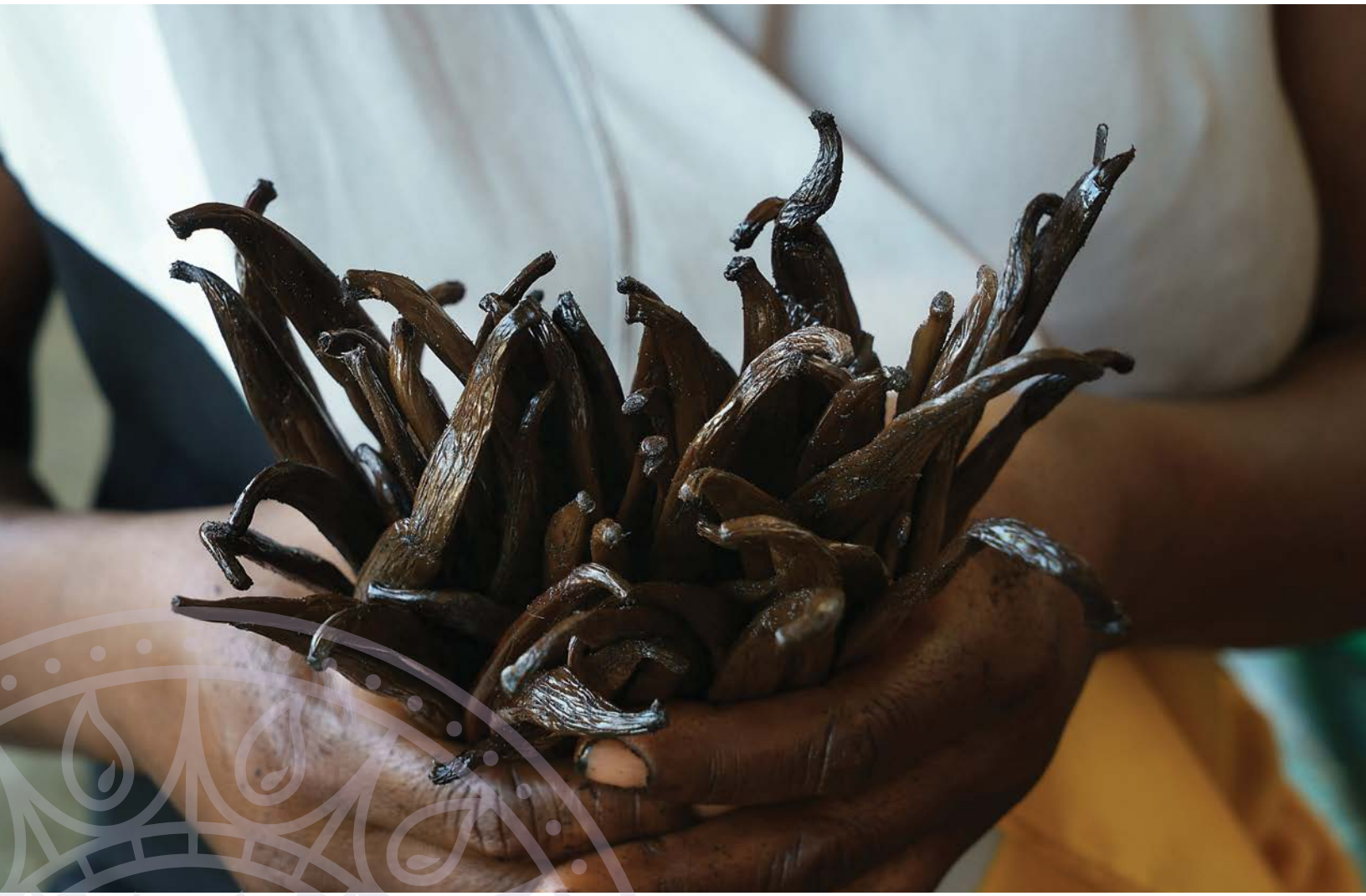

Revitalizing Vanilla in Uganda

A CASE STUDY ANALYSIS OF CRS VANILLA VALUE CHAIN PROGRAMMING IN UGANDA, 2015-2020

JEFFERSON SHRIVER

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I. INTRODUCTION

CRS has carried out vanilla value chain programming in Uganda from 2015 to the present through a series of private and internal investments. This work has generated many positive results with social, economic and environmental impacts among 14,000 people and the national vanilla industry in general. Given the innovative and long-term impacts and relationships developed at both the private and public sector levels, CRS has developed this case study to tell this important story.

CRS started working with the vanilla community through a partnership with Ben & Jerry's Homemade Holdings from 2015-2020 This value chain co-investment, entitled the Producer Development Initiative (PDI), comprised a grant of US$500,000 from Ben & Jerry's and a co-investment of US$400,000 from CRS's private investments and a follow-on investment from the IDH Sustainable Trade Initiative from 2016-20.

As this work was being implemented, CRS also developed a standardized value chain model, which comprises a set of tools, or best practices, to support the process of linking farmers and key business partners to more stable and high-value markets and achieve excellence in market-based programming.

This narrative incorporates how the CRS Value Chain Toolkit was used in the vanilla program to set the stage for replication and expansion with future value chain programming in Uganda and other contexts.

QUICK FACTS	
Project Type	Agricultural Value Chains
Funder/Funding	CRS Private Funds, Ben & Jerry's Homemade Holdings, Inc., Sustainable Trade Initiative & Sustainable Food Lab: US$900,000
Project Location	Bundibugyo, Bunyangabu, Buikwe, Kabarole, Kasese and Ntoroko Districts
Target Clients	Uganda Vanilla Industry 2,500 Smallholder Farmers
Time Frame	2015 to 2020
Partners	Rwenzori Farmers Cooperative Union (RFCU) Ben & Jerry's Homemade Holdings International Institute of Tropical Agriculture (IITA) Uganda Ministry of Agriculture, Animal Industry and Fisheries (MAAIF)Association of Vanilla Exporters of Uganda (VANEX) Sustainable Vanilla Initiative (SVI) Uganda Local Governments

II. PROGRAM CONTEXT: THE STORY OF VANILLA—BOTH AS A LUXURY ITEM AND AN ORPHAN CROP

Vanilla is the most popular flavoring ingredient in the world. Yet so little is known about it, and few investments are made to sustain it. Vanilla has over 200 compounds, is packed with amazing flavor and aroma complexity, and is considered a delicacy among chefs, bakers and perfume manufacturers. As a plant originally found in the forest, vanilla cultivation also represents a great reforestation strategy, as the crop needs shade and a support tree to climb. Vanilla was originally discovered over 500 years ago in the rainforests of Mesoamerica by indigenous peoples, where it can still be found growing wild today. Mexico was the primary commercial producer of vanilla until the mid-19th century, when French explorers shipped vanilla to Mauritius and Réunion. The first attempts to produce vanilla in locations outside of Mexico proved to be difficult as vanilla was not easily pollinated. There are few natural pollinators outside of Mexico, where most of the natural insect pollinators remained. However, Edmond Albius, who was born into slavery in the French colony of Réunion, discovered, at just 12 years of age, a rapid manual pollination technique. This simple method changed the prospects for vanilla dramatically as it opened the possibility for commercial production. Since that time, vanilla production became more widespread, but the pollination still requires considerable labor and few major production sites have emerged. The largest production area by far is Madagascar, which produces 75% of the world's production.

VANILLA PRICES: TEMPORARY BOON FOR FARMERS, DRIVER OF INDUSTRY CRISIS

For the past three years, vanilla has held status as one of the highest value agriculture crops in the world. Since 2014, international vanilla prices have skyrocketed; farm gate prices ascended from US$20-40/kg to an astounding US$500-600/kg in 2018, equal to the current price of silver. Wholesale and retail prices were through the roof, converting vanilla into a major luxury item, and pricing many businesses and consumers out of the market. Farmers formerly making US$2 per day generated transformational profits from US$8,000 to upwards of US$50,000 per hectare—if they managed to avoid theft and could sell when the vanilla reached full maturity. Major food industry actors began to reduce the levels of real vanilla in their products, replacing it with a synthetic or natural vanillin counterpart.

A key challenge that exacerbated price volatility and fueled a quality crisis in the industry was the theft of vanilla at the farm level. High prices from the commercial traders raised farm gate prices in dramatic fashion, but with this price spike also came high levels of violence and theft from farm fields and widespread picking and trade of immature vanilla in primary sourcing countries, with devastating effects on product quality.

THE SEARCH FOR SECONDARY SOURCES OF SUPPLY

Despite its luxury status as an agriculture commodity, the global vanilla industry is threatened both by a poverty of research and development and few secondary sources of supply after Madagascar. Global vanilla production volumes are extremely low and grown by only a handful of countries—Madagascar, Indonesia, Papua New Guinea, India, Uganda and Mexico; very small quantities are also grown in numerous other countries. Madagascar continues to be the number one source of natural vanilla with an average of 1,800 tons produced annually, or roughly 72% of the total annual average production of 2,500 tons at the global level. This level of dependence on one country—with high levels of political instability and regular cyclones—that has invested very little in the strengthening of its own vanilla industry leaves vanilla vulnerable to major supply deficits and continued price volatility. Strong secondary sources of supply are needed on the global level to counter this trend.Growing vanilla at scale and in new origins, however, is a daunting endeavor. There are multiple barriers to entry for individual farmers or countries that may wish to promote production. Vanilla is difficult to propagate, prone to disease, requires a long waiting period to harvest, and requires skill to produce and process.

Vanillla cured for bundling. *Photo by CRS*

Uganda is an example of a potentially strong secondary source of vanilla on the global market. Uganda started investing in vanilla production in earnest in the mid-1990s through a USAID project. Technical support enabled Ugandan farmers to overcome the main production barriers, and through this work a series of supply chain services for vanilla was developed. Farmers by the thousands in several regions of Uganda learned production methods. Private sector companies such as Ndali Estate and ESCO developed centralized curing capacity, and exported cured vanilla in significant volumes with standardized high quality. Uganda reached a high of up to 400 metric tons (MT) cured in its best years, and has produced from 80 to 100 MT cured

Vanilla - Sorting, bagging, weighing vanilla beans. *Photo by CRS*

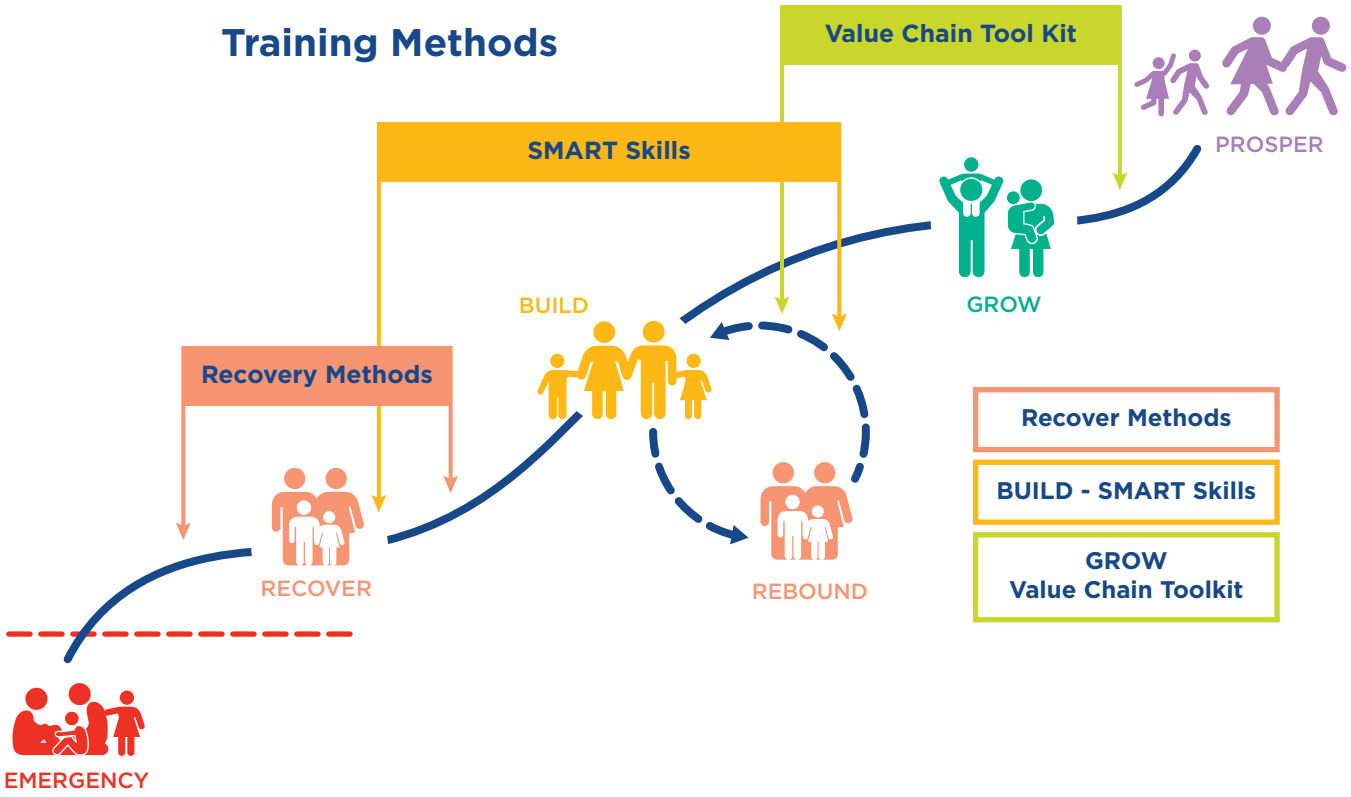
on average over the last five years (4% of global volume), with potential to produce much more.

LOW PRODUCTIVITY AND KNOWLEDGE OF VANILLA AGRONOMY IN UGANDA

Low productivity and value capture at the farm level were significant barriers to vanilla being a viable agriculture livelihood for farmers in Uganda. Vanilla yields and overall productivity per hectare for farmers in Uganda were well below the industry standard of 1 kg green vanilla per plant. Average yield per household in 2013 for a subset of Ugandan vanilla farmers was 87.3 kgs, or 350 grams per plant, providing US$768 annually in vanilla-based income per farmer (US$2.10 per day based on a US$8.80/kg farm gate price). Vanilla requires significant labor, especially during the manual pollination period, but also during the looping and rooting of vines, weeding and harvesting. However, according to a 2013 CRS/Ben & Jerry's study of vanilla in Uganda, farmers did not use any working capital to hire additional labor outside of the family. Due to the high labor requirements of vanilla, families were forced to share their limited family labor between food production of crops such as rice, ground nuts and soybean and vanilla production. The result was often that vanilla plants did not receive the level of care required, particularly at the time of pollination, and this led to low vanilla productivity.

INCIPIENT VANILLA FARMER ORGANIZATIONS

A prerequisite for most smallholder farmers to compete in the formal marketplace is that they organize into a business to collectively sell and access services. Given the vanilla sector has received little attention from the public sector since its inception, there were few expressions of vanilla farmer organization in the country. One notable exception was the Rwenzori Farmers



CRS's Pathway to Prosperity with associated training guides

Cooperative Union (RFCU). Before converting to a cooperative union in January 2014, RFCU was the Mubuku Farmers Association, a community-based organization with limited capacity and service delivery to its members. Ndali Estate, a processer and trader, helped to found Mubuku Farmers Association, obtained its Fairtrade certification (the first vanilla Fairtrade co-op on the African continent), and facilitated vanilla exports to Ben & Jerry's and other buyers. While these achievements were notable, in 2020 RFCU was still a maturing organization. Developing robust farmers' organizations to compete in formal markets remains a formidable challenge in the Uganda vanilla context.

UGANDAN VANILLA INDUSTRY AND THE ABSENCE OF A REGULATORY PUBLIC POLICY FRAMEWORK

The vanilla industry in Uganda does not have a long track record, and has until recently been considered a low-volume niche crop. As such, it has largely been ignored by the public sector, and few laws have been put in place to regulate the industry. Large and small industry actors operating in Uganda took advantage of a highly unregulated operating environment, and when prices spiked, began purchasing unripe vanilla from cash-hungry farmers at below-market prices. Fearful that their vanilla would be stolen if not sold immediately, many farmers accepted early, low-profit sales to avoid major losses through theft. Unripe vanilla was then steam cured, further compromising vanillin content and the flavor complexity of the bean. Without good production and market practices alongside effective laws in place to regulate the vanilla trade in Uganda, this practice would have continued to go on unabated. The situation threatened both high-quality vanilla supply and the opportunity for a secure livelihood for small farmers in Uganda. The Association of Vanilla Exporters of Uganda (VANEX) was not playing an active role in regulating the trading practices, and some of its members were primary culprits in unripe vanilla trading.

III. APPLYING THE CRS VALUE CHAINS MODEL TO THE UGANDA VANILLA CONTEXT

CRS has made a concerted effort over the past five years to consolidate its value chain programming globally and be more systematic in its methodologies to achieve program excellence. The results of this effort were captured in the 2019 publication *Value Chain Toolkit: Harnessing the Power of Markets to Drive Change.* The Toolkit provides a series of methods to support farmers at different socio-economic levels, which we r as the "Recover to Build to Grow and Prosper" phases of the CRS Pathway to Prosperity (see graph at right). The value chain approach builds on many years of work with farming communities and downstream value chain actors across the world. The Toolkit has been developed to provide greater consistency in our theoretical framework and program execution. Given the range of countries where CRS works, value chain practices vary from one country or region to the next, and our field staff capacities have tended to be stronger in the Recover and Build segments of agriculture than in those related to Grow and Prosper. Given the increasing pressure of farmers to commercialize and be more competitive in the agricultural development sector, there is an urgency for development organizations to provide better business advice to commercializing smallholder farmers. This requires industry practitioners to modernize rural advisory methods and strategies to assist millions of farmers to increase their productivity and engage in modern markets in ways that are profitable, sustainable and socially equitable. The CRS Value Chain Toolkit serves as a foundation for this upgrading process.

For the vanilla program in Uganda, CRS applied several of its value chain approaches described in the Toolkit. This section summarizes the primary frameworks and tools used.

IMPROVING COMPETITIVENESS AND PERFORMANCE OF PRIMARY VALUE CHAIN ACTORS

A classic approach to value chain development, as highlighted in the Value Chain Toolkit, is to improve the competitiveness and performance of primary value chain actors. This approach focuses on farmer organization, cost reduction, differentiation, quality improvement, market segmentation and value addition. The upgrading approach uses a combination of innovations, technologies and services to help clients acquire and apply new skills. Types of upgrading approaches include:

1. **Product upgrading:** Improving the productivity and quality of the primary or processed products;
2. **Process upgrading:** Improving access to key business development services;
3. **Functional upgrading:** Taking up new or more sophisticated business activities.

GREEN VALUE CHAINS: INTEGRATING ENVIRONMENTAL CONSIDERATIONS

CRS designs and prioritizes value chain development strategies that stabilize and protect local ecosystems at a level that assures their long-term productivity and secures the livelihoods of impoverished people and enterprises.

There are two types of environmental impacts:

1. Impact *of* the value chain on the natural environment.
2. Impact *on* the value chain caused by climate change or environmental degradation.

The principle of g*reen economic development* is to find ways to resolve or mitigate the conflicts between economy and ecology. The following strategic considerations are of concern to all chain actors seeking sustainable production to market outcomes.

- **Ecological limits:** Are there critical red flags in the environmental assessment which indicate that the value chain crosses ecological limits?
- **Eco-efficiency:** Which possibilities to enhance resource efficiency exist in the value chain? How can conflicts over resource utilization be handled?

UPGRADING OPTIONS FOR ENVIRONMENTAL SUSTAINABILITY

CRS uses three approaches for greening value chains and achieving improved environmental sustainability:

1. Management of the natural resources and ecosystems on which the chain relies;

2. Improving resource efficiency by reducing emissions, saving costs, and gaining better resilience;

3. Environmental regulation and policies.

VANILLA AGROFORESTRY

Production methods using well-designed vanilla agroforestry systems represent a powerful example of greening a value chain. Vanilla is an orchid that originally thrived in the understory of a thick forest canopy. When properly designed, modern day vanilla plantations can mimic a forest with an intercropped, multi-story shade system. Vanilla is typically intercropped with fruit trees such as banana, citrus, avocado and various other tropical fruits. Hardwood forest species often serve as the tallest, highest layer in the shade system; these trees fix nitrogen for crops, provide deep cycling of nutrients, and also provide firewood for cooking, timber for construction and sale and fodder for livestock. Vanilla agroforestry systems have every possibility of enhancing biodiversity and carbon sequestration, and can provide fuel, food, and fodder for families, while the vanilla itself and other associated spice and food crops serve as cash crops. Vanilla is the anchor perennial value-based crop.

Vanilla on vine. *Photo by CRS*

STRENGTHENING FARMER ORGANIZATIONS

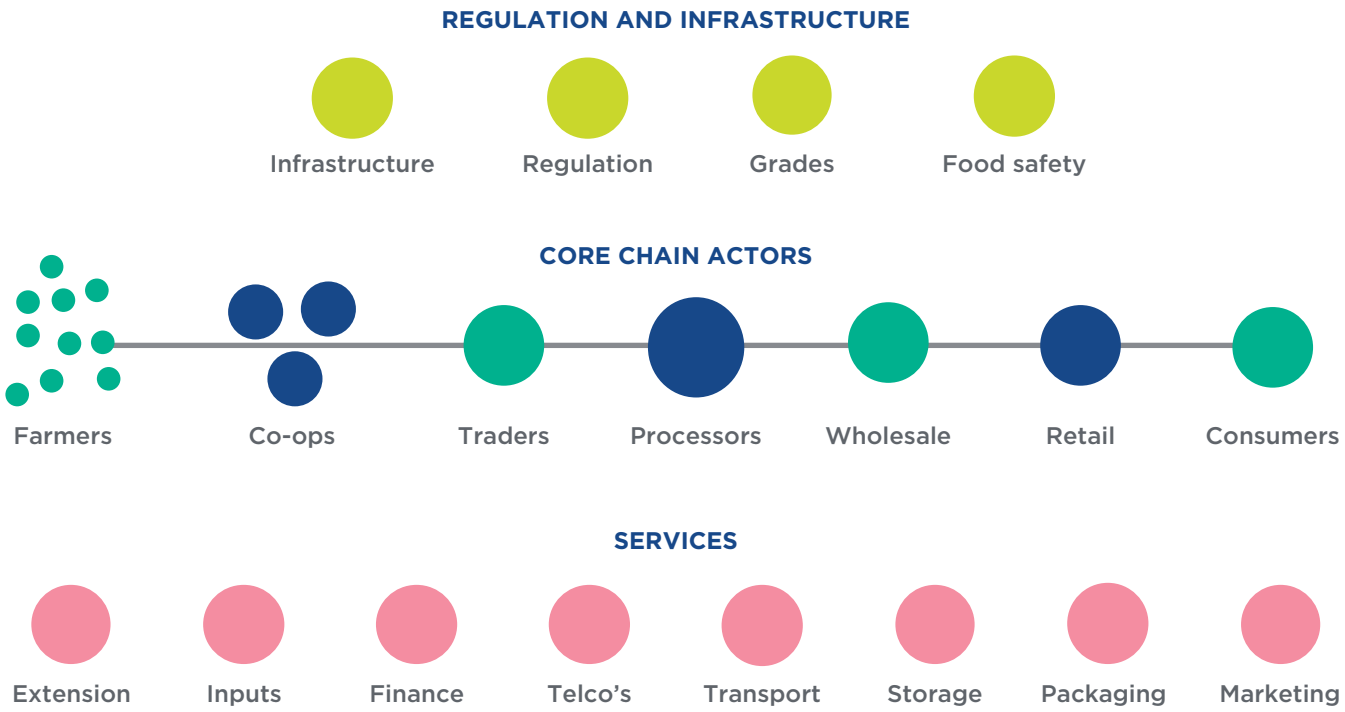
One of the key elements in the success or failure of agro-enterprise programming is the institutional capacity and strength of smallholder business organizations. Sustained smallholder participation in value chains can rise and fall based on the elements of good organizational leadership, institutional governance, management capacity, service delivery and the employment of equitable and inclusive business models.

ORGANIZATIONAL STRENGTHENING TOOLS

CRS has developed its own tools and adopted some existing tools to assist farmer organizations and entrepreneurs on the value chain to strengthen their operations. Below is a list of four tools featured in the Toolkit to assist in farmer organization strengthening.

Business Model Canvas. The Business Model Canvas is a strategic management and lean start-up template for developing new or documenting existing business models. It is a visual chart that provides opportunities for collaborative design and discussion using elements that help describe a firm's or product's value proposition, infrastructure, customers and finances.

Cooperative Assessment Tool. This is an evaluation method developed by CRS which provides an evaluation of a farmer business based on various categories of business operations. The evaluation is carried out with the farmer business, and the results are shared through a scorecard so that the business can know what it is doing well and what it needs to improve. The key categories are as follows: strategic and business planning, business alliances, market venues and relationships, accounting and financial management, financial and technical service provision, human resources, gender equity, sustainable production practices, governance, internal and external communication, influence in practices and policies and leadership.



CRS's three-level Value Chain Mapping Tool

Scope Insight is an online tool for evaluating farmer organization and SME professionalism and capacity. It has four main components: 1) measurement tools and systems to assess farmer organizations' level of professionalism, opportunities and needs; 2) capacity building tools to improve levels of professionalism; 3) program implementation guidance to standardize ways farmer organizations can execute programs and partnerships; 4) data management systems to learn and claim program success. CRS is currently reviewing the possibility of adopting this tool for use around the agency.

Risk Management. Smallholder farmers face many risks as they seek more permanent participation in formal value chains. Price volatility caused by market instability, production instability that results from erratic weather conditions and climate change, fluctuating food safety requirements and sudden changes in public policy are some of the primary risk factors farmers face when seeking a livelihood in agro-enterprise. It is important that farmers understand the risks they are taking on when working within value chain programs, and that the team can develop risk mitigation measures in response to these factors. CRS developed a simple risk management tool to assess various levels of risk with farmer groups and other supply chain actors.

UNLOCKING MARKET FAILURES AND IMPROVING VALUE CHAIN ENABLING ENVIRONMENT

As the example of Uganda vanilla production and theft and the sales of unripe vanilla suggests, value chain development can be blocked by various forms of market failures. Overcoming these market failures requires various changes, such as (i) improving production and (ii) management methods, (iii) upgrading coordination of actors along the value chain, or by (iv) adjusting government policies and regulations and (v) influencing priorities for both public and private investment. Relying on government intervention alone to redress problems in high value market chains is a delicate issue, as public administration may be part of the problem. Value chain solutions will include finding incentives for both private enterprises and public agencies. On the private side, there should be a clear picture of the opportunities and promising business models, as well as how new business models can be financed. On the public side, local and national government

decision makers need to understand and champion their roles in economic development and provide the requisite support. Incentives to the public sector may mean augmenting the tax base and developing new employment options as a result of increased growth.

Civil society and economic actors may also advocate to foster better market conditions and policy changes to achieve more equitable and sustainable outcomes from value chain investments. CRS and others can collectively intervene in the sphere of value chain development to promote more socially and environmentally equitable outcomes.

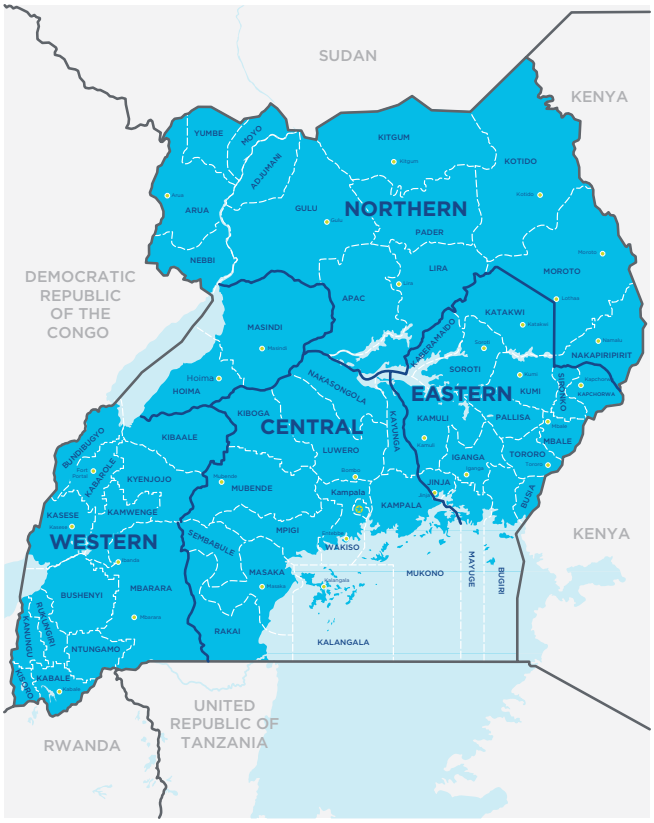
Whether enterprises can realize their market potential depends on the general business environment in the economy and the business conditions within each value chain. Identifying which conditions are essential to the improved functioning of a value chain is part of the value chain analysis.

General framework conditions of the business environment in the country:

- Macroeconomic policies and conditions (monetary policy, interest rates, customs duties on imports of intermediate goods, taxation, etc.)
- Laws and regulations for business registration and licensing, employment, associations and cooperatives
- Contract security and enforcement
- Extension and quality of road and rail networks and port infrastructure
- Availability and cost of utilities (energy and water)

VALUE CHAIN GOVERNANCE AND RELATIONSHIP FACILITATION

Value chain development is a collaborative venture involving a range of chain actors. In any value chain project, there are clusters of actors that form a business coalition. The three main levels comprise the (i) core actors, (ii) business services and (iii) regulators; see diagram below. The implementation of the value chain approach means convening these actors and discussing live business situations. When working in discussion groups, the core chain actors are often split into one cluster around farmers and farmer groups and another cluster of aggregators, processors and traders or retailers. These groups are split because geographically they are in different places, but also because they are very different



Map of Uganda Districts

people with different issues to discuss. Farmers often want to focus on production, whereas the aggregators and marketing teams are focused on volumes, margins, quality and sales. For each different cluster the convening teams need to make critical decisions regarding who should represent the groups as each of these groups, whether public or private sector, have their own specific interests and motivations.

Within a value chain process or project, these different types of actors are supported by an overall facilitator, this organization assumes responsibility to drive the value chain development for a certain period. The facilitator is responsible for setting up components of the overall investment, convening the actors, fostering collaboration, introducing innovations, building business relationships, monitoring the overall performance of the investments, and reporting back to the donors and investors.

The results of these analyses provide us with an upgrading plan that is agreed upon by all partners and then implemented. The duration of that implementation depends on several factors,

including project cycle, investments and the political climate in a country. In the case of the vanilla value chain in Uganda, CRS was the chain facilitator, and the team developed a process that is described in the section that follows.

IV. STRATEGIC INTERVENTIONS AND IMPACTS IN THE UGANDA VANILLA VALUE CHAIN

PROJECT CONTEXT

CRS Uganda, in partnership with Rwenzori Farmers Cooperative Union (RFCU), Ndali Estate and PUR Projet launched the Revitalizing Vanilla in Uganda Project in 2015 with a US$500,000, three-year investment from Ben & Jerry's Homemade Holdings. The project officially began in August 2015 and concluded in July 2018. Ben & Jerry's launched a grant facility by the name of the Producer Development Initiative (PDI) in 2014, and enlisted CRS as a partner to support investments on the ground. This project is built on a rich history of relationships, agriculture field activities and agriculture value chain analysis carried out by Ben & Jerry's and CRS in Uganda. At that time RFCU was experiencing significant growth of its product lines and service delivery to its members. The project came at a critical time and was designed to assist RFCU to step up from a farmer support group to become a competitive business entity and a trusted supplier of vanilla to Ben & Jerry's and other market actors in the future.

Vanilla is one of the most important cash crops in central and western Uganda, and the Mukono District, in the center of the country, is the biggest producer. Vanilla needs shade and thrives in agroforestry systems. The traditional banana-coffee-vanilla cultivation system is commonly adopted by Ugandan farmers. A short dry season activates the flowering process, and because Uganda has two dry seasons per year, vanilla can be harvested twice a year: in June-July and December-January. Districts where vanilla is grown at commercial levels include Kayunga, Mukono, Mpigi, Jinja, Kamuli, Buikwe, Bundibugyo, Luweero and Kasese.

IMPROVING PRODUCTIVITY AND GOOD AGRICULTURE PRACTICES IN VANILLA

Beginning in 2015, CRS used a market penetration and diversification strategies from the CRS Value Chain Toolkit to increase sales through improved smallholder productivity and product quality of vanilla. Major interventions were increasing the number of plants under production and providing training in good agriculture practices. The aim of this intervention was to expand vanilla volumes for export from the country and improve yields and product quality through the trainings.

Regarding the increase in plant inventory, CRS supported the distribution of over 200,000 vines to more than 1,500 farmers on over 400 acres of vanilla plantations. In addition, 533 acres of existing old vanilla plantations were rehabilitated with technical support. The project used a co-investment methodology for distribution and planting of vines through which the project purchased the plant material, and farmers provided their labor for planting and rehabilitation.

The general land holding of farmers growing vanilla in Kasese District was 3.68 acres, of which approximately 1.25 acres were dedicated to vanilla production. On average 476 plants grew on these plots, of which 236 were mature. Farmers reported dedicating more of their land to vanilla growing as profits increased.

A total of 2,500 farmers were trained on good agriculture practices in vanilla. RFCU established an extension system that included 40 lead/demonstration farmers providing extension services to all 2,500 farmers in practices such as appropriate length of planting materials, type and age of beans ready for harvest, looping, mulching, spacing, propagation and intercropping. While there were many farmer groups working on vanilla, RFCU was the only provider of vanilla extension services for the vanilla farmers in Kasese and Bundibugyo.

THEFT PREVENTION TO PROTECT HARVEST

Beginning in 2016, as prices increased rapidly, vanilla theft and early harvesting were the most significant issues that determined total commercialized volume. To address this serious challenge, farmers employed a variety of techniques

to prevent theft, and the evaluation team encountered many farmers who developed creative approaches to deterring theft. The project directly supported 54 farms through a co-investment in barbed wire to secure fields. Many farmers mentioned that the most effective strategy was to employee a combination of more than one method. For example, fencing was only effective if there was also a security guard present to hear any attempts to tamper or circumvent the barriers; dogs were another effective deterrent.

A sampling of anti-theft measures utilized:

- Fencing, including live barrier or green fencing and barbed wire; 54 farms were supported through co-investment in barbed wire through the program.
- Guard dogs.
- Installation of rudimentary alarm systems, such as trip wires linked to bells, and scarecrows.
- Guard duties shared by farmers and family members.
- Hiring local or professional guards.
- Household community watch groups
- Encouraging neighbors and youth to also plant vanilla to garner buy-in from community and prevent theft from the immediate neighborhood.

In some cases, vanilla buyers offered security services to the vanilla farmers at the beginning of the season in exchange for a defined share of the harvest, and then contracted the security personnel through a firm. Some farmers who had been clients of RFCU accepted this offer because they felt it was the only viable option, even though this amounted to side selling. Farmers were able to sell to RFCU and Ndali Estates after meeting their agreed quotas to the other companies.

Another upgrade intervention was the introduction of Savings and Internal Lending Communities (SILC) to promote a culture of savings and a last-mile micro-credit service mechanism to participating farmers. Sixty-three savings groups were formed, and 1,691 individuals participated in the groups (1,273 female and 418 male). The SILC intervention has led to positive impacts in terms of both building social cohesion and enabling farmers to acquire much needed financial skills. Attendance rates in meetings were 80%. Total SILC groups' assets were US$50,595, with average group savings standing at US$622. Loans outstanding were at US$21,532. Total loan cash in box was at US$27,951, for an average of US$443 per group.

IMPACTS

The distribution and planting of vines more than doubled the vanilla plant inventory of the country. Assuming the plants were maintained, this increase in inventory will have doubled national production within two to three years after planting. Regarding productivity at the farmer level, the average vanilla volume per farmer has increased in yield from 16 kgs to 51 kgs over the three-year period 2015-18. Unfortunately, the increase in production was countered by the ever-present issue of theft and early selling.

Average gross income from vanilla over a one-year period increased from US$100 at baseline to US$2,224. Removing the issue of theft, farmer incomes climbed to over US$8,000. This is a truly transformational increase in farm level income.

Government officials frequently noted the major impact that a successful vanilla season could make on a farmer's life. Many survey respondents and focus group discussion participants explained how the income generated from vanilla had gone toward covering school fees, improving housing, or toward investment in land for further vanilla production and diversification to other crops.

STRENGTHENING THE RWENZORI FARMERS COOPERATIVE UNION

Smallholder farmer capacity strengthening is one of the most important upgrading interventions—and one of the greatest challenges—to enable smallholders to compete in competitive markets in a sustained fashion over time. In this regard, CRS worked to strengthen the institutional capacities of the RFCU, one of the only smallholder vanilla cooperatives in Uganda, and to support the union in its evolution from a community-based organization dependent upon one buyer to a formidable value chain actor. Interventions focused on governance, planning, management and strategic partnerships, and service delivery to members.

At the inception of the project, RFCU had yet to install and operationalize a business accounting system; establish and implement procurement, finance, and human resource policies; design a robust business plan; and separate their procurement functions from their financial administration unit. Co-op leaders were not familiar with fair trade principles, and board members did not have a clear sense of governance roles and responsibilities. RFCU started collecting vanilla directly from its members in 2015. Previously, Ndali Estates assumed this role and collected vanilla directly from the primary cooperative societies of the union.

Upgrading interventions for this strategic objective involved a series of coaching and training activities. Some of the primary components were:

- Updating the RFCU business plan to focus on three commodities (vanilla, coffee and cocoa). The cooperative supported diversified crop production and sales for farmers. Six primary cooperative societies under RFCU now have micro stations for coffee bulking and micro-processing.
- CRS built the capacity of RFCU board members for governance and succession planning, and supported it to develop and empower the board oversight committees. Eleven of the 12 key improvement recommendations in the board planning were implemented, including the internal control improvement plan (ICIP).
- The project facilitated the training of RFCU staff and selected members of the 14 primary cooperative societies on gender mainstreaming and integration in the union's operations using the Gender Action Learning Strategy (GALS) approach.
- RFCU implemented an improved financial accounting system and created a series of manuals for improved management, including a Board Manual, Human Resources, Procurement, Appraisal System (HR), and a Finance Manual.

Through the coaching and brokerage services provided by RFCU, several primary cooperatives diversified into cocoa, storing and selling collectively. Members of the Balimi Cooperative Society diversified their income sources from vanilla to include coffee, chia seed production and soybeans. In addition, Balimi, Kyondo and Bwera cooperative societies invested in coffee hulling machines, which were then used to process the members' coffee at a reduced fee. This initiative provided incentives to the members of the primary cooperative societies, and in addition to generating more revenue for the primary societies, it strengthened members' loyalty to their co-ops. Through these investments, the primary cooperatives also generated revenues from coffee husks sold to the agents of Hima Cement Factory, while other farmers used the husks as organic soil mulch.

IMPROVING VANILLA SECTOR REGULATION AND ENABLING PUBLIC POLICY ENVIRONMENT

Given the chaotic trading practices that had developed in Uganda and led to low-quality vanilla pods, a critical aspect of CRS's vanilla value chains program in Uganda was to improve public and private sector policies for vanilla. Improved practices and regulation at the national and local government levels to reduce theft and the trading of unripe vanilla were especially effective. The lack of appropriate regulations, coupled with weak farmer or exporter institutions, made it difficult for Uganda to ensure effective policy enforcement, build capacity for quality production and processing, and ensure effective coordination of the actions of Uganda's value chain actors. Vanilla was being stolen in the first one to two months, and then again at three and five months in the agriculture cycle before reaching full maturation, which typically takes seven to nine months. Vanillin content, the primary compound in vanilla and key to quality, is highest with vanilla beans that complete the full growing cycle. Leaving the beans on the plant to fully mature is a key component to achieving high-quality and high-value vanilla. Early harvesting was a new challenge for the country and especially for law enforcement agencies, agriculture crops are seldom as high value as vanilla. This meant that no local regulations or ordinances existed to enable law enforcement to step in and prevent farmers and traders from early harvest and trading.

To counter the problems associated with harvesting premature pods and to address the theft issue, CRS worked with a series of public and private sector actors to support the development of Uganda's new public policy to support the vanilla industry. To build the case for greater regulation, CRS worked with two private sector networks—the Association of Vanilla

Exporters of Uganda (VANEX) and the Sustainable Vanilla Initiative (SVI)—to build a case that could be presented to the Uganda parliamentarians responsible for designing and passing a new legal framework for the trade in vanilla.

Much earlier in Uganda's development of the vanilla sector (2003 and 2005), the main Uganda vanilla exporters launched VANEX and used the association to work on ways to ensure the supply of high-quality vanilla to the global market. The goal of VANEX was to coordinate the industry's activities and embark on a series of activities that focused on upgrading and professionalizing the steps in procuring mature pods, processing or curing the pods to provide a high quality, standardizing the product, and ensuring that Uganda was exporting high-quality vanilla. Since that time, VANEX had become a dormant organization, and CRS worked with the industry players to revive the association and its activities. CRS initiated work on developing the new legal framework from 2015.

Policy and regulation work experienced a significant boost when CRS joined forces with SVI, a global voluntary industry initiative with 28 member companies. SVI was a key player in helping CRS to revitalize VANEX and provide technical support to strengthen efforts to upgrade the policy and regulatory environment. SVI is a specialist organization that aims to promote the long-term stable supply of high-quality, natural vanilla produced in socially, environmentally and economically sustainable ways to benefit all partners along the value chain. The SVI was hosted by *the Sustainable Trade Initiative* (IDH), in collaboration with US-based *Sustainable Food Lab* (SFL), with the purpose of liaising with vanilla exporters, producers, sector organizations and public authorities worldwide to advance issues of governance, traceability, labor rights and technical assistance to grower groups.

As part of the policy approach, CRS and partners carried out the following major activities:

- In 2015 CRS helped to re-launch VANEX by convening regular meetings of this private sector body around the issues of improving the regulatory policy environment for vanilla.
- Engaged with the Ministry of Agriculture, Animal Industry and Fisheries (MAAIF) and local governments on vanilla regulatory frameworks and institutional support.

Entrance to Kasuke's vanilla plantation.

Photo by Jefferson Shriver

- Garnered district regulation support in Kasese, Bundibugyo, Ntoroko, Bunyangabu and Buikwe.
- Promoted public sector partnerships in Buikwe and Rwenzori districts to develop robust community policing and other security systems for vanilla farms.
- Facilitated trainings for RFCU and VANEX boards in good governance, traceability, data management and budget development.
- Organized breakfast consultative meetings for vanilla stakeholders at the national government and ministry levels to discuss topical issues on vanilla.
- Shared information on radio talk shows about how to improve vanilla quality.
- Addressed security committees at the community level to educate members about theft issues.

IMPACTS

The progress made in addressing the enabling environment for vanilla in Uganda, while still ongoing, has been one of the major success areas of CRS's vanilla production/trade work in the country. The following are some of the major achievements:

- The vanilla ordinance to regulate production and trade in vanilla was passed by the Kasese District Local Government, and was approved in July 2018 by the Office of the Government Attorney General (AG).
- In addition, 13 sub-counties in the districts of Kasese, Bundibugyo and Ntoroko passed bylaws on the approved timing of vanilla harvesting. Once the ordinances were passed, they replaced the local bylaws. Bundibugyo, Ntoroko and Buikwe have drafted ordinances awaiting approval by the Ministry of Justice.
- A draft policy, "National Vanilla on Production, Quality Control, import and Export Control of Vanilla and Vanilla Products" Has been developed; this paper awaits review by the Ministry of Justice and feedback from the Ministry of Agriculture.
- Based on this work, for the first time in Uganda's vanilla history, MAAIF made a televised declaration in May 2019 that national vanilla harvest dates for the two seasons were June 15-30th and December 15-31st. Enforcement challenges notwithstanding, the harvest date declaration created a new sense of order within the marketplace, which immediately had a positive impact on the quality of vanilla. The vanillin content from each mature vanilla pod can be best derived at the ninth month after pollination. Premature harvesting would mean that low vanillin is extracted. The declaration was made based on the expected latest dates that would allow the highest content of vanillin in each pod.

V. FARMERS' STORIES

KASUKE KRISTOFF: VANILLA PROSPERITY

To get into Kasuke Kristoff's vanilla farmer's garden, there is a small hole at the bottom of a side fence. No farm gate exists. He guards his vanilla with a banana-leaf fence, reinforced with barbed wire that allows zero visibility, and two armed guards. In addition, two members of his family keep watch on the vanilla garden by day and night. With the price of vanilla reaching that of silver ounce per ounce, Uganda vanilla farmers have been creative in their security measures to prevent theft. Middlemen regularly visited the area and offered cash for unripe vanilla.

Kasuke's theft deterrence and good vanilla management practices paid off well for him in 2017. Combining the December and June harvests of 2017, he produced 973 kgs on 1.5 acres with 700 vanilla vines. When the project began in 2014, vanilla prices loomed at $5 per kilo green. In 2018, Kasuke sold his vanilla for $52 per kilo, grossing an amazing US$50,684 in one season. From his income, he has bought two houses and acquired an additional 10 acres of land. He sold 230 kgs of his crop through the RFCU, and the remaining 743 kgs were sold through other middlemen.

Kasuke is an experienced vanilla grower; he established his first plantation in 2001. He can pollinate an average of 1,000 flowers per day during the flowering season. He reduces shade during the dry season to allow the plants to stress and flower more abundantly, and averages 20 flower clusters per plant. He uses only the *Jatropha curcas* species as his support tree for the vanilla. To avoid exhausting his plantation, he practices fallowing of land after vanilla is exhausted on a given plantation.

HOMBERY FRANCO: EXPERIENCE BREEDS SUCCESS

Hombery Franco is no stranger to vanilla; he has been growing it for 18 years, along with coffee and bananas, and also maintains an aquaculture pond. Hearing Hombery talk about vanilla management is like taking a short course in vanilla agronomics. Whereas conventional wisdom says that pollinating flowers is the biggest challenge to successfully growing vanilla, Hombery says decisively that looping the vine from support tree back into the soil requires the most skill. If looping is done well, it can lead to an abundance of fruit and longevity of the vine. The plant will age fast if you don't loop in the right manner. For example, a vanilla farmer cannot loop when the soil is dry and hot. The trench should be only three to four inches into the soil, with seven to eight nodes lying horizontally in the soil for looping. The younger part of the vine will rot if laid into the soil, so care is needed to let the vine mature enough and then lay this part of the vine into the soil, allowing the tip to rise slightly above the soil layer.

Aquaculture pond next to Hombery's vanilla and banana plantation. *Photo by Jefferson Shriver*

Abundance is a fitting term to describe Hombery's harvest and income from vanilla in 2018. His 2.5-acre plantation with 2,350 vines yielded 380 kgs of green vanilla in perhaps the highest price year for vanilla in Uganda history. He sold his harvest to two different buyers—200 kgs for US$47/kg and 180 kgs for US$65/kg, earning US$21,100 in gross profit from a single season. Given the security problems, he worked with his buyer to provide his farm with an unarmed local security guard.

He has different vanilla plots planted at different times. According to Hombery, planting vanilla at different stages is a sure way to always have production. Hombery is an enterprising farmer: if he plants a crop that is not successful, he moves swiftly to another. Right now, his primary income earners are vanilla and bananas.

VI. IMPACT STATISTICS

- **Production**: The national plant inventory of vanilla doubled through project interventions: 200,000 new vines on 400 acres were distributed and planted, and 533 acres of existing vanilla plantations were rehabilitated.
- **Farm Income**: Average gross income from vanilla over a year period increased from US$100 at baseline to US$2,224. Removing the issue of theft, farmer incomes increase to over US$8,000.
- **Organization**: CRS and project actors helped to strengthen the Rwenzori Farmers Cooperative Union (RFCU) governance and financial management systems and service delivery to members.
- **Diversification**: Both RFCU and primary cooperative societies are diversifying their farm plots beyond vanilla to include cacao, bananas, coffee, soy,

chia and other products. Diversification is a risk mitigation strategy to smooth both cooperative and farmer incomes over the medium- to long-term.

- **Trade Facilitation**: CRS facilitated the relaunch of the Association of Vanilla Exporters of Uganda (VANEX), which is now influencing trade and the public policy environment for vanilla on an ongoing basis.
- **Regulation**: CRS and project actors influenced the drafting of a national level Ministerial Policy Instrument for the vanilla sector at the country level, with official harvest campaign dates announced by the government for the first time. Based in the agriculture branch of the national government, a commissioner was named to coordinate all vanilla policy-related activities at the national level.
- **Regulation**: CRS and project actors designed and influenced the implementation of a vanilla ordinance in the Kasese and Bundibugyo districts, using a public policy and law enforcement instrument to address early picking and theft.

VII. LESSONS LEARNED

The Revitalizing Vanilla in Uganda project (RVU) was the first of its kind in many ways for CRS, with many lessons learned. Below is a synopsis of primary lessons learned.

Influencing the regulatory environment for vanilla at first the local and later the national levels was rife with new lessons learned for CRS, and undoubtedly one of the most powerful, scaled impacts of the project. Including this component of the project was a request from vanilla value chain actors from the beginning, with specific requests that CRS play the primary facilitation role to harmonize interests of farmers, private sector actors and the public. This request and eventual role took CRS out of its comfort zone and the traditional project roles it plays; however, the country program stepped up to the challenge and hired staff with both public policy experience and the ability to relate to value chain actors across the spectrum. CRS assumed a role that few, if any, other actors could play in the vanilla value chain at a moment of industry crisis in the country. The experience underscores the point that there are times when value chain processes require the participation of an unbiased actor, albeit for a fixed period, to harmonize interests and unlock bottlenecks.

Another powerful lesson from RVU is that a single, high-value crop such as vanilla can have a tremendous impact in moving the dial on farmer incomes as a pathway to prosperity. The single farmer stories of Hombery Franco and Kasuke Kristoff who grossed between US$20,000 to US$50,000 in a single season portrays, in the first person, the dramatic impact high farmgate prices can have on farmer incomes. As the living income study showed, farmers were able to earn up to US$8,000 in one season on average with their vanilla crop if losses from theft are not considered.

At the same time, given price volatility and the inherent risks of monocropping, a diversified crop portfolio at the farm and co-op level is the best risk management strategy. Both RFCU and farmers diversified into cacao, coffee, chia, soybeans and other crops, even while the price of vanilla was never higher.

The project was funded by a lead firm commodity buyer in Ben & Jerry's, which acted as both donor of the initiative and buyer of vanilla. CRS has related to lead firm companies in the past whose primary role was that of donor, removing themselves from a role on the supply chain during the initiative. Ben & Jerry's expectations included both a social return on investment, as well as securing their supply of Ugandan vanilla. While the former was returned in spades, the latter expectation was not met due to the issue of theft, causing levels of frustration on the part of the company. Ben & Jerry's dual expectation of both product volume and social impact came as a surprise to several project stakeholders not accustomed to the dual role played by the company in the initiative. As a lesson learned, clarifying expectations of all actors and their roles from the outset is important.

Given the ongoing threat of theft, private sector buyers and farmers partnered together to hire security and ensure that their crops were protected. Where buyers co-invested with farmers in security from the outset, vanilla harvests were more protected. Ndali Estates has learned from this experience and has agreed to pre-finance security measures for the upcoming season.

Savings and Internal Lending Groups (SILC) were a popular intervention that contributed to a culture of savings and last mile lending services in communities where the project was carried out. SILCs should continue to be combined as a project

intervention with value chain initiatives like RVU because this builds solid social capital within farmer groups along with confidence gained through putting financial literacy into practice. SILCs are often considered the "glue" to CRS's successful and sustainable farmer organizations.

VIII. NEXT STEPS

There is still much more to do to strengthen the vanilla sector in Uganda. The following is a summary of high-level strategies to further strengthen the sector over the next five years.

- Uganda needs to continue to increase its production of exportable, high-quality vanilla at a national level to further strengthen its position as a strong secondary source of vanilla on the global market after Madagascar. This is a five- to ten-year process, with much work left to be done among all actors on the value chain.
- Design climate-smart production systems using diverse agroforestry systems as a foundation. Given the probable impacts of climate change on vanilla in Uganda in the coming years, this component is paramount to a successful country-level strategy. Vanilla farm landscapes should include appropriate tree-based agriculture services (shade, nitrogen fixing, fuel and fodder resources), soil conservation strategies that increase water retention and drainage, and intercropping strategies of other cash and food crops.
- Smallholder farmer organizations focusing on vanilla will need to be created or strengthened to further consolidate smallholder farmer position as relevant actors on the chain. The CRS experience in building economies of scale is that this process usually takes 7-10 years of accompanying farmer organizations to sufficient levels of maturity. CRS will apply its existing set of tools to this challenge and develop more in the coming years.
- Adopt a spatial traceability platform for use among vanilla value chain actors to track product flow from farm to final retailer. CRS is currently looking at two different options and will soon select one to promote among vanilla value chain actors in Uganda.
- Adopt risk management strategies to protect farmers and other value chain actors in Uganda from price volatility. Given the potential of vanilla actors to work together toward common goals, a fair price scheme could be developed and adhered to based on living income data and costs of production.
- Harmonize a performance measurement system to track the social, environmental and economic indicators relevant to all actors on the chain. These could include data on yield per plant, production costs, weather patterns, reforestation, employment and aggregated data on vanilla production volume by province.
- Convert VANEX into a sustainable, independent private sector association that governs the value chain and increases its competitiveness at the national level.
- Enhance the reputation of Uganda vanilla on the global market. Launch a marketing campaign to promote Uganda vanilla as the world's number one source of premium quality natural vanilla.
- Continue to advocate for a strengthened public policy framework to ensure a solid foundation for sector growth over the next decade.

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