical where security of tenure, lack of financing, high inputs costs, high cost of credit and natural hazards are among the main issues impacting productivity.

The proceeding chapters will outline the measures used in addressing these obstacles to add value to the process.
Chapter 4

Feasibility of the STCCU/FHC Concept

Global advances in AVCF and micro-lending have prompted STCCU/FHC to test this financing model as a driver for economic development in Eastern Jamaica. Following on the results of a market research and a value chain stakeholder mapping exercise, STCCU/FHC undertook a Feasibility Study for financing four selected value chains. The Study informed the business model that created a roadmap for developing a viable agricultural value chain lending portfolio.

The research revealed that a sizeable potential market exists within St. Thomas for AVCF and that the Credit Union could increase its agricultural lending portfolio by over 1,000 new loans. In addition to the findings of the market research, global case studies prove that AVCF has had a positive effect on the production levels, incomes and agricultural practices of farmers.

Within the Latin America and the Caribbean (LAC) region, organisations such as the World Council of Credit Unions (WOCCU) and Opportunity International have implemented successful AVCF projects. In countries such as Peru, Mexico, Guatemala and Nicaragua, these projects have had the added advantage of strengthening the MFIs that give loans to small farmers.

Calculations of the expected return on investment and operational self-sufficiency indicate that this could be a viable line of business. However, the extensive nature of the risk framework for AVCF in St. Thomas
suggests that a conservative approach must be pursued and that risk monitoring must become a critical and timely activity to minimise potential losses.

Additionally, the Feasibility Study indicated that STCCU/FHC will need to form collaborative partnerships with agencies that can provide auxiliary services that will be necessary to complement the financial services offered. These services include technical support in agricultural science, training in financial management and record keeping as well as marketing support. The auxiliary services are critical for optimising production levels and incomes and, therefore, farmers’ ability to repay loans.

The financial analysis presented in the Study indicates that, with good agricultural practices, farmers should be able to earn sufficient incomes from their farms to repay loans. However, because their creditworthiness has not yet been established, it is recommended that a ceiling of JM$300,000.00 is placed on first-time loans. It is also suggested that crop insurance be attached to loans, to provide recovery capital in the event of a hurricane or other tropical storm.

The Feasibility Study concluded that formal financial institutions, with the exception of STCCU/FHC and the National People’s Co-operative Bank (PC Bank), are not willing to lend to small-scale agricultural entrepreneurs because of the perceived risks and their lack of familiarity with this type of lending.

This provided an opportunity for STCCU/FHC to create the kinds of loan products that farmers need and position itself as a partner in their development. However, due to the high levels of risk involved and, the fact that micro-entrepreneurs usually lack traditional forms of collateral, the Credit Union must operate within the defined target market niche to minimise the possibility of losses.

Although AVCF can be done, the regulatory environment within which STCCU/FHC currently operates is changing. Therefore, the Credit Union will need to keep abreast of changes as they emerge to ensure that compliance is maintained. The organisation will also need to test whether or not new
regulations will erode the feasibility of pursuing the development of an AVCF portfolio.

The Feasibility Study recommended a conservative approach towards developing the AVCF line of business as this type of financing is new to Jamaica. Additionally, a significant percentage of the target market is unfamiliar with best practices in crop production, establishing and maintaining marketing arrangements, financial management and good record-keeping principles.

This recommendation underpinned development of the components of the Business Model and has guided the development of policy and procedure manuals. The key components of the design are\textsuperscript{12}:

- Value Propositions
- Customer Segments
- Customer Relationships
- Marketing Strategies
- Delivery Channels
- Risk Management
- Financial Strategy
- Key Strategic Partners

A market for AVCF exists in St. Thomas, and the Credit Union is uniquely positioned to take advantage of this opportunity. However, the financial forecasts indicate that strategic partnerships will have to be developed with stakeholder agencies to deliver some of the services that will be needed to complement financing. This informed the development of the value propositions, which will facilitate developments in the application of good agricultural practices, record-keeping and proper management of marketing arrangements.

The Credit Union will also seek to develop relationships with farmers’ groups through application of the principles of sustainable rural development and community engagement, in order to secure commitment to the AVCF model and minimise risks, such as side-selling. Some of the key components of the conservative strategy include targeting only the niche market defined in the December 2013 Market Research and employing lowcost direct marketing strategies.

\textsuperscript{12} See further details in Part III, page 50
The delivery channels that will be used include mobile and internet banking as well as debit cards. Additionally, in order to take advantage of the proliferate use of cellular phones among rural populations, SMS technology will be used for communicating critical information, such as market updates, to value chain actors and facilitating remote access to accounts.

The vulnerability of agricultural investments to natural phenomena, particularly hurricanes, droughts and floods, would also necessitate investments in microinsurance coverage, such as crop insurance, to protect both the MFI and the farmer, by ensuring access to recovery capital in the event of a natural disaster.

**Regulatory Framework for AVCF**

STCCU/FHC operates within a broad legal and regulatory framework supported by policies and regulations that place constraints on business decisions. The current framework to enable AVCF consists of the financial sector regulations, various Acts governing agriculture and sustainable land use, as well as business enhancement policies.

They have both direct and indirect influence on the STCCU/FHC’s involvement in AVC and include:

1. The Co-operative Societies Law (1950)
2. Bank of Jamaica Law (1960)
3. The Money Lending Act (1938)
7. The (Proposed) Micro Credit Act
8. Rural Agricultural Development Authority Act (1990)
10. The Pesticides Act (1975)
12. Micro, Small and Medium Enterprise Entrepreneurship Policy
Chapter 5

Value Chain Selection Process
A value chain mapping exercise was conducted in January 2014 to identify the value chains in St. Thomas with high-yielding potential and the major players in those value chains. The objective of this exercise was to develop a targeted approach to lending by selecting specific VCs for intervention.

Four emerged as the most promising. By identifying the chains that would be supported, STCCU/FHC could develop loan products that were tailored to match the crop cycles within these chains, therefore meeting the farmers’ specific needs.

It all begun with a survey of the six RADA extension areas in the parish of St. Thomas to identify all the value chain actors, their readiness and their potential to add value.
Ten thousand, nine hundred and twenty seven registered farmers were identified and being serviced by 55 PMOs. In addition, ten registered input suppliers, four processing companies and a number of itinerant and static wholesalers, traders, higglers and retailers were also identified.

**Value Chain Actors and their Specific Needs**

<table>
<thead>
<tr>
<th>Value Chain Actors</th>
<th>Role in the Value Chain</th>
<th>Needs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input Suppliers</td>
<td>Provide seeds, fertilizers, chemicals, tools, equipment, and sometimes training &amp; technical support.</td>
<td>Working capital to buy inputs; Capital for purchasing fixed assets; electronic financial system; insurance and savings products</td>
</tr>
<tr>
<td>Producers</td>
<td>Growing of crops and rearing of animals; may take part in some post-harvest handling and marketing.</td>
<td>Working capital; financing to purchase or lease equipment, land preparation, transportation, storage and infrastructure development; electronic financial system; savings and insurance products (incl. crop insurance); Training and other capacity development programmes.</td>
</tr>
<tr>
<td>Workers</td>
<td>Provide labour</td>
<td>Salaries and wages; insurance, loans and saving products. Training and other social development programmes.</td>
</tr>
<tr>
<td>Processors</td>
<td>Add value to agricultural produce making them more marketable and extending shelf life</td>
<td>Working capital to buy agricultural produce; capital for investment in production and storage facilities; equipment; electronic financing system, insurance and savings products</td>
</tr>
<tr>
<td>Exporters</td>
<td>Sell processed and fresh agricultural products to international buyers.</td>
<td>Working capital to buy processed and fresh agricultural products; capital for investments in transportation and storage facilities; international trade finance; electronic financing system; insurance and savings products</td>
</tr>
<tr>
<td>Marketers</td>
<td>Sell to buyers/consumers</td>
<td>Working capital to buy processed or fresh agricultural products; capital for investment in transportation and storage/handling facilities; electronic financing system; insurance and saving products; Training and other capacity development programmes</td>
</tr>
<tr>
<td>Consumers</td>
<td>Buy both fresh and processed products</td>
<td>Personal loans; electronic financing system; insurance and saving products. Community development programmes</td>
</tr>
</tbody>
</table>

Source: STCCU Compilation, 2013

Table 5.1
Value Chain Selection

Value chain selection criteria included:

- Evidence of unmet market demand for products
- Potential for competitive growth with value drivers such as technology
- Ability for actors to be involved in multiple production cycles annually
- Potential to increase earnings
- Potential to add value to produce to increase competitive advantage

Value Chain Scores based on Selection Criteria

<table>
<thead>
<tr>
<th>EVALUATION CRITERIA</th>
<th>DESCRIPTION</th>
<th>RATING</th>
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<tbody>
<tr>
<td>Unmet Market Demand</td>
<td>Evidence of unmet market demand for products</td>
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<tr>
<td>Growth Potential</td>
<td>Potential for the subsector to grow competitively using appropriate technologies and management systems</td>
<td>10</td>
</tr>
<tr>
<td>Value Added</td>
<td>Potential for the subsector to add value to raw material/s for increased marketability and earnings</td>
<td>10</td>
</tr>
<tr>
<td>Production Costs</td>
<td>Potential for the subsector maintain a relatively low marginal cost of production</td>
<td>10</td>
</tr>
<tr>
<td>Potential to Increase Incomes</td>
<td>Potential exists to increase earnings at all levels of the value chain</td>
<td>10</td>
</tr>
<tr>
<td>Turnover Time</td>
<td>Potential for actors within the subsector to be engaged in more than one successful production season per annum</td>
<td>5</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td><strong>55</strong></td>
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Table 5.2
Selection Criteria for Value Chains

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<tr>
<th>Value Chain</th>
<th>Unmet Market Demand</th>
<th>Growth Potential</th>
<th>Value Added</th>
<th>Production Costs</th>
<th>Potential to Increase Incomes</th>
<th>Turnover Time</th>
<th>Total</th>
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<td>Gungo Pea</td>
<td>8</td>
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<td>5</td>
<td>7</td>
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<td>1</td>
<td>34</td>
</tr>
<tr>
<td>Coffee</td>
<td>6</td>
<td>6</td>
<td>7</td>
<td>6</td>
<td>6</td>
<td>1</td>
<td>32</td>
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</table>

Of the 13 value chains analysed, four crops were selected. These are:
1. Callaloo
2. Ginger
3. Hot pepper
4. Onion

**Callaloo**

Callaloo (Amaranthus sp), is an annual upright branching succulent broad leafy vegetable. The Callaloo plant grows to heights ranging from two to six feet and may be planted all year round. The two main varieties

Table 5.3
are the hybrid Cow Tongue and local, Ever Green and boast its very low input costs.

The crop is tolerant to nematodes, fungal and bacterial wilt. These factors make it feasible for growing on limited resources. Callaloo is consumed in Jamaica and the wider Caribbean, as well as other areas of the tropics. The leaves are an excellent source of fibre, protein, vitamins and minerals.

Thirty percent of the AVCF portfolio was allocated to this crop.

1. Normally harvested in six weeks after direct seeding
2. Optimum harvesting period of 14 to 18 weeks
3. Repayment begins within 10 weeks. 14 weeks for farmers with land preparation loan component
4. Loan is repaid in full at end of crop cycle
5. Maximum loan term of 6 months
6. Yields 11 tonnes per acre
7. Local production supplies the export market with over 70 tonnes annually

**Ginger**

Ginger (Zingiber officinale Rosc.), a herbaceous perennial crop that is best planted in April/May. Its distinct flavour is produced by its fleshy rhizome (rootstalk). The Flavour of ginger is due to its main element, zingiferine. The strong taste of ginger is due to zingirone. Ginger is used as a spice on a large scale, in the preparation of medicines and confectionaries.
The Jamaican ginger is rated as one of the best in the world because of its high potency. Its strength and flavour are generated naturally, and this is attributable to the island’s climate and rich soil composition. The crop is used primarily for cooking and medicinal purposes.

Twenty percent of the AVCF portfolio was allocated to this crop.

| 1. | Normally harvested within 36 weeks after direct seeding |
| 2. | Optimum harvesting period of 52 weeks |
| 3. | Repayment begins within 40 weeks. 44 weeks for farmers with land preparation loan component |
| 4. | Loan is repaid in full at end of crop cycle |
| 5. | Maximum loan term of 12 months |
| 6. | Yields 5 tonnes to 7 tonnes per acre fresh. 1 tonne to 1.5 tonnes per acre dried |
| 7. | Local production is 56.0% of the 535 tonnes demanded annually |

Hot Pepper

Hot Pepper (Capsicum Spp), a semi-tropical annual vegetable crop that may be planted all year round. The condiment is highly sought after by lovers of spicy foods. Known for its powerful taste, the Scotch Bonnet and the West Indian Red are the two varieties grown in Jamaica. The Scotch Bonnet pepper is preferred in the fresh and export markets while both varieties are required in the agro-processing industry for the manufacturing of sauces and jerk seasoning.\(^\text{13}\)

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Health benefits attributed to the hot pepper include relief for osteoarthritis pain, sinusitis and congestion as well as its fat burning and weight loss values.

Twenty-five percent of the AVCF portfolio was allocated to this crop.

1. Normally harvested between 13 to 17 weeks after transplanting
2. Optimum harvesting period of 20 to 24 weeks
3. Repayment begins within 16 weeks. 20 weeks for farmers with land preparation loan component
4. Loan is repaid in full at end of crop cycle
5. Maximum loan term of 10 months
6. Yield 9 tonnes per acre
7. Local production is 98.0% of the 10.6 tonnes demanded annually

**Onion**

Onion (Allium cepa), an annual plant grown for its fleshy bulb and connective scales enclosed in paper-like casing leaves. Onions are best planted October to December. The onion is related to garlic, leeks, chives and scallions. The plant is a well-known herb and is widely sought after for its flavour and health benefits. Onion ranks fourth in world production of vegetables.

Onion has an important role as a medicinal herb in many communities, and is claimed to minimise high blood pressure and other heart diseases due to its favourable action on the elasticity of blood vessels. Onion ranks second in importance where vegetables are concerned.
Twenty five percent of the AVCF portfolio was allocated to this crop. 

**Box #5.2**

**Annuals**
Plants that complete their life cycle within one year then die.

**Biennials**
Plants (usually flowering) that take two years to complete their life cycle.

**Perennials**
Plants that live for more than two years and continue to sprout from the roots even for decades.
Chapter 6

Financing Mechanism
The objectives of the VCLM are to:

1. Create avenues for sustainable micro finance lending
2. Promote agricultural competitiveness
3. Encourage and promote utilisation of community assets
4. Align and integrate actors along a series of agricultural value chains
5. Provide needed support services for value chains actors
6. Optimize production and stimulate livelihood development among producers within value chains
7. Facilitate the formation and development of producer cooperatives to mitigate the risks associated with AVCF, as well as to enhance marketing strength

Strictly following the recommendations from the results of the Feasibility Study, loan products, loan ceilings and disbursement policies along with risk management strategies were developed and implemented to support the financing mechanisms.

Loan arrangements were set to match production cycles and the peculiar cash flow patterns and marketing needs of farmers. Under the AVCF programme, loans were guaranteed by Crop Lien. All the crop produced was assigned to the Credit Union and the purchaser paid the STCCU/FHC directly.

Understanding the AVCF Model

Box #6.1

Crop Lien
A form of credit system that allows farmers to receive vital inputs on credit or access finances to fund production activities and the crop is used as security. At harvest, the debts are deducted from the sales and the balance remitted to the farmer.
Through the Crop Lien system, production forecasts were used to calculate credit limits. Farmers could then acquire vital inputs or pay workers, prepare land, aid transportation and storage as well as finance smallscale infrastructural development, for example, installation of irrigation systems.

Loan amounts were set between JM$100,000.00 and JM$300,000.00 based on the risks and costs associated with agri-lending. Due to high levels of risks associated with agricultural investment, the financial strategy placed of cap of 250 loans for the pilot phase.

**Fees and Interest Rates**

Fees and interest rates are subject to periodic reviews based on changes in the financial and macro-economic landscape. The pricing strategy ensured profitability while at the same time containing costs to enable farmers’ ability to repay.

Therefore, interest rates are set at 34.0% per annum. However, given that most crop cycles were less than one year, applicants actually benefit from lower effective interest rates. For example, 17% for Callaloo and onions which are six month loans. In addition, fees of 6.0% are charged on loans: 1%, 2% and 3% respectively for appraisal (which includes an on-site assessment), monitoring and administration.

**Preconditions for Loan Application**

- Membership with STCCU/FHC
- Completed loan application form
- One passport-sized photograph
- Proof of address
- Recommendation from RADA
- Tax Registration Number
- RADA Registration (ID or letter)
- Proof of land tenure\(^{14}\)

\(^{14}\) Tenure must be minimum of one year
• Cultivation area of between half an acre to six acres
• Statement of anticipated production volume and income from the crop
• Engaged in farming for a minimum of two consecutive years
• Be between the ages of 18 and 65
• Production area within 30 minutes of drive time from the STCCU/FHC\textsuperscript{15} office

\textsuperscript{15} Set as part of the robust monitoring plan to reduce risks. Enables access to proper agricultural infrastructure, ease of access to markets, supports monitoring schedule
Loan Conditions

- Applications reviewed and decided on within 10 working days
- Loans range between JM$100,000.00 and JM$300,000.00
- Interest rate of 34% per annum (effectively 17% to 34% as calculations match production cycles)
- Loan fees of 6% for administration, site appraisal and monitoring
- Mandatory deposit of 10% of the loan amount lodged with the credit union prior to loan approval. This is held by the Credit Union until the loan is repaid
- Maximum of 50% of estimated crop returns lent
- Loan repayment schedule and moratorium period based on production cycle of crop and cannot exceed the optimum period to harvest
- Valid market contract
- Sale proceeds are remitted directly to the credit union. The agreed loan repayment is deducted, and the borrower receives the difference
- Only one loan per crop cycle
- Subsequent loans are based on performance

Understanding the AVCF Model

Box #6.2

Summary of Lending Procedures

1. Expression of interest by farmer and submission of required documents
2. Assessment of proposed site for suitability for AVCF activities
3. Assessment report submitted to Credit Union
4. Recommendations to make site suitable for value chain production
5. Formal application made
6. Administrative checks and verification of pre-conditions
7. Loan approved or declined
8. Technical monitoring
   a. Pre-planting assessment
   b. Land preparation
   c. Planting
   d. Germination
   e. Transplanting
   f. Growing
   g. Pre-harvesting
9. Harvesting
10. Market distribution
11. Funds paid to STCCU/FHC
12. Funds allocated for loan repayment and farmers’ income
13. Loan account closed
Loan Approval Actions
Once a loan is approved and prior to disbursement, the Credit Union undertakes a number of measures. These include the preparation of the loan notes and the assignment of the crop insurance to the Credit Union. The Credit Union will further register all liens with the relevant agencies and update the loan information in Goldmine.16

Successful Value Chain Financing Preconditions
- Solid financial institutions that have offices near the producers and are committed to the rural sector
- Organised producer groups with market potential
- Basic infrastructure, including roads, electricity and telephone networks
- Legal systems that enforce contracts and provide some type of land ownership documentation (not necessarily a title)
- End buyers who are willing to actively participate in the value chain
- Staff members who are qualified to manage the process
- External providers of auxiliary services
- Access to basic, reliable market data either through public sources or other value chain participants

WOCCU, 2009

Loan Disbursement
Having met the preconditions and conditions for the loan, farmers are on their way to receiving their first payment based on the crop lien guarantee. Loans are disbursed in tranches according to the needs of the farmers which in turn are based on the crops being planted.

16 Goldmine is the STCCU’s account receivables and management software
Repayment

Loan repayment schedules are tied to crop production cycles in short-term credit arrangements. Loans become due at maturity of the crop and the repayment period does not exceed the optimum harvesting period. This provides a significant degree of flexibility for farmers by aligning repayment terms with projected income flows from the crop.

The first payment is used to cover the interest accrued during the growing (moratorium) period. Subsequent payments are applied to principal and interest.

Penalties are incurred for late and partial payments.

Managing Risks

With minimum collateral requirements to be fulfilled on the part of the farmers, the Credit Union bore 90% of the risk. Rigorous measures are employed to manage risks which result from environmental, financial and social factors. Risk management includes forecasting and responding to unexpected occurrences.

Understanding the AVCF Model

**Box #6.3**

**KEY Implementation Success Factors:**

- Finance
- Financial literacy and management training for beneficiaries
- Technical assistance from Agronomist
- Monitoring
- Access to input supplies
- Access to markets
Quick Reference Risk Management Strategies

<table>
<thead>
<tr>
<th>Risk</th>
<th>Impact</th>
<th>Management Strategy</th>
</tr>
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<tbody>
<tr>
<td>Market fluctuations</td>
<td>Side selling, Contract default</td>
<td>Contracts should consider market demand forces</td>
</tr>
<tr>
<td>Crop failure/loss</td>
<td>Loan default</td>
<td>Comprehensive monitoring</td>
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<td></td>
<td></td>
<td>Finance high-yielding produce</td>
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<td></td>
<td></td>
<td>Weather-based insurance</td>
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<tr>
<td>Operational risks</td>
<td>Breakdown in process efficiencies</td>
<td>Develop and implement SOPs</td>
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<td>Train staff</td>
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<td></td>
<td></td>
<td>Process audits/evaluations</td>
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<tr>
<td>Liquidity risks</td>
<td>Weaken Credit Union’s financial integrity</td>
<td>Institute mandatory savings portfolio in loan products</td>
</tr>
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<td></td>
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<td>Leverage external funding</td>
</tr>
<tr>
<td>Low levels of technical competence among farmers</td>
<td>Reduced production capacities, Inability to meet loan repayment requirements</td>
<td>Ongoing training, business management, financial and technical support</td>
</tr>
</tbody>
</table>

Table 6.1

- **Target ready farmers**
  Farmers who are most ready are already members of RADA and are accustomed to production. They may be more trainable.

- **Set up robust technical assistance and monitoring systems**
  Provides added support to boost farmers existing competencies and increase production. Problems are identified early and responses implemented on a timely basis.
- **Establish strategic networks**
  Maximises the benefits of the value chain financing model. Increases accountability and reduces side-selling.

- **Share risk**
  Utilise weather-based or crop insurance policies. Maintain mandatory saving component. Leverage support from donor partners and other organizations.

**Crop Failure and/or Defaults**
The parish of St. Thomas is prone to natural hazards; therefore, the risk of weather-related crop loss is very high. Insurance claims may only be made in the event of hazards triggered by severe weather conditions. In the case of other conditions for default, the STCCU/FHC will transfer the hypothecated (amounts pledged specifically as security for debt and protected by law as such) amount from the savings account to the loan account.  
*See the Operations Manual for detailed loan serving policies and procedures here.*

**Institutional Capacity – The People**
With the product and the process in place, to do it all, the people were needed to implement this massive undertaking. For STCCU/FHC, it was more than sitting in an office and making decisions. A participatory approach saw the involvement of AVCF personnel at all levels, and included spending time in the field to learn about the farmer.

These positions are critical for delivering the product:
1. Member Service Representative
2. AVCF Administrator
3. AVCF Officer (Agronomist)
4. Microfinance Loans Manager

<table>
<thead>
<tr>
<th>Role</th>
<th>Responsibilities</th>
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<tbody>
<tr>
<td>Member Service Representative (MSR)</td>
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</table>
  - Identify the farmer’s financing needs  
  - Provide preliminary loan information for the farmer  
  - Process initial loan application  
  - Execute transactions in the banking system to create accounts and Standing Orders for the maintenance of the AVCF loans  
  - Conduct “Know Your Client” due diligence activities  
  - Log the status of the loan application in Goldmine |
<table>
<thead>
<tr>
<th>Role</th>
<th>Responsibilities</th>
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</table>
| AVCF Administrator        | • Promote AVCF products to prospective farmers  
                            • Process loan disbursements  
                            • Collate all documents related to the application process and submit to Loans Manager for approval  
                            • Maintain a database for tracking farm activities, for example; production levels, prices received for all crops  
                            • Audit transactions on a daily basis to ensure accuracy of the information posted in the system  
                            • Communicate with MSR, Agriculture Specialist and Loans Manager regarding AVCF loans |
| AVCF Officer              | • Provide technical assistance and advice for farmers during and after the loan application process  
                            • Evaluate farm suitability and develop a detailed report of farm conditions for loan approval and disbursement purposes  
                            • Monitor farm performance during the life of the crop  
                            • Record and report on findings from site visits  
                            • Provide intermediation services between purchasers and farmers  
                            • Communicate with MSR, AVCF Administrator and Loans Manager regarding AVCF applications and loans |
| Micro-finance Loans       | • Appraise loan applications  
                            • Ensure that all documentation is in place for loan application  
                            • Monitor the productivity of the AVCF portfolio  
                            • Ensure that the request for credit is entered into Clareti and Goldmie  
                            • Work along with the AVCF Officer, MSR and AVCF Administrator to support the analysis of the farmer’s eligibility for the loan  
                            • Communicate with MSR regarding the approval or denial of the credit facility  
                            • Support the delinquency management process  
Manager |
<table>
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<tr>
<th>Role</th>
<th>Responsibilities</th>
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</table>
|      | • Determine the sampling criteria and review a sample of the new loans to watch for  
|      |   o Investment and coaching opportunities  
|      |   o Adherence to credit risks, operational risks and credit guidelines  
|      | • Review monthly New Loan Report  
|      | • Promote and market the AVCF product |

Through the CARIB-CAPII project which was funded by the Inter-American Development Bank, the AVCF representatives and management staff underwent extensive training in the identification, development and pricing of new products as well as learning about loan management throughout their life cycles. The training also included modules on business processes, change management and communications, rural development, risk management, community banking, micro-enterprise development and ICTs.

In addition, training was conducted in agricultural value chain lending through the Direct2Client project to address the peculiar characteristics of this type of lending. This was of particular importance as there were no similar projects in Jamaica from which staff could acquire this knowledge.

**Change Management**

Having reviewed the findings of the Training Needs Analysis, the ADKAR Model is being used as it is the most appropriate for STCCU/FHC given its emphasis on the people side of change.

Below are the elements the ADKAR Change Management Model:

- Building **AWARENESS**
- Creating **DESIRE**
- Developing **KNOWLEDGE**
- Fostering **ABILITY**
- **REINFORCING** Change
Institutional Capacity – The Technology
STCCU/FHC undertook an assessment of its loan management IT platform to determine the areas that needed configurations to facilitate implementation of AVCF. To meet the added requirements for processing AVCF loans, configurations were made to accommodate the four loan products which were developed; and with these configurations in place, the system is able to facilitate loans with various payback terms to match the income flows from the various production cycles.

The upgraded system also contains an electronic loan appraisal module which is used in the first phase of assessment of loan applications.

The Loan Management System (LMS) is modular and provides functionality to support a wide variety of activities, including the following:

- Adding the AVCF loans to the system
- Managing the loans from application to closeout
- Recording AVCF transactions in the Credit Union’s general ledger
- Creating the following reports:
  - Loans booked per day
  - Loans booked per month
  - Loans booked per Officer
  - Gross loan portfolio
  - Aging reports per day, week, etc.
  - Gross savings generated from new loans
  - Agricultural Value Chain Financing portfolio performance
  - Debit card usage totals (loan funds are accessed by debit cards)
  - Collateral maintenance for the loan portfolio (including block cash deposits)

**Box #6.4**

**Understanding the AVCF Model**

**KEY Implementation Success Factors:**

- Understand the culture of St. Thomas farmers
- Be able to relate to farmers
- Employ participatory approaches
Chapter 7

Technical Assistance
Technical assistance is crucial for financing of AVCs, where the entry point is at the production (producer/farmer) operation level. Unsustainable and incorrect farming practices have an impact for food safety, food security, production yields and eventually financial yield.

The AVC Officer must, therefore, be an expert in crop production systems.

This chapter details the general agronomic practices and monitoring schedules and activities required for successful AVCF. The information is by no means exhaustive.

Agronomic Practices

<table>
<thead>
<tr>
<th>Agronomic Practices</th>
<th>Crop Type</th>
<th>Callaloo</th>
<th>Ginger</th>
<th>Hot Pepper</th>
<th>Onion</th>
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<tbody>
<tr>
<td><strong>Variety</strong></td>
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<td></td>
<td>Cow Tongue; Ever Green</td>
<td>Yellow</td>
<td>Scotch Bonnet; West Indian Red</td>
<td>Arad; Caballero; Mercedes; Texas Early Grano</td>
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<tr>
<td><strong>Land Preparation</strong></td>
<td></td>
<td>Well prepared beds made by a plough are raised and incorporates the use of plastic</td>
<td>Land should be prepared 1 to 3 months prior to planting. The land is ploughed at</td>
<td>Properly tilled and weathered before planting. Fields should be ploughed</td>
<td>Levelled and suitable for irrigation. Ploughed deep as possible. For good</td>
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<td>Agronomic Practices</td>
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<td></td>
<td>mulch and drip irrigation. Organic material, such as compost may be used prior to planting. A soil pH of 6.0 – 7.0 is ideal for growth</td>
<td>least 1ft, well-drained, rested, friable, loamy soil, rich in nutrients Add well-broken down manure about one month before planting. Fresh manure may needed at 2 to 4 months.</td>
<td>by time of sowing. Allow enough time between ploughing and transplanting, so as to expose the soil to sunlight.</td>
<td>germination, well-tilled seedbed with fine loose surface is required. Mark out prepared seed bed in rows 4” to 6” apart.</td>
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<tr>
<td>Climatic Conditions</td>
<td>Tropical crop grown in warm, dry and humid weather.</td>
<td>Tropical crop grown in warm, dry and humid weather.</td>
<td>Tropical crop grown in warm, dry weather.</td>
<td>Low atmospheric humidity, clear, bright days. Photo-sensitive and will form bulbs when days are between 10 to 14 hours long, being classified as short-day or intermediate-day.</td>
<td></td>
</tr>
<tr>
<td>Seeding</td>
<td>Planted either by direct seeding or transplanting. Planting means should have</td>
<td>Ginger is grown by using portions of mother rhizomes with</td>
<td>Buy seed packages that are clearly labelled, detailing</td>
<td>Grown by direct seeding or transplanting. Seeds may be sown by mixing</td>
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<td>Agronomic Practices</td>
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<td><strong>Arad; Caballero; Mercedes; Texas Early Grano</strong></td>
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<td></td>
<td>good drainage, free of pests, diseases and weeds. Seedlings germinate in 2 to 3 days and may be transplanted into the field in as little as 3 weeks from sowing.</td>
<td>sprouted buds. The seed rhizomes should be treated with a fungicide for 30 minutes, drained and then used for planting. For hand planting, cut the furrows using a hoe and place pieces in the bottom.</td>
<td>specie, variety, date of harvesting, percentage germination, and producer’s name. Construct nursery using good quality seeds in seedling trays with good potting soil and fertiliser.</td>
<td>seeds with an equal amount of fine sand. The mixture of sand and seed is then evenly spread in the groove, or first spread the sand into the groove. The seeds are then spread evenly over the sand in the groove. Seedlings should be transplanted to the field 6 weeks after sowing in the nursery. When transplanting, spread the roots carefully in the natural position before pressing the soil around the plant.</td>
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<tr>
<td>Planting</td>
<td>If direct seeding is used, seeds are sown in rows ½” deep or less. Seeds are sown at 2” apart and covered with a layer of compost or grass. When transplanted the spacing is 12” within rows and 24” between rows to a depth of 2” to 4”.</td>
<td></td>
<td>Seedlings will emerge in 7 to 12 days and ready for transplanting after 5 to six weeks. Field site for growing the crop should have full sunlight all day, and not be shaded; with fairly deep, well-drained soil in the afternoon or</td>
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<td>Agronomic Practices</td>
<td>Crop Type</td>
<td>Table 7.1</td>
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<td></td>
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<td>evening, and ideally, after rain or irrigation.</td>
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<tr>
<td>Crop Care - Nutrients</td>
<td>The main fertilisers required NPK and can be adjusted based on the nutrient status of the soil at planting. Applied at pre-planting and 10, 20 and 30 days after transplant.</td>
<td>Ginger is not fertilised much in Jamaica. However higher yields are possible with fertiliser use, especially where the land has not been allowed to rest. Fertiliser is applied at tillage, planting and 45 and 120 days after planting.</td>
<td>NPK is suitable and may be applied at transplanting and flowering.</td>
<td>Requires good fertiliser application. Depending on soil fertility, the type and amount of fertiliser may be varied. Fertiliser is to be applied at pre-planting, root establishment and throughout growth to bulbing.</td>
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</tr>
<tr>
<td>Crop Care - Irrigation</td>
<td>Constant supply of soil moisture results in increased yields. If plants are wilting during the day, then increased irrigation may be necessary.</td>
<td>Not much is needed. Applied immediately after planting and at 10 day intervals.</td>
<td>Peppers need to be well irrigated to produce a good crop. Drip is preferred. For the first 4 weeks after transplanting, irrigate daily.</td>
<td>Sensitive to water deficit. Over-irrigation leads to reduced growth. Application, therefore, varies, and plants should be watched</td>
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</tr>
<tr>
<td>Drip irrigation is recommended</td>
<td>Thereafter, depending on rainfall, every other day</td>
<td>carefully for wilting.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crop Care - Pest, Disease, Weeds</td>
<td>Good land preparation from is essential and a proactive measure to weed prevention. Mulching in transplants reduces weed. Callaloo is tolerant to most diseases. Chemical treatment according to established guidelines may be used to treat pests such as cutworm, aphids, flea beetles and mites.</td>
<td>Susceptible to rhizome rot. Do not plant ginger from affected areas; use healthy planting material only from fields with no disease; break and inspect insides for off-colour and rot; treat planting material with fungicide. Use hand-weeding to control weeds.</td>
<td>Susceptible to Whitefly, Aphids, Broad-mite and other pests. A combination of chemical use and/or barrier cropping may be used to control pests. Diseases are better managed by starting with healthy seedlings. Chemicals and hand weeding may be used to control weeds.</td>
<td>Hand weeding prevents weed contamination. Diseases are controlled through field sanitation and chemical application.</td>
<td></td>
</tr>
<tr>
<td>Harvest and post-harvest</td>
<td>Harvesting is restricted by cool weather conditions. Harvested when</td>
<td>Starts about 12 weeks after transplanting. Fruits must be reaped with</td>
<td>Onions become soft at the neck when matured and top falls over. During</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agronomic Practices</td>
<td>Callaloo</td>
<td>Ginger</td>
<td>Hot Pepper</td>
<td>Onion</td>
<td></td>
</tr>
<tr>
<td>---------------------</td>
<td>------------</td>
<td>----------</td>
<td>------------</td>
<td>-------------------------</td>
<td></td>
</tr>
<tr>
<td>Variety</td>
<td>Cow Tongue; Ever Green</td>
<td>Yellow</td>
<td>Scotch Bonnet; West Indian Red</td>
<td>Arad; Caballero; Mercedes; Texas Early Grano</td>
<td></td>
</tr>
</tbody>
</table>

leaves are young and succulent and after the safe period for spraying. Stalks are cut below the bulges with clean, sharp knife and immediately placed in water. Callaloo should be chilled for storage and/or shipment. Mature seeds are later collected and may be used as planting material for next season.

full green colour or yellow/red. Fruits should look fresh and firm. Peppers need good ventilation and will stay for 2 to 5 days before starting to decay. this stage and immediately after, food materials are being transferred to bulbs. DO NOT REAP before this stage ends. Onions are then cured by placing in drying room and stored in well aired facility separate from other fruits and vegetables.

See detailed agronomic practices [here](#).
Crop Monitoring
Crop monitoring is undertaken from pre-planting until harvesting. This activity forms part of risk management and also ensures optimum production levels to ensure loan repayment.

Monitoring is done both on-site and by telephone. The following guidelines are used:

**Pre-planting Assessment**
- Prior to planting, perform an environmental assessment of the production field and surrounding area. Focus these evaluations on the production field for proximity to watersheds, gullies, rivers and streams and possible animal intrusion
- Assess adjacent lands for possible sources of weeds or pests that might contaminate the production field
- Estimate adequacy of the irrigation and drainage systems in and around the production field
- Check for evidence of past or present flooding, water logging or soil erosion that may affect production
- Note any potential risk of runoff from adjacent properties to the production fields

<table>
<thead>
<tr>
<th>Monitoring Timeframe</th>
<th>Callaloo</th>
<th>Ginger</th>
<th>Hot Pepper</th>
<th>Onion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land Preparation</td>
<td>Not later than 4 weeks after loan disbursement</td>
<td>Not later than 4 weeks after loan disbursement</td>
<td>Not later than 4 weeks after loan disbursement</td>
<td>Not later than 4 weeks after loan disbursement</td>
</tr>
<tr>
<td>Seeding</td>
<td>1 to 2 weeks after loan disbursement</td>
<td>N/A</td>
<td></td>
<td>N/A</td>
</tr>
<tr>
<td>Planting</td>
<td>4 to 6 weeks after loan disbursement</td>
<td>6 weeks after loan disbursement</td>
<td>4 to 5 weeks after loan disbursement</td>
<td></td>
</tr>
<tr>
<td>Crop Care Visit 1</td>
<td>5 weeks after loan disbursement</td>
<td>8 to 10 weeks after loan disbursement</td>
<td>10 weeks after loan disbursement</td>
<td>4 to 8 weeks after loan disbursement</td>
</tr>
</tbody>
</table>
Monitoring Calls

The Agriculture Value Chain Officer must make follow-up calls to farmers between monitoring visits. These calls are for information sharing and are intended to enhance the monitoring system in several ways.

They are designed to:

i. Confirm delivery of goods and services

ii. Ensure that farmers are adhering to good agricultural practices. Categories under which practices will fall include: thinning, transplanting, weed management, water and irrigation management and pest and disease management. Good agricultural practices are important to maximise the yield potential of the crops being cultivated

iii. Build relationships between STCCU/FHC and farmers

iv. Build trust within the value chains

Monitoring Activity

<table>
<thead>
<tr>
<th>Monitoring Activity</th>
<th>Callaloo</th>
<th>Ginger</th>
<th>Hot Pepper</th>
<th>Onion</th>
</tr>
</thead>
</table>

Table 7.2
<table>
<thead>
<tr>
<th>Monitoring Timeframe</th>
<th>Callaloo</th>
<th>Ginger</th>
<th>Hot Pepper</th>
<th>Onion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crop Care Visit 2</td>
<td>8 weeks after loan disbursement</td>
<td>16 to 20 weeks after loan disbursement</td>
<td>16 weeks after loan disbursement</td>
<td>10 to 12 weeks after loan disbursement</td>
</tr>
<tr>
<td>Pre-harvest visit</td>
<td>3 weeks before harvesting</td>
<td>4 weeks before harvesting</td>
<td>3 weeks before harvesting</td>
<td>3 weeks before harvesting</td>
</tr>
</tbody>
</table>

Table 7.3
<table>
<thead>
<tr>
<th>Monitoring Activity</th>
<th>Callaloo</th>
<th>Ginger</th>
<th>Hot Pepper</th>
<th>Onion</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Seeding</strong></td>
<td>Assess for properly established and designated nursery, soil moisture management and proper infrastructure in place.</td>
<td>N/A</td>
<td>N/A</td>
<td>Assess sowing, irrigation techniques, weed management.</td>
</tr>
<tr>
<td><strong>Planting</strong></td>
<td>N/A</td>
<td>Assess planting material for good quality, clean and healthy free of bacteria, diseases, pests, etc.</td>
<td>Assess planting material for high quality, free from pests and disease; adequacy of soil moisture and infrastructure.</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Crop Care Visit 1</strong></td>
<td>Assess for proper planting, fertilisation, irrigation, pest management and other agronomic practices.</td>
<td>Assess for good agronomic practices, germination gaps, appropriate weed, disease, application of fertiliser and irrigation management.</td>
<td>Assess insect, disease, weed, fertilisation and irrigation management.</td>
<td>Assess for management of nutrient levels, soil moisture, weed, insects, pests, disease and other agronomic practices.</td>
</tr>
<tr>
<td><strong>Crop Care Visit 2</strong></td>
<td>Assess for maturity of crop, fertilisation, irrigation, pest</td>
<td>Assess for good agronomic practices; completion of fertilisation;</td>
<td>Assess insect, disease, weed, nutrient and irrigation management;</td>
<td>Assess management of insect/pest populations, weed, and</td>
</tr>
<tr>
<td>Monitoring Activity</td>
<td>Crop Type</td>
<td>Callaloo</td>
<td>Ginger</td>
<td>Hot Pepper</td>
</tr>
<tr>
<td>---------------------</td>
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<td>-----------------------</td>
</tr>
<tr>
<td></td>
<td></td>
<td>and disease management.</td>
<td>weed, disease, irrigation and water management; forecast yield.</td>
<td>progression of crop.</td>
</tr>
<tr>
<td>Pre-harvest visit</td>
<td>Forecast yield.</td>
<td>AVC Officer fills out seedling and plant production documents and enters data in Goldmine. Set alert for harvesting.</td>
<td>Assess insect, disease, weed, nutrient and irrigation management; forecast yield.</td>
<td>Assess for timely irrigation; absence of fertiliser residues; maturity of bulbs; forecast yield.</td>
</tr>
</tbody>
</table>
Chapter 8

Steps to Development of the Model

STCCU/FHC embarked on a mission to explore the key elements of developing an Agricultural Value Chain Financing model that is appropriate to suit the dynamics of the Jamaican small farmer. The result? An integrated rural Agricultural Value Chain Financing model guaranteed by crop lien.

The STCCU/FHC approach would be inclusive, with flexibility built in to create a range of lending products that would increase access to credit services among the farming community. This inclusive strategy is imperative, due to the fact that farmers have very little in terms of other sources of income with which to repay loans during the growing season, so the loan terms had to match their income patterns from farming activities.
An essential component of the strategy would be to provide auxiliary services such as technical advice on agricultural matters and assistance with securing market contracts, thus positioning the Credit Union as a facilitator of development in farming communities, rather than merely a source of credit.

This approach to micro-lending will meet the needs of the target market in a holistic way and set the institution apart from its competitors. The goal is for the intended beneficiaries to perceive STCCU/FHC as a partner in their development.

This chapter captures how the institution applied market research techniques to gather and analyse data on various value chain actors, demands (types of products and services) and readiness. In addition, it captures:

1. How STCCU/FHC acquired specific technical expertise at the institutional level
2. Defined, designed and deployed the most appropriate model and its specific financial products
3. Forged effective partnerships with the selected value chains

The Feasibility Study recommended a conservative approach towards developing the AVCF line of business. This type of financing is new to Jamaica and a significant percentage of the target market is unfamiliar with best practices in crop production, establishing and maintaining marketing arrangements, financial management and good record-keeping principles.

This recommendation from the Feasibility Study for a conservative approach, underpinned development of the components of the Business Model and also guided the development of policy and procedures manuals. Arising from the Feasibility Study, the Business Model strategy for design and implementation was based on the following:

1. **Value Propositions**
   Build on the value propositions to reduce barriers to production (See page 19)
2. **Customer Segments**
   Targeting ready farmers who are already producers within the value chains and who have been the proven potential to do well.

3. **Customer Relationships**
   Going much deeper than the traditional banker/client relationship, the AVCF approach is built on the concepts of community development and sustainability. Customer relationships will be developed and maintained through the monitoring mechanism and the provision of auxiliary services.

4. **Marketing Strategies**
   Use of low-cost direct marketing strategies intended to reach rural farming communities. Marketing strategies include presentations, fliers, exhibits and sponsorship of community social events.

5. **Delivery Channels**
   Delivery channels include mobile and internet banking as well as debit cards. Additionally, in order to take advantage of the boom in cellular phone use among rural populations, SMS technology will be used for communicating critical information, such as market updates, to value chain actors and facilitating remote access to accounts.

6. **Risk Management**
   The Credit Union managed its vulnerability to losses by targeting groups that were identified as having the greatest potential for profitability and optimising production. Risk management was also included in the broader risk management functions of the Credit Union.

7. **Financial Strategy**
   The value outcomes for farmers will be the provision of financial and other services that will facilitate the development of their operations into viable, robust enterprises and result in increased incomes.

8. **Key Strategic Partners**
   Other local and international development, social and funding organisations such as the SDC, RADA, GEF SGP will be engaged to ensure that resources will be available to provide the suite of services required for successful lending and development of the targeted value chains.

The AVCF model was designed in nine stages including a comprehensive market research, value chain assessment, product development and the development of operating procedures and systems.
<table>
<thead>
<tr>
<th>Steps</th>
<th>Purpose</th>
<th>Result</th>
<th>How to Use</th>
<th>Possible Partners</th>
</tr>
</thead>
</table>
| **Stage 1**  
*Market Research* | To assess the demand for the types of rural micro-financing being proposed; to define opportunities, the nature and quantity of demand for rural financing and specific needs and gaps in the value chains. | Demographic, production and income data on the target market; current use of financial institutions and their level of need for financial services to access working capital to support the production cycle. Information gained from the market research was used to identify the existing agricultural value chains so that the ones with the greatest potential could be mapped. | Administer survey in target areas with major if not all entry points along the VC using individualised questionnaires. Design survey to investigate:  
- Demand for local financing  
- Value chains currently existing  
- Relations-hips among the actors within the value chains identified  
- Opportunities for entry of rural financing. | National body responsible for agriculture development and management, especially extension services. |
| **Stage 2**  
*Value Chain Stakeholder Mapping* | To identify and delineate value chains with high-yielding potential; the various stakeholders along the chains and their inter-relationships. | Value Chain stakeholder mapping report to identify the entry point and inform the feasibility study. | Identify, shortlist, select value chains using market research. | National body responsible for agriculture research, development and management; statistical bodies; development partners. |
| **Stage 3**  
*Feasibility Study* | To determine potential viability and practicability of the financing model selected for St. Thomas AVCs; the strategic. | Knowledge of potential viability of model for the STCCU/FHC as well as strategies for enhancing the | Collect data using surveys and focus group discussions with various stakeholders. Supplement primary data with secondary data gathered from | National body responsible for agricultural research and development. |
<table>
<thead>
<tr>
<th>Steps</th>
<th>Purpose</th>
<th>Result</th>
<th>How to Use</th>
<th>Possible Partners</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>business, economic risks and legal contexts within which the AVC lending could be conducted.</td>
<td>effectiveness of the model.</td>
<td>other institutions within the agriculture sector.</td>
<td></td>
</tr>
<tr>
<td>Stage 4</td>
<td><strong>Institutional Capacity Gap Analysis</strong></td>
<td>Analysis of the human, financial and technological challenges, strategies and implications for service delivery.</td>
<td>Quantitative data gathered through a survey completed by customers and employees. In addition, a semi-structured interview and focus group done with senior and middle managers.</td>
<td>WOCCU; other credit unions that are implementing AVCF models.</td>
</tr>
<tr>
<td>Stage 5</td>
<td><strong>Value Chain Product Design and Development</strong></td>
<td>Four (4) credit products for providing rural micro-financing for small farmers using the AVCF approach.</td>
<td>Use the elements of the STCCU/FHC product description to guide development of similar products. Tailor the product details to suit local environments.</td>
<td>WOCCU; credit unions that are already using the AVCF approach for rural micro-financing e.g. Caja Popular Zongolica in Mexico.</td>
</tr>
<tr>
<td>Stage 6</td>
<td><strong>Business Systems Development</strong></td>
<td>Guidelines for AVCF operations management; detailed guidelines for change management to introduce the AVCF line of business.</td>
<td>Tailor guidelines to suit local environment.</td>
<td>Business development organisations.</td>
</tr>
<tr>
<td>Steps</td>
<td>Purpose</td>
<td>Result</td>
<td>How to Use</td>
<td>Possible Partners</td>
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</tbody>
</table>
| Stage 7  
**Business Model Prototype Development** | To create a roadmap for developing a viable agricultural value chain lending portfolio. | Operations manual with governance strategy, finance and cost management strategies, pricing, marketing, funding delivery channels. | Target niche market and tailor the prototype to suit local environments. | Business development organisations; microfinance organisations; farming cooperatives. |
| Stage 8  
**Technology Application to Support AVCFM** | To configure the loan management system to facilitate AVCF processing and enable mobile customer support. | IT systems in place to support AVCF and technologies such as internet banking, debit cards and SMS messaging engaged to deliver the core as well as auxiliary products. | Configure IT systems to take advantage of advances in technology in order to diversify product delivery channels and increase financial inclusion among rural populations. | WOCCU Services Group; other credit union software providers. |
| Stage 9  
**Value Chain Financing Product Roll-out and Testing** | To operationalise AVCF line of business and non-financial products, services and support systems. | An innovative financing system which is specifically tailored to meet the needs of rural farmers is engaged in St. Thomas. | Develop relationships with farmer groups through application of the principles of sustainable rural development; engage marketing strategies to promote uptake of the AVC loans and provide the required levels of support to potential beneficiaries. | Development banks; socio-economic development bodies; Government ministries, departments and agencies responsible for business development in the agriculture sector. |
Chapter 9

A Case Study in Agricultural Value Chain Financing

The following case study proves the feasibility and profitability for both borrower and lender for micro-financing of agricultural value chains. It has been developed based on the value propositions of the business model and is reported at the production operation stage of the value chain. Therefore it is producer-driven.

When you are the only home-grown financial institution in a parish and have been built by the industries in and around it, you cannot escape noticing when the economy begins to decline. After several years of rapid downturn from the closure of major companies in the agricultural and manufacturing sub-sectors (the backbone of the parish’s commerce), your bottom line begins to be negatively affected. Effectively your sustainability is threatened. With the parish now listed among the poorest in the country, you are moved to think of
ways to return it to its glory days. STCCU/FHC did this, and farmers and the Credit Union have reaped the benefits.

**From Nowhere to Somewhere**

For Vincent, he was able to employ four persons to assist him during various stages of crop production. Among them are two females and one male youth. He has moved from one to five acres. It was no different for youth farmers Kavin and Kemar.

They too were able to get into farming and employ youths like themselves. For Kemar, he moved from being unemployed to being an employer. These youths are now productive hands, creating employment for economic growth. The capacity to earn for their families on a permanent basis has been enhanced and their risk of engaging in anti-social or illegal activities reduced. They are also learning vital agricultural practices from the technical assistance given.

Leila saw a ray of hope. As a middle-aged female farmer who has been farming all her life, this crop production was the largest she has ever undertaken. She is encouraged to grow even larger fields.

Gary loved the connections with agro processors that ensured all his crops being sold. As a result, he is motivated and has begun experimenting with various varieties of onions to see which will give him the best yield. He was also pleased with the speed of the loan approval process. He was able to start replanting and expects a 100 percent increase in yield.

**Reasonable and Beneficial**

Cleon started a virgin field. According to him, there was no way he could have done that without the assistance he received from the Credit Union. For the first time in the 14 years that he had been farming, he was confident that his production and financial goals would be met based on the progress he had made; putting an end to years of losses.

Vilmore plans to expand to an additional five acres because of the flexibility of the repayment plan and the reasonableness of the loan criteria. He foresees
a boom in his income and for the parish as he encouraged more farmers to take up the Credit Union’s offer.

Not to be outdone was farm store operator Lilieth. With 50 customers and growing, coming directly from the extension area where her store is located, she too has reaped benefits from the increased sales of inputs such as fertiliser and seeds. This financing model has created an important source of revenue to support her family and drive economic development in the parish.

Overall, the lives of people have improved, indicating that becoming part of the AVCF programme can help move rural farmers from subsistence levels of production to strong viable business; strengthening their capacities to build resilience to economic shocks, drive growth and ensure food security.
Chapter 10

Lessons Learnt
The following practical lessons were learnt during the implementation of the Direct2Client Project, and are based on the existing phase of execution when this document was being developed.

1. Participatory planning is key. Using knowledge of the cultural, economic and technical factors that determine value chain dynamics is critical to successful project implementation. These factors must inform the strategies that are incorporated into the financing programme.

2. Engaging farmers and Credit Union staff in the execution of the new financing model requires the application of an effective change management strategy.

3. When working with community groups, such as farmers, it is important to have partners from within the groups who are able to mobilise the target beneficiaries and provide critical information that might not be captured in a group or formal setting.

4. Partner agencies can provide significant levels of assistance (especially auxiliary services) that enhance programme success. However, their involvement must be carefully managed as, if they do not fulfil their commitments, project activities can be derailed.

5. A Specialist with formal training in agriculture and AVCF must be engaged by the financial institution to provide technical support for the process.

6. Appropriate risk management strategies must be employed so that the likelihood of risks occurring and their impacts can be minimised.

7. The social justice principle of inclusion enables farmers to access credit, improve their lives and grow local economies.

8. Although, generally speaking, farmers lack access to collateral, the extensive risk framework within which AVC lending is done creates the imperative for insurable collateral to be provided by weaker farmers and moral suasion collateral (such as household appliances and furniture) by stronger farmers
who have proven their credit-worthiness. This is necessary for protecting Credit Union resources. It is better to grow a strong portfolio slowly than increase risk levels by granting numerous unsecured loans.

9. Strict monitoring must be done and relationships built with farmers to prevent the global problem of side-selling.

10. Markets (such as processors and exporters) must be thoroughly investigated before being included in the AVCF programme. This is due to the fact that they will be responsible for remitting funds for purchases from farmers to the Credit Union so their credit-worthiness has to be established and reviewed periodically.

**Recommendations**
**for Replication and Effective Implementation**

The following recommendations are based on STCCU/FHC’s observations, experience in the field and feedback from participants and other actors during the Pilot Phase. They are presented within the context of the selected Business Model and selected Value Chains. Some recommendations may not be appropriate for all situations.

1. Select Value Chains with high-yielding potential
2. Ensure that partners which are selected for provision of auxiliary services have the required skills and resources
3. Select ready farmers and partners
4. Organise farmers into structured groups such as Co-operatives, PMOs or agro parks in order to be able to work with them efficiently. Being in groups can also enable them to access benefits from other organisations such as multilateral donors
5. Engage a network of experts in the field
6. Undertake short-term loans (less than one year) as the risk profile for agricultural lending is extensive
7. Underwrite only one loan per crop cycle
8. Invest in several value chains to reduce risks
9. Enrol participants in farmer field school/training
10. Assess all staff and Board members and train as needed in AVCF and supportive services
11. Have dedicated AVCF staff including an expert in the production of the selected VC crops
12. Include “Fair Trade” clauses in MOUs to reduce exploitation of weaker links and minimise side selling
13. Establish and maintain well defined communications channels
14. Advocate for strengthening of the legislative framework to support AVCF
15. Use technology to manage and share real-time information on production and market data
16. Design transition strategy to move AVCF from project-based to core service
Chapter 11

Monitoring and Evaluation

Monitoring and evaluation are requirements for transparency and accountability. In addition, the results from these exercises provide much-needed information for knowledge management, such as lessons sharing, guidance for replication and upscaling or even best practices. The information can also inform innovation.

An effective monitoring and evaluation framework is essential to determine the relevance, effectiveness, impact and sustainability of an intervention. Measured at various stages of execution, they can be used to make determinations about how consistent the achievements are with the original expectations.

Monitoring
Monitoring involves the day-to-day ongoing review of project/programme actions, and how timely and responsive they are, along with the examination of inputs and their use. Monitoring enables the detection of deviations and allows for quick assessment and application of routine remedies to achieve the overall goals.

Evaluation
Evaluation involves the periodic assessment and judgement of the relevance, performance, efficiency and impact of an intervention. There are various types. However, for these purposes, process and impact evaluations are adequate.

Process Evaluation
Undertaken at planned intervals, usually annually, process evaluation determines whether or not an intervention is being implemented according to plan. It measures the efficiencies of the proposed design, decides whether changes are needed, and determines gains/losses over a given period. This
facilitates the identification of gaps and provides information for determining capacity to continue.

**Impact Evaluation**

Undertaken at the end of, or close to the end of the intervention to determine whether or not the overall goal/objective has been achieved and/or any other positive or negative unintended outcomes and the impact on beneficiaries.

**Indicators**

Indicators are the instruments of monitoring and evaluation. Indicators are used to measure and compare results and allow decision-makers to track performance against the baseline or planned inputs, outputs, outcomes and overall impact. They must tie-in with the overall goal. Indicators must also be responsive, in other words, they need to be culturally relevant and appropriate to the target audience.

Indicators may be quantitative or qualitative, but are best used in combination. Quantitative indicators are characterised by numbers, percentages and ratios. Qualitative indicators are described based on opinions, attitudes, perceptions and confidence. Indicators should tell whether progress is being made. Depending on the goal, indicators may be gender-specific or neutral.

**Input Indicators**

Used to measure the human, infrastructural and financial resources that have been reserved for the intervention. They are not used to predict success, but provide information for flagging future problems. Input indicators include:

- Number of qualified AVCF Officers
- Amount of financing devoted to AVCF
- Amount/percentage of funds to be disbursed by the end of year one, etc.

**Output Indicators**

Used to measure the tangible service or product generated from the inputs; for example:

- Number of training sessions held
- Number of new products developed/delivered
- Number of women/men targeted
- Number of field assessments conducted
- Number/percentage of farmers recommended for loans

**Outcome or Process Indicators**

Used to measure the quality and efficiency of performance, intermediate results and progression. They are mostly used for mid-term results and are useful for monitoring purposes; they include:

- Number of AVC loans approved
- Increase in acreage under production
- Increase in speed to market
- Number/percentage payments made by due date
- Delinquency rates
- Number of/increase in MOUs/crop purchase agreements
- Number of jobs created disaggregated by gender, age, other demographics

**Impact Indicators**

Used to measure the overall impact and long-terms results; for example:

- Percentage increase in income for farmers, etc.
- Percentage increase in yield/sales
- Percentage decrease in post-harvest loss
- Number of men/women reporting improvement in wellbeing
- Percentage increase in accounts receivables
- Net cash from sales available for farmers after loan repayment
- Rate of performance (revenue/expense ratio)/Rate of return on investment
- Satisfaction rate/number of repeat loans
- Legislative/Policy change to strengthen AVCF
IBD Logic Model and Results Matrix Framework (combined)

The Logic Model is a very useful tool as it may be used at all phases from initiation to planning to monitoring, evaluation, research and reporting. It incorporates participatory approaches as it seeks to achieve the higher level needs of an intervention or of the project goals. When combined, these tools may be used for reporting and a quick reference guide for performance (see Appendix 4.1, page 67).
Appendices

**Appendix 1 - Resource Documents**
1.1 Market Research
1.2 Value Chain Stakeholder Mapping
1.3 Feasibility Study
1.4 Value Chain Business Model

**Appendix 2 - Financial Instruments**
2.1 AVCF loan application form
2.2 Marketing agreement
2.3 Deed of assignment
2.4 Consent of purchaser
2.5 Consent of seller

**Appendix 3 - Crop Production Instruments**
3.1 Crop projection forecast plan
3.2 Seedling or plant production record
3.3 Harvesting report
3.4 Financial Instruments

**Appendix 4 - Performance and Reporting Instruments**
4.1 IDB Logic Model and Results Matrix
### Appendix 4.1
IBD Logic Model and Results Matrix Framework

<table>
<thead>
<tr>
<th>Narrative Summary</th>
<th>Intervention Logic (Activity/description of what is planned achievement)</th>
<th>Verifiable Indicator (How to tell what has been achieved, quality, quantity, timeframe)</th>
<th>Means of Verification (Where do I find proof of achievements, who will collect and how often)</th>
<th>Assumption (External factors that must be met in order to succeed)</th>
<th>Baseline (Starting point for measurement set based on performance history or desired result)</th>
<th>Target (Set based on columns two and three)</th>
<th>Achievement 18 Review Year 1 Ending October 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ultimate Outcome</strong></td>
<td>(Overall, long-term goal, impact)</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td><strong>Intermediate Outcomes</strong></td>
<td>(Specific objective, medium-term purpose/means to achieve the overall goal)</td>
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<tr>
<td><strong>Immediate Outcomes</strong></td>
<td>(Expected results/deliverables to achieve goal)</td>
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<tr>
<td><strong>Outputs</strong></td>
<td>(Activities/items/goods/services derived from inputs)</td>
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18 Additional columns may be added to record more years.
References


St. Thomas Co-operative Credit Union Limited Project Management Unit. 2014. Agricultural Value Chain Financing Business Model


St. Thomas Co-operative Credit Union Limited Project Management Unit. 2014. Feasibility Study

St. Thomas Co-operative Credit Union Limited Project Management Unit. 2014. Market Research

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United States Agency for International Development. 2012. Lending to the Agriculture Sector

Direct2Client Overview

Extending Financial Services Directly to Rural Jamaican Farmers (Direct2Client), is a two-year project that commenced in April 2013. Executed by STCCU/FHC, majority funding of US$315,000.00 in the form of a technical co-operation grant was received from the Inter-American Development Bank (IDB). This was made possible through the Multilateral Investment Fund (MIF) window to strengthen financial institutions for microenterprise.

The overall objective of the project is to increase access to financial services for agricultural microenterprises in rural areas of Eastern Jamaica. Leveraging the gains from other projects, Direct2Client is a part of a larger project portfolio managed by STCCU/FHC to develop microfinance, with particular emphasis on improving livelihoods.

Investing an additional US$164,000.00 of its own funds, STCCU/FHC conceptualised and refined its approach for the implementation of a Rural Agricultural Value Chain Financing Model. Building on the gains from another IDB-funded project, CARIB-CAPII, the knowledge transfer was instrumental in bolstering the implementation of Direct2Cleint. Under CARIB-CAPII, competencies were enhanced in product development, pricing new products, data gathering and knowledge dissemination. Under Direct2Client, these competencies were further enhanced by research and training in AVCF.

The project has received support from the highest levels of management. Additionally, an Agronomist was engaged to provide technical support for project activities. Additional technical support was provided by RADA and the members of the Project Steering Committee. Their participation was integral in all aspects of the project’s implementation. Under the pilot project, 45 small farmers have already accessed loans with expectations of lending to 250 within the first year.

Project Components

Through the project, STCCU/FHC has designed and is implementing a financing model for small-scale rural farmers, using the most appropriate technologies to ensure operational efficiency and sustainability. The four components of the project are:

1. Market Research and Value Chain Business Model Design
   a. Market Research
   b. Value Chain Stakeholder Mapping
   c. Strategic Business and Risk Assessment
   d. Institutional Capacity Gap Analysis
   e. Design Business Model for Value Chain Financing

2. Financial Product Development and Technology Adaptation for Rural Value Chain Micro-financing
   a. Develop Strategic Framework for Positioning Value Chain Products
3. Value Chain Financing Product Roll-out and Testing
   a. Business Readiness Training
   b. Technology Readiness – Training and Change Management
   c. Client Engagement and Awareness Campaign
   d. Client Readiness – Financial Literacy Training
   e. Value Chain Business Model Prototype Systematisation

4. Knowledge Management and Communication
   a. Establish Baseline Data
   b. Develop Client SPI Monitoring and Tracking System
   c. Knowledge Toolkit Development and Dissemination

About St. Thomas/First Heritage Co-operative Credit Union (FHC) Limited
On August 1, 2012, Churches Co-operative Credit Union Limited and GSB Co-operative Credit Union Limited merged to form a new entity, First Heritage Co-operative Credit Union Limited (FHC). With a combined heritage of over 100 years, FHC now stands as the largest open bond Credit Union in Jamaica. FHC has as its bond all civil servants, staff within Statutory Bodies and Public Corporations, their spouses and relatives as well as church members and their relatives island wide.

The Credit Union currently serves over 160,000 members through a vast network of ten locations island-wide, offering a wide array of products and services. Our Members have access to a suite of over 42 products and services to meet every stage of life. On March 1, 2015, the business and operations of St. Thomas Co-operative Credit Union Limited was transferred to FHC. This merger makes the new St. Thomas branch the eleventh location which will facilitate the growth and expansion of Agricultural lending not only in St. Thomas, but across the country, ultimately positively impacting the industry as well as the economy.

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About the **Inter-American Development Bank Multilateral Investment Fund (IDB MIF)**

Established in 1959, the Inter-American Development Bank is the leading source of development financing for Latin America and the Caribbean, with a strong commitment to achieving measurable results, increased integrity, transparency and accountability. The Bank also provides grants and technical assistance to do research. Its shareholders are the 48 member countries, including 26 Latin American and Caribbean borrowing members, who have a majority ownership of the IDB.

Through its investment arm, the Multilateral Investment Fund (MIF), support is provided for economic growth and poverty reduction in Latin America and the Caribbean through encouraging increased private investment and advancing private sector development. It supports private sector-led initiatives to develop, finance, and execute innovative business models that benefit entrepreneurs. MIF partners with a broad range of institutions from the private, public and non-profit sectors to work with the poor and low-income households, their businesses and their farms; evaluates results, and shares lessons learnt.

The aim is to give low-income populations the tools to boost their incomes: access to markets (and the skills to compete in those markets), access to finance and access to essential services, including green technology. The MIF is a laboratory for testing pioneering, market-based approaches to development, and an agent of change that seeks to broaden the reach and deepen the impact of its most successful interventions.

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