



FEED THE FUTURE

The U.S. Government's Global Hunger & Food Security Initiative



FEED THE FUTURE PERFORMANCE EVALUATION OF THE VALUE CHAINS FOR RURAL DEVELOPMENT (VC-RD) ACTIVITY IN BURMA

May 25, 2018



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This publication was produced at the request of the United States Agency for International Development Developed under Contract/Task Order Number: AID-OAA-I-15-00024/AID-OAA-T0-16-00008.

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Cover photo: Coffee producer group, Ywangan township, January 15, 2018.

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ABSTRACT

The Feed the Future Value Chains for Rural Development (VC-RD) Burma is a five-year (2014-2019) activity, whose goal is the achievement of inclusive agricultural growth. The project has two intermediate results—improved agricultural productivity and increased market access and trade—and focuses on five value chains: coffee, soybean, ginger, sesame, and melon. The purpose of the VC-RD's evaluation was to assess its progress towards intended goals and objectives, successes and challenges, its exit strategy, as well as to provide recommendations to improve the activity and ensure that intended goals and objectives are met by the end of the activity. To conduct the evaluation, the evaluation team (ET) used a mixed-methods approach, which included: document review, 36 focus group discussions, 86 key informant interviews, and storytelling. Findings show VC-RD has improved gross margins of farmers in the sesame and melon value chains through better input management, and in the specialty coffee value chain by enhancing production and processing quality and creating market linkages. Challenges include long payment timelines (coffee), limited increase in gross margin (soybean, ginger), reliance on a few market players (coffee, soybean), limited options for market linkages (melon, sesame, ginger) for products of improved quality that meet Good Agricultural Practices criteria, and limited adaptation of training (soybean, ginger). The ET recommends VC-RD focus on adaptation of training, more effective integration of gender and nutrition, strengthening of producer organizations to enable scaling-up and sustainability, and widening of linkages across a range of market players in all five value chains.

ACKNOWLEDGMENTS

The ET would like to express its appreciation to a number of people who made the evaluation a reality. Our deep appreciation goes to Pyae Phyo Aung, Monitoring and Evaluation Specialist, Program Development Office, United States Agency for International Development Burma (USAID/Burma), who provided procedural insights and technical and logistical guidance for the conduct of the evaluation; and Salik Farooqi and Lesley Perlman, Contracting Officer Representatives (CORs) of the evaluation (USAID/Bureau for Food Security). We also appreciate the presence, guidance, and support provided by USAID/Burma staff, including Teresa McGhie, Daniel Swift, Nora Pinzon, Matt Curtis, Khun Thein Soe, Lindsey Anna, and Nora Malikin, as well as the coordination provided by Ya Min Thu, USAID/Burma, in supporting arrangements for meetings throughout the evaluation fieldwork.

The ET is grateful to the entire Winrock International (Winrock) VC-RD team in Burma for documentation, information, and support for arranging field-level meetings and sharing of insights, including: Nimish Jhaveri, Timothy May, Anne-Claire Degail, Julio Noguera, Khaing Mar Aung, Alexandre Dahan, Jill Hartsig, April Su Yin Nwet, Soe Moe Aung, and Khin Maung Htun. We also appreciate the support provided by implementing partners Shwe Danu, Myanmar Institute for Integrated Development (MIID), and Myanmar Fruit, Flower, and Vegetables Producer Export Association (MFVP), in particular U Soe Lwin and U Naing Win from MFVP (melon cluster).

The ET deeply appreciates the support provided by the Program Evaluation for Effectiveness and Learning (PEEL) team and ME&A Headquarters staff for their technical oversight, technical review, editing, substantial logistical support, guidance, trouble-shooting, adaptable approach, and constant encouragement.

We also express our thanks to Nilar Thun who worked tirelessly to arrange our meetings and logistical support.

Finally, our thanks go to all the individuals who took the time to be interviewed and share their experience and perspectives on the VC-RD project.

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ACRONYMS

AR	Assessment Report
ASEAN	Association of Southeast Asian Nations
CBO	Community-Based Organization
CLA	Collaborating, Learning, and Adapting
CQI	Coffee Quality Institute
CSO	Civil Society Organization
DAR	Department of Agricultural Research
DOA	Department of Agriculture
EM	Effective Micro-organisms
EQ	Evaluation Question
ET	Evaluation Team
EU	European Union
FDA	U.S. Food and Drug Administration
FFD	Farmer Field Days
FGD	Focus Group Discussion
FOB	Free on Board
FY	Fiscal Year
GAP	Good Agricultural Practices
GBS	Good Brothers
GoB	Government of Burma
ha	Hectare
HACCP	Hazard Analysis and Critical Control Points
IP	Implementing Partner
IR	Intermediate Result
kg	Kilogram
KII	Key Informant Interview
LFA	Local Field Assistant
MABG	Myanmar Agri Business Group
MAN	Myanmar Agriculture Network
MCA	Myanmar Coffee Association
MCG	Mandalay Coffee Group
MEDA	Mennonite Economic Development Associates
MEL	Monitoring, Evaluation, and Learning
MFIs	Micro Finance Institutions
MFVP	Myanmar Fruit, Flower, and Vegetables Producer and Exporter Association
MIID	Myanmar Institute for Integrated Development
MMK	Myanmar Kyat
MOALI	Ministry of Agriculture, Livestock, and Irrigation
MOC	Ministry of Commerce
MT	Metric Ton (1000 kg)
MTR	Mid-Term Review
NAG	Network Activities Group
NGO	Non-Governmental Organization
NMC	National Melon Cluster
NPK	Nitrogen, Phosphorus, and Potassium
OAL	Organic Agro Land
PEEL	Program Evaluation for Effectiveness and Learning

pH	Potential of Hydrogen
Q	Quarter
Q graders	Quality Graders
SARA	Sustainable Action for Rural Advancement
SFDA	Sesame Farmer Development Association
SME	Small and Medium Enterprise
SOW	Scope of Work
SPSH	SPSH & Associates
U.S.	United States of America
UN	United Nations
UNIDO	United Nations Industrial Development Organization
UNODC	United Nations Office on Drugs and Crime
UK	United Kingdom
US\$/USD	U.S. dollar
USAID	United States Agency for International Development
USG	United States Government
TOT	Training of Trainers
VC	Value Chain
VC-RD	Value Chains for Rural Development
Winrock	Winrock International
WRS	Warehouse Receipts System
YSCG	Ywangan Specialty Coffee Group

EXECUTIVE SUMMARY

EVALUATION PURPOSE

The purpose of the mid-term performance evaluation of the Feed the Future United States Agency for International Development in Burma (USAID/Burma)-supported Value Chains for Rural Development (VC-RD) activity was to assess activity-level progress towards intended goals and objectives, including: cross-cutting objectives such as gender integration; review activity successes and challenges; review progress against the activity's exit strategy; and provide recommendations to ensure intended goals and objectives are met by the end of activity. Specifically, the following five main questions are addressed in the VC-RD evaluation (see Annex A for all questions and sub-questions):

1. To what extent is VC-RD meeting overall intended goals and objectives?
2. How are VC-RD's cross-cutting sector approaches contributing to results?
3. How effectively is Winrock International implementing and managing VC-RD interventions?
4. To what extent are current VC-RD interventions sustainable beyond the life of activity?
5. Given the lessons learned, what considerations should USAID/Burma take into account in future design of agriculture/economic growth activities?

The main audience for this evaluation is USAID/Burma, particularly its Economic Growth Office. It is anticipated that the findings of the evaluation will be used to refocus VC-RD's activities (if required), and to inform future programming. USAID will also use the findings to assist in the development of the first Country Development and Cooperation Strategy (CDCS) in Burma and, potentially, a new Feed the Future initiative in the country.

ACTIVITY BACKGROUND

VC-RD is a five-year activity with a budget of \$27 million, funded from October 2014 to September 2019. The project is implemented by Winrock International (Winrock) in collaboration with sub-awardees—Internews¹ and the Coffee Quality Institute (CQI)—as well as local partner organizations Shwe Danu; Sustainable Action for Rural Advancement (SARA); the Myanmar Fruit, Flower, and Vegetable Producer and Exporter Association (MFVP); and the Myanmar Institute for Integrated Development (MIID). VC-RD builds on Winrock's existing Farmer-to-Farmer (F2F) volunteer-based platform for agriculture technical assistance. The goal of VC-RD is the achievement of inclusive agricultural growth and its two intermediate results (IRs)—improved agricultural productivity and increased market access and trade. The activity specifically aims to support female smallholder producers and focuses on five value chains, namely: coffee, soybean, ginger, sesame, and melon. Geographically, value chain activities are implemented in Southern Shan State (coffee, soybean, and ginger), Magway Region (sesame), and Sagaing Region and Mandalay Region (melon). Activities also take place in Yangon in terms of the main VC-RD office and linkages to market actors. VC-RD's objectives include:

- Objective 1 (Coffee): Shift Burma from a producer of mainly low-grade, commodity coffee to a producer of high-value specialty coffees sold in global and domestic markets.
- Objective 2 (Soy): Improve productivity and quality of smallholder soy production to meet domestic processing industry demand.
- Objective 3 (Ginger): Support an inclusive ginger industry that meets the increased quantity and quality requirements of both domestic and international end markets (especially the organic export market).
- Objective 4 (Sesame): Support improved productivity and quality of raw sesame with the goal of increasing the quantity and price of sesame consumed domestically or exported. Work with private sector firms to explore diverse, high-quality export markets.

¹ The Internews sub-award with VC-RD expired on December 2016 (in Quarter 1 of Year 3). It had the task of designing and launching a new agriculture and market information radio show.

- Objective 5 (Melon): Build efficiencies and relationships to strengthen market channels and increase income for melon farmers in the Dry Zone, by improving production practices, increasing sustainability, and meeting Good Agricultural Practices (GAP) criteria.

EVALUATION DESIGN AND METHODS

The VC-RD evaluation was conducted by using a mixed-methods approach. To answer the evaluation questions (EQs), at the request of the USAID/Burma, the evaluation team (ET) used mainly qualitative methods, with minimal emphasis on quantitative methods. Data was collected by the following methods:

- Eighty-six (86) key informant interviews (KIs) with representatives from USAID/Burma, VC-RD staff, implementing partners (IPs), traders, trader-processors, buyers, banks, input suppliers, donors, non-governmental organizations (NGOs), and union and regional government;
- Thirty-six (36) focus group discussions (FGDs), including 34 FGDs with farmers (primary beneficiaries, secondary beneficiaries, control groups of non-beneficiary farmers) and two FGDs with VC-RD staff and an IP;
- Review of key documents, including VC-RD progress reports, work plans, monitoring, evaluation, and learning (MEL) documents, MEL data, value chain assessments, and gender and social assessments; and
- Five (5) mini case studies through storytelling, one for each value chain, to provide complementary information and illustrate changes perceived by participants as a result of the program.

A total of 441 respondents participated in the KIs and FGDs, including 304 males and 137 females. Data collected was analyzed by using NVivo, a qualitative software program.

A major limitation of the study is the use of only qualitative methods, which limited the generalizability of the findings to all Burmese farmers in program areas.

MAIN FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

EQ Cluster #1: To what extent is VC-RD meeting overall intended goals and objectives?	
Findings	Conclusions
<ul style="list-style-type: none"> • Overall VC-RD's successes include: 1) improved gross margins for melon and sesame farmers due to better fertilizer management; 2) improved gross margins for coffee producers due to enhanced technologies, increased capacity of farmers and processors to meet export market needs, and development of export market for specialty coffee; 3) establishment of strong producer associations to facilitate inclusive market systems development and value chain approaches in melon and sesame; and 4) safer management of chemical pesticides. • All value chains saw improvements in the availability of productivity-enhancing technologies. • With respect to increases in value chain actors' capacity to understand and meet end-market requirements, coffee and soybean showed the most improvement. • The trainings provided to producers contributed to improved farmer awareness and adoption of better productivity measures in areas like fertilizer management (melon and sesame), improved pesticide and disease control (melon and sesame), chemical management and worker safety (melon, sesame, and ginger), adoption of GAP elements, and increased capacity of farmers and processors (coffee) to meet export market needs. • Introduction of new technology innovations in coffee (e.g., dry tables, dry mill, dryer, coffee labs) and soybean (e.g., dryer, hygienic processing) enabled the coffee and soybean value chains to improve their product offerings and command better prices. 	<ul style="list-style-type: none"> • Agricultural productivity—measured mostly by gross margin and by yield—increased for coffee, sesame, and melon. • The activity introduced new technologies which enabled farmers to produce more and better-quality products, improve their position in the market, and sell their products for higher prices. • An inclusive value chains approach and its principles have been adopted by VC-RD across all five value chains. • VC-RD's facilitation for coffee and soybean began with stronger involvement and transitioned gradually to less involvement as a result of building the capacity of lead firms. Facilitation used a less directly involved approach in the case of sesame and melon as a result of strong producer organizations as well as in ginger, due to capabilities of the lead firms. • VC-RD implemented a number of good practices in market systems interventions, including strategically partnering with key market actors, like lead firms and producer organizations, to facilitate changes. • Factors contributing to the successes were: training provided to producers and processors, which increased awareness and capacity of farmers and processors including GAP; strengthening of producer groups at the value chain level (sesame

<ul style="list-style-type: none"> • The number of producers and volume of coffee involved in dry coffee processing is less than the potential due to the risks of product spoilage through unexpected rains and the long timelines for final payment. VC-RD tried to address this by financing dryers and facilitating links with banks, leading to successes at a small scale. • VC-RD stimulated farmers to grow organic and herbicide- and pesticide-free ginger, but market linkages were sometimes not strong enough, leading to disappointment among farmers. • Producers in coffee, ginger, and soybean lack organization at value chain level to facilitate and maintain vertical value chain links and market-oriented actions. • The limited improvements in gross margins provide few incentives for producers to supply good quality soybean to processors in Yangon compared to the conventional market of local traders. However, fairer weighing practices by the Yangon processors are an incentive for farmers to pursue this channel. • GAP training and demo plots led to limited results as the training for soybean and ginger was insufficiently adapted to the local circumstances, capacities of farmers, and timing. • Most melon farmers found the availability of regulated and quality seed to be an issue. Lack of new end-market linkages was also an issue due to the continued reliance on China as the main market. • For sesame, market linkages have yet to generate impact on a large scale. Access to finance and labor shortages are also challenges. • VC-RD has utilized adaptive management, to a certain extent, by responding to major challenges faced in each value chain. However, VC-RD has not fully utilized the potential of its MEL function to support adaptive learning and management within VC-RD and among IPs and grantees. • The soybean and ginger value chains were found to be vulnerable to management and implementation deficiencies in terms of market linkages development that are behind the production innovations, making them not financially attractive. 	<p>and melon) and lead firms (coffee and soybean) as strategic partners to facilitate value chain behavior; strengthening organization of producers (melon and sesame) by allowing them to have a collective voice to address issues and enable economies of scale for inputs and end markets; and establishing end market linkages, which motivated producers to increase production volumes and improve product quality to meet market needs.</p> <ul style="list-style-type: none"> • The limited gross margin improvements for soybean and ginger and market opportunities have hampered impact. • In sesame, tangible market linkages are yet to be felt. • For dry-processed coffee, the take-up by producers is less than the potential due to product spoilage risks and long payment timelines. • In melon, availability of quality regulated seed is a major challenge and there is too much dependency on the Chinese market. • Training can be improved through better timing aligned to crop cycles (ginger, soybean, melon, and sesame) and adaptation to local circumstances (ginger). • The producer organization at the value chain level for the coffee, ginger, and soybean value chains was not as good as for other value chains and is hampering facilitation in these value chains and risking sustainability. • The soybean and ginger value chains lack well established, strong local market linkages for the higher quality products VC-RD promotes.
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Recommendations (EQ Cluster #1)

- The scheduling of training activities should be improved to suit the most appropriate time for farmers with respect to their crop cycles. For melon and sesame this should be during the off-season and for ginger and soybean it should be conducted just before the season begins so farmers can apply the practices for their crop cycle. Locations for training of trainers (TOT), GAP awareness, and multiplier training should be more carefully planned to increase accessibility and participation by farmers.
- The access to essential low-cost technology for producers should be better facilitated and promoted through government and private sector partnerships. These include: moisture protection technology (for soybean, coffee, and sesame); drying innovations (coffee); tools to measure quality and moisture (soybean, coffee, and sesame); and nitrogen, phosphorus, and potassium (NPK) soil testing kits (all value chains).
- VC-RD should strengthen the organization of producers at a value chain level in coffee, soybean, and ginger to: facilitate vertical and horizontal value chain linkages; improve collaboration, support services, information services, and quality control; and enable economies of scale. Lessons and best practices can be adopted from efforts in melon and sesame. In coffee, VC-RD can build further on the producer level organization.
- VC-RD can broaden engagement of private sector actors by strengthening linkages with local traders and processors (soybean and ginger). Other mechanisms such as Warehouse Receipts System (WRS) could be explored for melon, ginger, and soybean, building on the learning that emerges from sesame.

EQ Cluster #2: How are VC-RD'S cross-cutting sector approaches contributing to results?

<ul style="list-style-type: none"> • VC-RD has integrated climate change mitigation measures across the value chains through TOT, multiplier training, GAP awareness training, and demo plots provided to Local Field Assistants (LFAs) and farmers. As a result, most soybean, ginger, sesame, and melon farmers interviewed are implementing environmentally safer practices to manage herbicides and pesticides and optimize fertilizer inputs. In the case of coffee, facilitation of new equipment has supported environmentally friendly practices in processing. • Climate change adaptation has been integrated on a smaller scale. Small-scale initiatives have been implemented to trial seed varieties (soybean) to address late rains and droughts and provide weather information to melon farmers. • Youth has not received specific attention in the VC-RD approach. Farmers mentioned that labor shortages—due to youth migrating to urban areas and overseas—are a challenge they face in their business, so this is a significant gap. • Public-private partnerships were initially hampered by VC-RD's contractual restriction to engage with government; however, they are gaining momentum and partnerships are visible across all value chains. • Nutrition is the weakest of cross-cutting sectors in VC-RD. VC-RD has indirectly addressed nutrition through food safety awareness as part of GAP. Ad hoc nutrition awareness has been implemented in soybean and coffee. • The main means to integrate gender in VC-RD was to invite female participants to training activities. However, due to location, timing, or cultural sensitivities, women's participation in training was, on average, low (22 percent). • Gender sensitization and women's leadership training were largely absent. Local VC-RD staff had limited exposure to gender sensitization training themselves. 	<ul style="list-style-type: none"> • Climate change mitigation measures have been adopted through environmental safer practices for management of pesticides. • Climate change adaptation has been integrated on a smaller scale through cultivation demonstrations, support and facilitation to access technology, trialing of seed varieties (soybean), and facilitation of weather information • In inclusiveness, VC-RD has been strong in addressing ethnic minorities (coffee, soybean, and ginger) but less so in addressing youth and gender. • Public-private partnerships are being established across all value chains. • Capacity building has largely targeted producers, some producer organizations (melon and sesame), and some processors (coffee, ginger, and soybean). • Nutrition is the weakest of cross-cutting sectors and showed very limited integration in VC-RD activities. • The main approach of gender integration relies on female participation at training activities. This is not a sufficiently holistic approach to address the traditional norms and positions of women in agriculture and improve their participation.
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Recommendations (EQ Cluster #2)

- VC-RD should continue to broaden the range of private sector actors engaged to enhance inclusivity in the value chains approach and provide more options for facilitation to suit producer realities in the value chains. For soybean and ginger, VC-RD should include private sector actors, such as local processors and traders, in facilitating value chain behavior.
- VC-RD should accelerate government engagement to facilitate interventions in GAP across all five value chains, either directly or through IPs.
- VC-RD should facilitate initiatives with IPs, Department of Agriculture (DOA), private sector, producer organizations, and local entrepreneurs to improve seeds which offer climate resilience options for soybean, sesame, and melon.
- VC-RD should accelerate and complete the Coffee Sector National Strategy paper and explore opportunities of developing similar sector-specific strategies for other crops such as melon.
- Nutrition can be strengthened by integrating nutrition awareness modules into the awareness and training programs provided to farmers. VC-RD can implement these directly or have them facilitated by IPs, using existing TOT and multiplier training approaches. The TOT programs for nutrition can be designed to give special consideration to cultural and social norms. Not only would this maximize women's participation, but it would have the significant benefit of replicating multiplier training while strengthening women's roles.
- VC-RD should develop and implement a youth engagement strategy across its value chains. The strategy should consider the important roles that youth can play as part of an inclusive approach in supporting value chain development, including seed farms, plant nurseries, provision of botanical inputs (such as EM Bokashi and neem), extension advisory services, information services, logistics, post-harvest treatment, and packaging. Approaches to youth engagement should be identified and facilitated through public-private partnerships involving youth organizations, community-based organizations (CBOs), national and regional government, lead firms, universities and colleges, producer organizations, input providers, and banks.
- A robust and feasible gender strategy should be developed to mainstream gender across remaining VC-RD interventions. A dedicated gender specialist should be appointed and VC-RD local staff and staff from IPs should be

trained on gender sensitization and gender integration approaches. Gender champions should be appointed among VC-RD, IP, and grantee staff for each value chain. Gender champions should also be identified among producers, private sector partners, and government.

- Female entrepreneurship and leadership should be promoted, building on the experience of existing NGOs such as Gender Equality Network (GEN), Women's Organizations Network of Myanmar (WON), and Myanmar Women Entrepreneurs Association (MWEA) and the success by female-led enterprises, such as Amayar, Lilipad, and Nike with support from the innovative grants.

EQ Cluster #3: How effectively is Winrock implementing and managing VC-RD interventions?

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| <ul style="list-style-type: none"> • The main deviations from the original scope were the consolidation of IRs, which reduced redundancy; making public-private partnerships a cross-cutting objective; revising and prioritizing indicators; and changing the beneficiary definitions and their resulting target changes. • There was a reduced scope in gender activities in financial year 2 and year 3 compared to plans. • The selection of the value chains was done based on baseline surveys and value chain assessments, using a number of core criteria, in line with the objectives of VC-RD. • Coffee provided a good value chain success story due to the market linkages and specialty branding created. The choice for ginger has been motivated by the potential profitability, market potential, barriers to entry, and potential to scale up farmers' participation. • Many interviewees have reservations about the exclusive choices for soybean and ginger and point to other interesting crops used by smallholder producers, including turmeric, garlic, and maize. • Among some private sector stakeholders in the coffee and soybean value chains, the final selection process and rationale for final grantees were not clear and not well communicated, leading to resentment among non-awardees who are important actors in the value chain. • Community grantees and sub-awardees facilitated value chain activities among farmers, particularly in improving agriculture productivity for melon, sesame, coffee, and ginger. Shwe Danu requires additional capacitating in order to sustain the behavioral changes in the coffee value chain. • The MEL system has had gaps, including the lack of utilizing MEL for the learning process by VC-RD head office staff, field staff, IPs, and grantees. Some of the data gathered during the first two and a half years appears inconsistent with the numbers reported by IPs and field offices and respondents noted inaccuracies that stemmed from the lack of a robust validation approach. | <ul style="list-style-type: none"> • The reduced scope of gender activities diminished the integration of gender in interventions. • Value chains were identified through a process of research and application of core criteria. • Interviewees have reservations about soybean and ginger and point to other interesting crops relevant to smallholders. • Sustainability was not an explicit criterion in the selection of value chains. • Despite a comprehensive grant solicitation and award process, the rationale for final selection of grantees was not communicated clearly to some participants interviewed. • Private sector, lead firms, and grantees facilitated value chain behavior and this is likely to remain sustainable. • Community grantees and sub-awardees facilitated value chain activities among farmers particularly in improving agriculture productivity for melon, sesame, coffee, and ginger. The facilitation in melon and sesame is likely to be sustainable due to the strengthening of producer groups while, in coffee, additional capacitating is required. • The potential for utilizing MEL for adaptive learning, management and decision-making by VC-RD staff, IPs, and grantees has not been utilized by VC-RD. • The MEL processes were not sufficiently robust in the first two and a half years in terms of validation and establishing baseline figures. |
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Recommendations (EQ Cluster #3)

- The selection process and criteria used for final grantees should be better communicated among applicants to reduce the potential for misunderstanding and improve transparency.
- The MEL function should be better integrated in VC-RD's management and decision-making, and the senior MEL specialist should become a key member of the VC-RD management team. MEL and relevant tools such as USAID's Collaborating, Learning, and Adapting (CLA) toolkit should be applied to improve collaboration with grantees, beneficiaries, IPs, and other stakeholders.
- IPs, grantees, and field offices should receive regular MEL reports for their own adaptive management, decision-making, and learning.
- Regular adaptive learning and management workshops that involve VC-RD and its strategic partners—including IPs and lead firms—should be held. Those IPs and lead firms can, in turn, communicate relevant lessons and information on VC-RD decision-making to beneficiaries, thus helping improve transparency in the value chain.
- Strengthening MEL champions in each value chain to build the capacity of local producer organizations.
- The scope of MEL data gathered should be expanded to include qualitative data to improve triangulation and validation.
- VC-RD progress reporting should become more results-oriented and demonstrate the link between activities implemented (e.g., training conducted) and contribution to IRs.

EQ Cluster #4: To what extent are current VC-RD interventions sustainable beyond the life of activity?

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| <ul style="list-style-type: none">• For coffee, ginger, and soybean, VC-RD has incentivized select market actors in the form of processor lead firms to establish sustainable links with smallholder farmers.• Attracting local traders, the ginger and soybean chains offer increased market access for smallholders. In melon and sesame, efforts to establish sustainable links between market actors and smallholders have had limited results so far.• The strongest organizational prospects for sustainability appear to be the melon and sesame value chains due to the efforts and successes in strengthening the producer organizations to become capable and influential value chain actors who can facilitate inclusive market systems development.• For coffee, vertical links within the value chain have been established, linking smallholder producer groups, processors, buyers, and export markets. These are likely to be sustainable but need expansion to improve sustainability prospects. For soybean and ginger, value chain linkages have been established between national-level processors, national traders, and producer groups.• The coffee, ginger, and soybean value chains lack a major or well-functioning, sectoral-level body or organization representing smallholder producers to ensure long-term organizational and financial sustainability prospects.• Government is gradually being integrated through public-private partnerships in areas such as GAP, seed quality, regulation, and policy. These efforts can lead to long-term sustainability if the local partners develop the capacity to manage and continue the relationship.• The main internal threats are in the coffee sector. These include a reliance on Winrock to maintain the value chain linkages, monitor, and ensure product quality.• In terms of market linkages in coffee, respondents feel there is too much reliance on one large market player.• For all five value chains, external threats include extreme weather, escalation of the internal conflict in Burma, and disease and pests leading to food safety concerns from markets. | <ul style="list-style-type: none">• In coffee, market actors have been incentivized to have relationships with smallholders, which are likely to be sustainable.• In ginger and soybean, although market actors have been incentivized and have established relationships with smallholders, these need expansion to create impact.• In melon and sesame, CBOs, in the form of producer organizations, have been engaged and their capacities strengthened to facilitate inclusive market systems development and a strong organizational platform for sustainability.• This organizational platform is lacking in coffee, ginger, and sesame.• Following the relaxation of Burma Sanctions, government has been gradually integrated and will have a role in GAP, seed quality, and regulation.• The main internal threat is the reliance on Winrock, due to its approach of heavy involvement. For coffee, a threat to sustainability is dependence on one major market actor.• A number of external threats exist, which can impact sustainability. |
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<ul style="list-style-type: none"> • In coffee, sustainability of market linkages, extension services, and the process for ensuring quality in the product were viewed as being at risk. • The long (final) payment timeline is also a risk for sustainability of dry-processed coffee. • An additional risk is the absence of a sector-level organization or body who can take the lead in coffee, representing smallholders. • In ginger and soybean, risks to the sustainability of interventions include the low gross margin differences for the new products developed and the weakness of producer organizations. • For sesame, tangible markets have not yet been developed although the WRS is promising. • In melon, the main risks to sustainability are the lack of a regulated seed market and the reliance on China as the major market. • Access to finance is a major risk to sustainability across all value chains and no solution has yet been found by VC-RD. 	<ul style="list-style-type: none"> • Increasing the number of market actors and strengthening producer organizations are solutions to mitigate risks to sustainability in the coffee, soybean, and ginger value chains. • In sesame, the WRS can provide a way forward. • In melon, reliability of seed is an important measure to increase sustainability. • Access to finance remains a risk across all value chains.
<p>Recommendations (EQ Cluster #4)</p> <ul style="list-style-type: none"> • VC-RD should develop a comprehensive sustainability or exit strategy during the course of this financial year. The sustainability strategy should involve a participatory approach with all key members of the VC-RD team and partners and build on successes tested across the value chains. New activities implemented by VC-RD should include sustainability as a prominent feature. • In extension, VC-RD is advised to study carefully which innovations are feasible and incorporate producers in the search for improvements. A number of models for extension services should be explored and recommendations are provided under Chapter 4, EQ Cluster #4. • Producer groups or organizations should be further capacitated to facilitate access for producers to technologies such as moisture meters, NPK soil test kits, and packaging to improve productivity levels. • At present, the range of private sector actors facilitating the value chains approach is narrow. It is recommended to include a wider range of actors. • For sesame, efforts to establish the WRS should continue and be accelerated if possible. The concept could be also explored for other value chains, including coffee, melon, and ginger. • For melon, the National Melon Cluster (NMC) and the MFVP can be empowered to further lobby the government to regulate melon seeds and also regulate the illegal Chinese farmers operating in Burma. With the opening up of trade in the Association of Southeast Asian Nations (ASEAN) region, other viable regional markets should be explored. • For access to finance, VC-RD should collaborate more actively with USAID's private sector development program to engage and support—through training and coaching—financing actors to provide finance services to private actors and producer groups. 	
<p>EQ Cluster #5: Given the lessons learned, what considerations should USAID/Burma take into account in future design of agriculture/economic growth activities?</p>	
<ul style="list-style-type: none"> • The successes in melon and sesame [NMC and Sesame Farmer Development Association (SFDA)] and the gaps in coffee, soybean, and ginger should be considered when designing future interventions. • Finance services in rural areas to complement agriculture/economic growth activities are necessary to ensuring sustainability. • The majority of informants indicated that a light touch is preferable and realistic. • Level of facilitation could also address constraints such as access to finance. Surprisingly, the majority of farmers who answered this question preferred a light-touch approach. • Farmers were of the opinion that they could produce to meet market demands if a robust market was established with the relevant value chain linkages in place. • Capacity building should be undertaken for actors who can implement interventions, such as producer organizations. 	<ul style="list-style-type: none"> • Strong producer organizations are needed, next to private sector enterprises, for managing value chain relationships, technology transfer, and extension efforts and, therefore, ensuring systemic and sustainable changes. • More can be done to engage micro finance institutions (MFIs) and banks, including training MFIs and banks in establishing agricultural credit services and facilitating pilot involvement of social lenders, including crowd funding. • Stakeholders, including farmers, prefer a light touch as it provides greater opportunities for impact and sustainability through an inclusive market-driven approach. • Capacity building for actors who can implement interventions is crucial.

Recommendations (EQ Cluster #5)

- Through public-private partnerships, government should be encouraged to play their role in regulating important areas such as seed quality and trade practices.
- Government, with the private sector and CBOs, should be facilitated to develop viable and sustainable models for agriculture extension, which provide better reach and access.
- Lessons learned from VC-RD in value chain establishment and facilitation should be captured in the form of a guideline for the development of agriculture value chains that can be used by development partners, NGOs, and government. These lessons can serve as a resource for future value chain interventions.
- Future interventions should consider capacity building for Ministry of Agriculture, Livestock, and Irrigation (MOALI) to support its reform process, including capacity building for development of policy and monitoring and evaluation divisions.
- Future value chain interventions should not only ensure the involvement of lead firms (good for a first pilot phase) but also be inclusive and engage a strategic mass of actors in the private sector, ensuring that lead firms really lead and are followed by sufficient numbers of other private actors. This will enable change along the entire value chain, and not only in the places where a project is active as well as making change sustainable and the value chain more inclusive and resilient. Value chains should include local actors such as regional traders, processors, and entrepreneurs to become truly inclusive and provide choices to producers. It is advised to use the existing local entrepreneurship for strengthening innovation and increasing youth participation in agriculture.
- Value chain interventions should also consider different production processes and products with potential within a value chain (e.g., washed coffee, fresh ginger) or other crops important to beneficiaries in their cropping system (e.g., turmeric, garlic, maize, chilies), which they come across in addition to the chosen priority crop. The incentives in different product value chains can sometimes be taken together, where different products together add up for farm profitability.
- USAID could take a role in supporting the development of MFIs, banks, and their services in rural areas, complementing agriculture/economic growth activities and building on approaches used by other donors, including the European Union (EU) and United Kingdom (UK).
- Future interventions should broaden awareness activities to female and child household members to cover critical topics such as pesticide and chemical safety, nutrition, and hygiene and sanitation.
- Formal (secondary) and informal education focusing on the important role that agriculture plays (e.g., in the economy, in society including nutrition and environment), the use of technology in agriculture, and financially lucrative agriculture enterprises can address the increasing trend of youth moving away from agriculture.
- Future activities should undertake social and cultural assessments to ensure initiatives are optimally aligned with local cultural and social sensitivities.

I.0 EVALUATION PURPOSE AND QUESTIONS

I.1 EVALUATION PURPOSE

The United States Agency for International Development in Burma (USAID/Burma) funded the Value Chains for Rural Development (VC-RD) activity to support the Government of Burma's (GoB) goal for agricultural development through a long-term economic strategy for sustained growth. VC-RD is a five-year activity with a budget of \$27 million, funded from October 2014 to September 2019, under the Feed the Future Initiative. The project is implemented by Winrock International (Winrock), in collaboration with two sub-awardees—Internews² and the Coffee Quality Institute (CQI)—as well as local partner organizations: Shwe Danu; Sustainable Action for Rural Advancement (SARA); the Myanmar Fruit, Flower, and Vegetable Producer and Exporter Association (MFVP); and the Myanmar Institute for Integrated Development (MIID). The purpose of the VC-RD performance evaluation was to:

1. Assess progress towards intended goals and objectives, including cross-cutting objectives such as gender integration;
2. Assess the activity's successes and challenges to date to inform programmatic decisions;
3. Assess the activity's progress on exit strategy; and
4. Provide recommendations to ensure intended goals and objectives are met by the end of activity.

I.2 EVALUATION AUDIENCE

The main audience for the VC-RD performance evaluation is USAID/Burma, particularly its Economic Growth Office. It is anticipated that the findings of the evaluation will be used to refocus VC-RD's activities (if required), and to inform future programming. USAID will also use the findings to assist in the development of the first Country Development and Cooperation Strategy (CDCS) in Burma and, potentially, a new Feed the Future activity in the country.

I.3 EVALUATION QUESTIONS

The evaluation addressed the following key evaluation questions (EQs) and sub-questions:

1. ***To what extent is VC-RD meeting overall intended goals and objectives?***

- What successes or results towards meeting intended goals and objectives has the activity achieved? What are the key factors driving identified success?
- What challenges towards meeting intended goals, objectives, and results have been faced? How has the implementer dealt with those challenges?
- How can VC-RD improve its implementation and management approach to ensure progress towards achieving results? To what extent did they utilize adaptive management?

2. ***How are VC-RD's cross-cutting sector approaches contributing to results?***

- How can VC-RD more effectively integrate cross-cutting sectors and gender considerations into interventions?
- To what extent is the activity incorporating cross-cutting objectives and considerations into value chain interventions? Where are there gaps?
- Did the gender interventions achieve their goals?

3. ***How effectively is Winrock implementing and managing VC-RD interventions?***

- To what extent have interventions deviated from the original scope?
- How have value chains been identified and what criteria have informed selection? What criteria proved to be the most critical for determining success?
- How has Winrock selected community and private sector grantees as recipients of VC-RD assistance? What were the lessons learned for working with each of these partners?

² The Internews sub-award with VC-RD expired on December 2016 (in Quarter 1 of Year 3). It had the task of designing and launching a new agriculture and market information radio show.

- To what extent are standard operating procedures in place and being followed to monitor results of sub-partners and grantees? How effectively were both primary and secondary beneficiaries captured?
- 4. To what extent are current VC-RD interventions sustainable beyond the life of activity?**
- To what extent is Winrock engaging and incentivizing market actors to take ownership and build sustainable relationships with smallholder farmers?
 - How is VC-RD engaging or incorporating government, non-government, and private sector counterparts in long-term sustainability strategies for interventions?
 - What internal and external threats exist that could impact the sustainability of key interventions beyond the life of activity (e.g., buyer linkages, credit identification, etc.)?
 - What interventions are at most risk of becoming unsustainable post-VC-RD and what action is Winrock taking to mitigate risks to sustainability (e.g., fluctuations in the world price of value chain outputs, etc.)?
- 5. Given the lessons learned, what considerations should USAID/Burma take into account in future design of agriculture/economic growth activities?**
- How might USAID/Burma better structure its future interventions to address cross-market systematic constraints?
 - What level of facilitation, direct, “heavy touch” involvement, or a less involved “light-touch” is realistic in Burma’s agriculture sector?

2.0 ACTIVITY BACKGROUND

2.1 ACTIVITY DESCRIPTION

In September 2014, Winrock signed a five-year Cooperative Agreement with the USAID/Burma for the VC-RD activity. VC-RD builds on Winrock’s existing Farmer-to-Farmer (F2F) volunteer-based platform for agriculture technical assistance to support USAID/Burma’s goal of supporting inclusive smallholder agriculture modernization and decreasing poverty. The main goal of VC-RD is to sustainably reduce poverty and hunger in Burma by improving smallholder productivity and profitability, strengthening value chain linkages and competitiveness, and increasing private sector engagement to support value chain upgrading. VC-RD specifically aims to support female smallholder producers. Its objectives by value chain include:

- Objective 1 (Coffee): Shift Burma from a producer of mainly low-grade, commodity coffee to a producer of high-value specialty coffees sold in global and domestic markets.
- Objective 2 (Soy): Improve productivity and quality of smallholder soy production to meet domestic processing industry demand.
- Objective 3 (Ginger): Support an inclusive ginger industry that meets the increased quantity and quality requirements of both domestic and international end markets (especially the organic export market).
- Objective 4 (Sesame): Support improved productivity and quality of raw sesame with the goal of increasing the quantity and price of sesame consumed domestically or exported. Work with private sector firms to explore diverse, high-quality export markets.
- Objective 5 (Melon): Build efficiencies and relationships to strengthen market channels and increase income for melon farmers in the Dry Zone by improving production practices, increasing sustainability, and meeting Good Agriculture Practices (GAP) criteria.

The activity follows a value chain approach to identify farmers’ constraints in prioritizing activities to improve both smallholder agriculture productivity and access to markets. Interventions in productivity focus on capacity building in GAP; harvesting and post-harvest value addition; enhancing availability and accessibility of agricultural technologies, including inputs and equipment; strengthening producer groups and organizations; and improving access to quality extension and advisory services. Interventions in market access focus on understanding the dynamics of selected value chains through analysis and strategy development and strengthening efforts that support value chain upgrading and investment. A key strategy of VC-RD is to use “lead firms,” which are established private sector firms, to undertake large scale processing and marketing as a mechanism to upgrade value chains to international standards, strengthen

smallholder participation in value chains, and leverage private sector investment. In addition to its activities working with selected value chains, VC-RD operates an “Innovative Grant” component with the aim of fostering links between community groups and the private sector to increase productivity and market access.

The development hypothesis behind the VC-RD activity is that sustainable agricultural growth will only be achieved if all the actors involved in the value chain have the opportunity to benefit from that growth. To achieve this aim, smallholder producers will need to have improved market access and be fully integrated into value chains through strong, equitable linkages with input suppliers, buyers, traders, and processors. This improved access and stronger integration should result in an increase in the overall productivity of smallholder producers.

2.2 RESULTS FRAMEWORK AND CONTRIBUTION TO USAID/BURMA INTERMEDIATE RESULTS

USAID’s VC-RD activity closely aligns with the GoB’s agricultural priorities. The activity’s main goal is inclusive agricultural growth and its two major intermediate results (IRs) include: improved agriculture productivity and increased market access and trade. The VC-RD project also contributes to USAID/Burma’s Agriculture Transition Framework IR2 and IR3. The activity has six sub-IRs illustrated in Figure 1.

Figure 1: VC-RD Activity Goal and IRs

Goal: Inclusive Agricultural Growth Achieved	
IR 1 Agricultural Productivity Improved	IR 2 Market Access and Trade Increased
Sub IR 1.1 Availability of productivity enhancing technologies and practices enhanced	Sub IR 2.1 Vertical and horizontal linkages between value chain actors developed and strengthened
Sub IR 1.2 Community-based producer organizations supported and strengthened	Sub IR 2.2 Capacity to understand and meet end market requirements increased
Sub IR 1.3 Access to quality extension or advisory services improved	Sub IR 2.3 Private Sector investment in value chain upgrading increased
Cross Cutting	
Public Private Partnerships, Capacity Building, Nutrition, Climate Change, Gender and Inclusiveness	

2.3 GENDER ISSUES IN BURMA

Over the years, the GoB has provided opportunities for promoting gender equity in the development of the country. However, women still face significant barriers to achieve their economic, social, and political rights. Their participation, representation, and decision-making in the social, economic (e.g., agriculture, livelihoods, business, etc.), and political sectors remain low. The underlying causes are cultural norms and practices put in place differently on men and women as well as the limited understanding and common misconceptions of people on gender issues, which result in disparities between men and women.

In the rural areas (where 70 percent of the population lives), it has been estimated that women perform approximately 80 percent of the agricultural labor, but they have limited participation in agribusiness. However, females in Burma make up 15 percent of all land holders in the country.³ Women in Burma face more discrimination and more barriers than men in accessing or owning land, participating in consultations and decision-making processes regarding land, and utilizing dispute mechanisms. Laws in place give married men and married women equal ownership rights to property. However, cultural factors as well as limited education, skills, and abilities, or lack of time or money, still inhibit female land

³ Transnational Institute. 2015. Linking Land and Women in Myanmar.

ownership. Burma's ethnic minority women are particularly excluded from ownership due to conflict, discrimination, and cultural and language barriers, among other reasons.

2.4 OVERVIEW OF VC-RD VALUE CHAINS COVERED

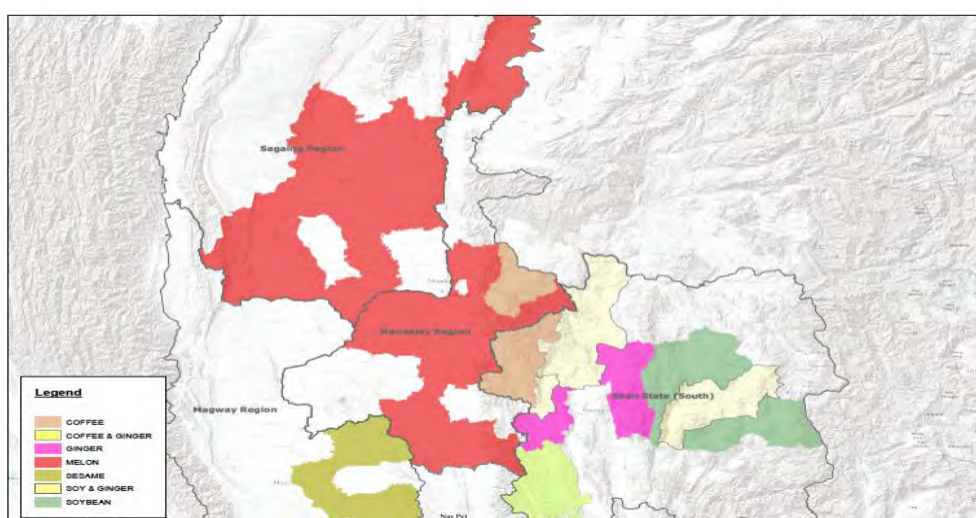
The VC-RD activity follows a value chain approach to identify farmers' constraints, prioritize activities, and improve smallholder agriculture productivity and access to markets. Interventions in productivity focus on enhancing availability and accessibility of agricultural technologies, including inputs, strengthening producer groups and organizations, and improving access to quality extension and advisory services. Interventions under market access focus on understanding the dynamics of selected value chains through analysis and competitiveness strategy development, using lead firms where possible, and strengthening efforts that support value chain upgrading and investment.

The VC-RD activity's work has targeted smallholder producers, with an emphasis on female producers, working in five distinct value chains, namely coffee, soybean, ginger, sesame, and melon. In addition, the activity employs an "Innovative Grant" component to foster links between community groups and the private sector with the purpose of increasing productivity and market access. The grants are also used to help high performing producer groups develop member services that will generate a stream of revenues to sustain operations and allow them to continue services beyond the project.

2.5 VC-RD TARGET AREAS AND TARGET POPULATION

The geographic coverage area of the five VC-RD value chains can be seen in the map in Figure 2, below. These value chain objectives, their geographic regions, the value chain composition, and the key actors involved in the VC-RD activity are summarized in Annex E.

Figure 2: VC-RD Coverage Area



Source: VC-RD QI Report FY 2017, Annex D

The VC-RD activity targets a total of 40,000 direct beneficiaries and an additional 49,000 indirect beneficiaries, involving a total of 118,100 hectares across the five value chains. Further details of the value chain coverage are provided in Table I.

Table I: Targeted Number of Beneficiaries by VC-RD Value Chain

Value Chain	Average Farm Size	Beneficiaries			Number of Hectares			Implementing Partners	Years
		Direct	Indirect	Total	Direct	Indirect	Total		
Coffee	0.50 ha	9,000	3,000	12,000	4,500	1,500	6,000	Winrock, Shwe Danu	Y1-Y5
Soybean	0.70 ha	8,000	4,000	12,000	5,600	3,200	8,400	Winrock	Y1-Y5
Ginger	0.20 ha	3,000	7,000	10,000	600	1,400	2,000	Winrock, MIID	Y2-Y5
Sesame	2.10 ha	12,000	20,000	32,000	25,200	42,000	67,200	Winrock, SARA	Y2-Y5
Melon	1.50 ha	8,000	15,000	23,000	12,000	22,500	34,500	Winrock, MFVP	Y3-Y5

Value Chain	Average Farm Size	Beneficiaries			Number of Hectares			Implementing Partners	Years
		Direct	Indirect	Total	Direct	Indirect	Total		
Totals		40,000	49,000	89,000	47,900	70,200	118,100		

Primary direct beneficiaries include smallholder households, producer groups, lead farmers, lead firms, traders, processors, input suppliers, exporters, domestic retail, and civil society organizations (CSOs). They are entities who have received direct assistance from the activity by coming into direct contact with the activity interventions. Secondary direct beneficiaries include smallholder households, producer groups, and value chain enterprises that are reached by the activity through their value chain linkages and relationships with the primary direct beneficiaries, thereby achieving knowledge and skills transfer through the primary direct beneficiaries.⁴

3.0 EVALUATION METHODS AND LIMITATIONS

3.1 EVALUATION METHODOLOGY

The evaluation team (ET) adopted a mixed-methods approach to assess the performance of the VC-RD activity and address each EQ. This approach included qualitative and quantitative methods. However, in discussion with USAID/Burma regarding their information needs, the ET was asked to emphasize qualitative methods, which included review of program documents, key informant interviews (KIs), focus group discussions (FGDs), and storytelling. Only limited quantitative data obtained from review of annual reports and other relevant sources was used. To compensate for lack of quantitative data, the ET, during the KIs and FGDs, interviewed a larger number of participants than what was proposed in the evaluation protocol and was able to exceed that number by close to 200 participants. The additional numbers of interviews and participants strengthened the qualitative data and increased the rigor of the evaluation findings.

A significant part of the planning for this evaluation involved identifying and engaging key stakeholders that have direct knowledge of and experience with the VC-RD activity to gather qualitative data on their perspectives in answering the EQs. Following review of the VC-RD documentation and consultation with USAID/Burma, a range of key respondents who could provide qualitative insights into the specific EQs were identified and selected. The criteria for selecting respondents included their level of engagement with VC-RD based on a list compiled by Winrock, relevance of involvement with respect to the thematic areas covered by the EQs, and coverage of a full range of stakeholders. The ET obtained feedback from USAID and Winrock on the final list of potential respondents compiled by the team prior to the evaluation. The coverage of respondents actually interviewed in KIs and FGDs was determined by their availability. Respondents included:

- USAID/Burma Mission staff;
- VC-RD staff in Yangon and field officers;
- Implementing partner (IP) staff;
- Primary and secondary beneficiaries (farmers who directly received training from VC-RD from each value chain);
- Control group farmers (farmers from value chains who did not benefit from VC-RD interventions);
- Traders who bought and sold produce in any of the five value chains;
- Trader-processors who bought and sold produce in any of the five value chains and also undertook processing;
- Buyers, including exporters (in Burma) and importers in international markets [including Europe and the United States (U.S.)];

⁴ Winrock Award AID-482-LA-14-00004, Modification of Assistance, 2016.

- Service/input providers, including banks, financial institutes, agri-technology providers, and agri-input providers (e.g., fertilizer, pesticide, and seed);
- Donors/non-governmental organizations (NGOs), including other USAID-funded activities, United Nations (UN) organizations, other donors, international NGOs, and national NGOs; and
- Government, including union-level government at Nay Pyi Taw, from Ministry of Agriculture, Livestock and Irrigation (MOALI) and Ministry of Commerce (MOC), and regional government staff operating in Shan State, Magway Region, Mandalay Region, and Sagaing Region.

Document Review

The ET reviewed several VC-RD-related documents to understand the program activities, successes, challenges, and other relevant information. The documents reviewed included:

- Quarterly and Annual VC-RD progress reports [for Fiscal Year (FY) 2015, 2016, and 2017];
- VC-RD work plans, value chain assessments, value chain reports, and briefers;
- VC-RD monitoring, evaluation, and learning (MEL) documents, including annual surveys, performance reports, Feed the Future Monitoring System (FTFMS) reports, and Data Quality Assessment (DQA) sheets;
- VC-RD gender and social assessment studies;
- VC-RD input supply sector and Management and Information System (MIS) landscape studies;
- VC-RD contract modifications; and
- External documentation such the Myanmar Climate-Smart Agriculture Strategy and Myanmar Plant Health System Strategy (2016-2020).

Key Informant Interviews

The ET used semi-structured interview guides (see Annex I) to conduct KIIs with key representatives from different stakeholder groups. The KII participants were identified during the planning phase and in consultation with USAID/Burma and Winrock (Table 2). The interview guides were based on the EQs and provided a semi-structured approach and probing questions for conducting the KIIs. During the actual KIIs, questions were adjusted to suit the informants and the flow of discussion. A total of 86 KIIs involving 122 participants (as some KIIs had more than one participant) were conducted across all stakeholder groups, except for producer groups.

Focus Group Discussions

The ET used semi-structured guides (see Annex J) to conduct FGDs with different groups of respondents to answer the EQs (Table 2). A total of 319 respondents were engaged via a total of 36 FGDs. Out of this total, 34 FGDs involved different types of farmers, including primary and secondary beneficiaries and indirect beneficiary farmers (control group) for each of the value chains. Recruitment of FGD participants involved obtaining contact information mainly from VC-RD's IP field office staff and, in some cases, lead farmers were contacted to obtain contact information of other farmers. The FGDs were conducted in the Burmese language by the two national experts and then translated to English. Some of the FGDs, particularly those in the Shan State, were conducted in local languages such as Pa-O and Shan, using the services of a local translator.

A grand total of 441 respondents participated in both the KIIs and FGDs. This exceeded the initial proposed target in the evaluation protocol, which was 260 respondents. The number of respondents was increased in order to have better coverage of key stakeholder representation in each value chain. Respondents included 304 males and 137 females. Table 2 provides an overview of the number of KIIs and FGDs conducted and total respondents by gender. Annex C provides an anonymized list of the KIIs and FGDs conducted.

Table 2: Number of Individual Participants in the KIIs and FGDs by Gender

Data Collection Method	Number Conducted	Male Respondents	Female Respondents	Total Respondents
KIIs	86	83	39	122
FGDs	36	221	98	319
Grand Total	122	304	137	441

Table 3 provides an overview of the KIIs and FGDs conducted according to sectors such as specific value chain and cross-cutting.

Table 3: Number of Participants in KIIs and FGDs by Value Chain

Data Collection Method	Cross-Cutting	Coffee	Soybean	Ginger	Sesame	Melon	Total
KIIs	39	13	11	11	3	9	86
FGDs	1	8	5	7	4	11	36

Storytelling

A storytelling approach was used to collect data from select individual farmers regarding their specific experiences (positive or negative) with VC-RD interventions. The storytelling participants were recruited during the KIIs and FGDs, if they were willing, to share their story as a mini case. The interviews were conducted following the completion of the respective KII or FGD. A total of five stories (mini cases) were completed, one for each value chain, including:

- Coffee: one member of women's coffee producer group, recipient of multiplier training;
- Ginger: one female member of a producer group, recipient of GAP training;
- Soybean: two female producers, recipient of GAP training;
- Melon: one male lead producer and training of trainers (TOT) recipient; and
- Sesame: one male producer and TOT recipient.

Ethical Considerations

The necessary approvals to engage with government stakeholders, undertake field visits to different regions, and collect data were obtained beforehand through the USAID/Burma Mission's notification of and getting approval from the Union Government. During fieldwork, consent was obtained from each participant in the KIIs and FGDs before starting interviews.

3.2 DATA ANALYSIS

3.2.1 Preparing, formatting, and organizing raw data

Each sub-team transcribed their respective KII and FGD notes on a regular basis during fieldwork. Typically, the sub-team lead transcribed the notes and then submitted them to the national expert for cross-checking and validation. Following cross-checking, the notes were then edited by both sub-team members through discussion. Once the KII and FGD notes had been transcribed and edited, they were uploaded to a secure cloud storage for safekeeping and subsequent use. The transcribed notes were further reviewed by a qualitative analyst and feedback was provided to the ET to help improve the quality and ensure standard formatting of response to the EQs. The sub-team leads then undertook final formatting and organizing the KII and FGD notes including:

- Standardization of the meta-data values (particularly type of respondent and region/states);
- Formatting of replies to all EQs;
- Standardizing the file names using an agreed convention; and
- Uploading of KII and FGD notes to the secure online storage as final datasets.

3.2.2 KII and FGD analysis

Due to the large number of KIIs and FGDs conducted, the analysis was structured into two levels.

First-level of analysis of KIIs and FGDs was done as an important step to ensure robustness in findings and involved:

- Importing KII and FGD notes into NVivo;
- Allocating codes, which are tags or labels, that provide units of meaning to the descriptive qualitative data compiled from KIIs and FGDs;
- Coding the qualitative data into categories to create themes or concepts. Three types of coding were applied including topic coding, open coding, and axial coding. Topic coding involved arranging the raw data from KIIs and FGDs according to the key inquiry of each EQ. Open coding and axial coding organized major codes and led to key analytic categories. These, in turn, enabled the identification of key issues, concerns, and interests of respondents.

The second-level of analysis focused on triangulating the findings across the different data sources. This involved providing consolidated findings to the EQs by cross-checking analyzed data from the KIIs, FGDs, documentation, stories, and annual reports. Specific quotes and stories provided by the respondents were used to illustrate key findings and enabled disaggregation of findings by value chain to respond to EQ1.1 and EQ1.2.

3.3 LIMITATIONS OF EVALUATION

As a complex evaluation involving a large number of respondents, limitations were inevitable. The ET recognizes the following limitations, which may have affected the evaluation to varying degrees:

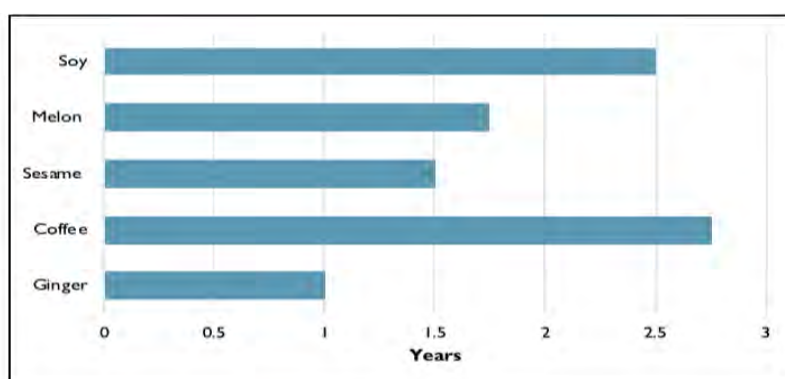
1. *Lack of quantitative data:* Quantitative data in Burma is known to have reliability issues due to lack of accurate baseline data and official census statistics. A thorough quantitative analysis, based on reliable data, can provide an additional source of triangulation for findings. However, this evaluation mainly used qualitative data that is subjective and is not generalizable to all Burmese farmers. The ET increased the number of interviewees to strengthen the qualitative findings.
2. *Recall Bias:* Since a number of questions raised during the KIIs dealt with issues that took place in the past, a recall bias cannot be excluded. As VC-RD activities were launched in September 2014, some respondents may have found it difficult to remember specific project-related events, activities, or interventions, and voiced opinions or comments that may not necessarily be an accurate reflection of what actually occurred.
3. *Halo Bias:* There is a known tendency among respondents to underreport socially undesirable answers and to alter their responses to approximate what they perceive as the social norm (halo bias). The extent to which respondents were prepared to reveal their true opinions may also vary for questions that call upon the respondents to assess the performance of their colleagues or people on whom they depend upon for the provision of services. To mitigate this limitation: the ET provided the respondents with an overview of the mid-term review (MTR) objectives and informed them that any feedback would form the basis of improving the future implementation of the VC-RD activity, provided confidentiality and anonymity guarantees, conducted the interviews in settings where respondents felt comfortable, and established rapport between the interviewer (ET) and the respondent(s). FGDs were conducted among peer groups to encourage the comfortable expression and development of ideas that may not be accepted or shared as easily outside of a group.
4. *Translation:* Much of the qualitative data collection from on-farm respondents was done in the Burmese language and translated by the two national experts to English for transcribing by the sub-team leads. A few KIIs and FGDs in Shan State were conducted in the regional languages Pa-O and Shan. There are risks of key meanings and findings being lost through the “dual translation” process of Pa-O to Burmese and Burmese to English. The ET attempted to mitigate such risks by engaging local translators with suitable proficiency of Pa-O and Shan and adequate technical knowledge of the topics to be discussed.
5. *Time constraints:* About 400 respondents were interviewed by the ET within a four-week period. Identifying and securing appointments with respondents, particularly at the farm level, involved a multi-layered approach through Winrock, IPs, field office staff, and lead farmers. The informants were spread over different states and regions, including Yangon, Nay Pyi Taw, Shan State, Magway Region, Mandalay Region, and Sagaing Region. Many of the locations were remote areas that necessitated daily travel of typically more than two hours. These factors meant that, despite working six or sometimes seven days a week, the ET was stretched in terms of time and had limited time to conduct rigorous analysis of the KII and FGD notes.

4.0 FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

4.1 EQ CLUSTER #1: TO WHAT EXTENT IS VC-RD MEETING OVERALL INTENDED GOALS AND OBJECTIVES?

Figure 3, provides contextual information regarding the number of years VC-RD has supported each of the five value chains in Burma. As of December 2017, VC-RD has supported the coffee and soybean value chains the longest (2.75 and 2.5 years, respectively), followed by melon (1.75 years), sesame (1.5 years), and ginger (1 year).

Figure 3: Number of Years VC-RD Has Supported Each Value Chain



Source: VC-RD Annual Report Year 3, December 2017

4.1.1 EQ1.1 What successes or results towards meeting intended goals and objectives has the activity achieved? What are the key factors driving identified success?

FINDINGS

Achievement of intermediate results

Annex H contains the overall detailed findings of VC-RD's achievements against the IRs stated in the Results Framework and performance indicators as well as the key factors driving the identified successes for each value chain, based on the ET's qualitative assessment scale (achieved, partially, limited, and not achieved) and triangulation with VC-RD performance summary. Annex H also presents VC-RD reporting indicators by each IR. Table 4, below, presents a summary of VC-RD's achievements by IR across the five value chains.

The main takeaway is that agricultural productivity—measured mostly by gross margin, but also by yield—increased for coffee, sesame, and melon. Soybean and ginger also saw increases, but only in a limited way. All value chains saw improvements in the availability of productivity-enhancing technologies. Community-based producer organizations were supported and strengthened for the coffee, sesame, and melon value chains, but less so for soybean and ginger. Access to quality extension or advisory services, according to interviews with producers, has been provided for coffee, but only partially so for sesame and melon, and has been limited for soybean and ginger.





Market access and trade increased for coffee and soybean, but only limited increases were accomplished with respect to ginger and sesame. Beneficiary farmers reported increased melon exports; however, in interviews, melon producers suggested this was not due to VC-RD's interventions, but rather due to increased market demand in China and the farmers' own efforts to create market linkages at Muse.⁵ VC-RD developed and strengthened vertical and horizontal linkages between value chain actors for coffee and soybean. For the ginger, sesame, and melon value chains, these linkages also improved, but in a limited

⁵ Muse, a trading town, is the capital town of Mu Se Township in northern Shan State, Myanmar. It is situated on the banks of the Shweli River and is the main border gateway between Myanmar and Yunnan Province (China) and is connected to other regions of Myanmar by road and railway.

way. With respect to increases in stakeholder capacity to understand and meet end market requirements, coffee and soybean showed the most improvement, whereas ginger, sesame, and melon saw only limited improvement. Finally, private sector investment in value chain upgrading increased for the coffee, soybean, and ginger value chains, while the sesame and melon value chains saw limited movement.

Table 4: Overall Achievements by Intermediate Results by Value Chain

Intermediate Results	Coffee	Soybean	Ginger	Sesame	Melon
IR1 Agricultural Productivity Improved	●	◐	◐	●	●
Sub IR 1.1 Availability of productivity enhancing technologies enhanced.	●	●	●	●	●
Sub IR 1.2 Community-based producer organizations supported and strengthened	●	○	○	●	●
Sub IR 1.3 Access to quality extension or advisory services improved	●	◐	◐	◐	◐
IR2 Market Access and Trade Increased	●	●	◐	◐	◐
Sub IR 2.1 Vertical and horizontal linkages between value chain actors developed and strengthened	●	●	◐	◐	◐
Sub IR 2.2 Capacity to understand and meet end market requirements increased	●	●	●	◐	◐
Sub IR 2.3 Private sector investment in value chain upgrading increased	●	●	●	◐	◐

Achieved Partially Achieved Limited Not Achieved





Coffee

Successful introduction of dry-processed specialty coffee

VC-RD successfully practiced value chain programming in coffee by introducing a new product in Burma and finding new market opportunities. VC-RD also introduced a new technique for processing fresh coffee berries into coffee dry naturals and linked this innovation to the international market. VC-RD's activities involved training in production, harvesting, processing, and improving coffee quality. The project provided support facilitating loans and providing grants, including co-financing innovations like drying tables and machinery. VC-RD raised farmer beneficiaries' awareness and knowledge of both quality production and processing of dry naturals and washed coffee. According to two FGDs participants and six KIs, it also increased the ability of farmer beneficiaries and processors to fill the international market's demand for high-quality coffee.

Producers were trained in GAPs, which included correct harvesting and drying, constructing drying tables, and storage. As a result, producers earned higher incomes than they would from simply selling fresh berries. The interviews revealed that other producers were interested in VC-RD activities and eager to participate (Story 3, Annex K).

Grants and co-financing supported three coffee processors who were trained in innovative technology for dry and wet processing. The training raised participants' efficiency and processing capacity and improved the quality of the end product. With high-quality equipment in place, the processors can provide high-quality dry- and wet-processed coffee for the international market. Being able to offer both dry- and wet-processed coffee has the effect of both widening product range and increasing markets. The

processors are scaling up (both dry- and wet-processed coffee), and VC-RD registered an increase in dry specialty coffee exports, which rose from 6 to 80 Metric Tons (MT) in 2017 and early 2018. Processors and other stakeholders, such as smallholders, roasters, and retailers, also learned to distinguish different coffee qualities through cupping. Supported by the Rabobank Foundation, VC-RD facilitated Mandalay Coffee Group's (MCG's) access to a loan from Yoma bank. MCG and other processors provide loans to producer groups.

The KIs (n=7) and FGDs (n=2) involving different value chain actors indicated that VC-RD's interventions led to higher incomes for farmer beneficiaries and processors through coffee sales and raised the quality of coffee exports. This success is further illustrated through quotes the ET gathered during respondent interviews.

"The introduction of specialty coffee led to more income and employment." – Farmers, Southern Shan State

"VC-RD has enabled many of the producers to increase their margins. Some by up to four times their original profit margins." – NGO

"Farmers learned the dry processing techniques from Winrock and apply them successfully. They got market linkages through the project." – Coffee cooperative

Improved international market linkage for specialty coffee

According to nine KIs and two FGDs, Burma has established a reputation as a high-quality specialty coffee producer. Value chain actors, from producers to buyers, understand that VC-RD made Shan coffee and Ywangan dry coffee known in the international coffee market by linking processors and producers to international buyers. Because of the internal conflict in the country, using Myanmar as a brand name poses a brand risk. Instead, coffee is branded by its region of origin.

VC-RD strengthened relationships across the value chain actors, which made them more competitive and inclusive. First, processors such as MCG, Lilypad, and Amayar were linked to international specialty coffee buyers and were able to sell a considerable percentage of their production output. As a result of the market linkages, some technological innovations, and improved coffee quality, the processors developed new international clients and were able to increase their turnover. The processors sell wet-processed coffee and dry coffee naturals. Dry-processed specialty coffee has potential and, according to a major processor, is already about 5 percent of each processor's total production.

VC-RD linked smallholder producer groups to international buyers. According to VC-RD reports, in 2017, VC-RD helped 22 village producer groups sell coffee to 10 international and four local buyers. Producer groups purchase berries, process them, and then sell the processed dry berries. Some groups process the berries as a service, leaving ownership of the berries with the producers. Currently, 16 or 17 villages sell their beans through MCG, and five villages sell their dry- and wet-processed product via Amayar to the U.S. Until now, all coffee in Ywangan was sold through MCG (needing final milling and export handling and administration). Now, two smaller processors, Amayar and Lilypad, also have a dry mill and are technically ready for the full exporting process. Other producer groups are indirectly linked to buyers because they deliver fresh berries to the processors, who can provide the buyer with coffee from a specific origin. Some smaller processors and the communities they support profit from establishing links with smaller, specialty coffee-buying companies. These companies often focus on coffee with a specific origin and regional branding. Other actors, such as United Nations Office on Drugs and Crime (UNODC), have also supported market linkages by inviting coffee companies such as the French company Malongo.

Demand for Burmese coffee has increased because of the high scores it was awarded by international judges at the 2017 cupping competition. At the competition, international experts worked with Burma's first five certified quality graders (Q graders) to assess locally-grown coffee [VC-RD FY 2017 Assessment Report (AR)]. This and other cupping events have been important in linking stakeholders, producers, processors, and buyers.

The linkages to the international market and the better-quality coffees expanded the specialty coffee export market. Indeed, KIs noted that *"before we sold coffee to the region, now it's worldwide."* A coffee

processor observed that, “it is smart to focus on natural coffee. For this kind of coffee, there is a good market in the U.S. and [United Kingdom] UK.”

There is also a large domestic coffee market. Total coffee production was approximately 2,000 MT, 50 percent of which was Arabica. Of this, 30 percent comes from estate farms. Exported coffee is estimated to be 10 percent of total coffee production (Control Union). Figures in the VC-RD FY 2017 AR mention that 216 MT of coffee were exported from Southern Shan. Of this, 56 MT comes from the 22 village producer groups (coffee sales data 2016/2017).

Increased market prices for specialty coffee

All eight FGDs and the majority of KILs (n=8) stated that international buyers are willing to pay high prices for specialty, high-quality coffee from Southern Shan State. This will lead to better incomes for producers. Prices for Burma’s coffee vary from \$1.50 to \$3 per pound based on quality (from commodity to specialty coffee). MCG notes that international market prices range from \$5,000 to \$6,000 per MT. When specialty coffeehouses pay a premium for coffee branded by its specific geographic origin, the price can go up to \$4.30 a pound.

Value chain actors see that more new farmers have started growing coffee, and that existing coffee farmers are expanding the number of plants on their farms. Members of producer groups that process coffee have been receiving higher incomes than what they would earn simply by selling fresh berries. In addition, the new practice of processing coffee has other positive trickle effects on farmers—one producer group mentioned that farmers receive extra income from being employed in processing or drying coffee with the coffee groups.

Group and non-group members are paid more for fresh berries sold to the group than they would make selling to a trader or processor (processor). Sometimes groups pay as much as 25 percent more for fresh, high-quality berries. Due to the increased international demand for specialty coffee, prices in the domestic market have also increased. Processors and producer groups pay between 700 Myanmar Kyat (MMK)/viss⁶ and 1,000 MMK/viss for fresh berries. Producer groups mentioned that prices for dried coffee green beans range from 4,000 to 4,700 MMK/viss in town. A farmer in Southern Shan State noted that “[t]he amounts of dry-processed coffee produced has been doubled in all five villages. In the five villages present, the number of members has grown since the start.”

Enhanced formation of producer groups

One of VC-RD’s focus areas is producer organization. This is needed for processing and delivering quality coffee at the community level. The VC-RD coffee team mentions focusing on “working together as a group; Changing the farmer habits through introduction of recordkeeping, organization, professionalism, and keeping the quality.” Currently, a total of about 30 villages are organized into producer groups, and 22 produce dry, specialty coffee. An estimated 300 producers are members of such groups. Most village producer groups are starting to get organized, with the exception of Mya Ze Di, which already existed and is well organized and strong. Other coffee producers are also getting organized around coffee washing equipment and through other projects such as UNODC.

At the township level, a number of organizations have been established. These include the Amara women producers group, which is currently setting up an association or shareholder company with six villages. Lilypad, a social enterprise organization, has organized nine coffee producing villages around it. However, the Township Coffee Clusters (TCC), which officially represent the coffee producers and link the government with producers, are not very active.

In early 2017, at a sectoral level, the Ywangan Specialty Coffee Group (YSCG), began to organize. They are formally establishing themselves as an association to represent smaller producers. YSCG has 20 communities as shareholders, with 15-25 members per community group (Progreso, Winrock). The YSCG participants are trained by Progreso, the Dutch coffee specialty NGO, which was supported by Rabobank Foundation. Progreso cooperated with VC-RD to develop organizational management capacity and establish links to buyers (VC-RD AR Y3). The Myanmar Coffee Association (MCA) represents the larger coffee producer estates and processors and supports events such as cupping competitions.

⁶ A viss is a traditional Burmese unit of measurement still in everyday use in Burma. One viss equals 1.62 kilograms.

Ginger

Good Agriculture Practices

GAP innovations have had a small, positive impact on the ginger sector in Burma. VC-RD provided training in an attempt to introduce a number of GAPs; however, the mentioned utilization of new practices was very limited. Ginger producers mentioned they gained knowledge about how to safely manage chemicals like pesticides and herbicides before, during, and after spraying. As a result, they are now using protective clothing, according to one FGD participant. Another GAP innovation used, one mentioned in an FGD in Pantin village, is a seed bank introduced by IP MIID. Beneficiaries in Hobong reported the introduction and use of intercropping of ginger with maize. A washing station for potatoes and fresh ginger is being built in Heho, but the processor says he will not be ready to use it during this year's harvest season. However, it offers future opportunity.

Market linkages

Market linkages via local traders exist for conventional ginger. Various processors and the VC-RD ginger team mention that the project supported the development of direct market linkages for organic and chemical-free ginger. For export, chemical residue-free products are requested for food safety reasons. VC-RD also supported the expansion of these relatively new products and their related new market opportunities. For an organic product, the whole value chain must be known and certified, so buyers prefer a direct relationship with producers. The ET found that some buyers and processors were already focused on organic and chemical-free ginger and had relationships with producers, while VC-RD linked others to producers (see Table F.4 in Annex F). There is a body to certify organic produce—the Control Union. One ginger processor explained that, *“conventional ginger you can buy anywhere, but organic was different. Winrock was helping me to find the farmers. (Ones who are already growing or are willing to grow organic ginger.)”*

Higher ginger sale prices

The price, and more specifically the income, difference is a powerful incentive to shift to another product and production method. Buyers and processors often try to buy organic ginger directly from the producers, bypassing middlemen. Two KIIs indicated that this leads to a better price for producers because the producer does not have to pay the broker fees and transport costs. According to some producers, the weighing scale used by the broker may not be accurate. Myanmar Agri Business Group (MABG), one of the processors, mentioned an increased selling price of between 5-10 percent when ginger is sold to processors instead of a broker. In this kind of direct selling, the processor comes to pick up the ginger, which means the farmers do not pay transport or broker fees and can use their own trusted scales.

Two processors and exporters mentioned that organic ginger producers can get higher prices for their produce. The market for organic ginger is developing with several processors—MABG, Organic Agro Land (OAL), and Snacks Mandalay, which focus on markets for processed dried ginger, and others like SPSH & Associates (SPSH) and OAL, which focus on export markets for fresh ginger. Herbicide- and pesticide-free production, which avoids leaving toxic residues in the product during processing, is often acceptable to processors.

Organic ginger is exported to the U.S. and Germany. Processors and the certification body mentioned that organic ginger buyers pay 5-15 percent more—approximately 100 MMK/viss—for processed ginger and 10-30 percent more for fresh organic ginger, according to three KIIs. There is a significant difference in price between exported conventional ginger, which fetches around \$2.5 a kilogram (kg) and exported organic, dried, sliced ginger, which gets around \$3.5 a kg (Control Union).

A processor remarked that local traders for the domestic market offer no price difference between organic and conventional ginger. This is largely because they do not have markets for organic ginger. However, organic ginger may fetch a higher price because more spacing is used during planting, and the resulting ginger is bigger. Organic ginger does not have a higher yield but uses less seed. In an FGD with ginger farmers from six isolated villages, interviewees said that, *“We have increased the volume of ginger sold from 155,000 to 500,000 kg. Twenty-five percent more income has been generated by selling directly to the processors.”* Another organic ginger processor stated that, *“[i]n the second year I could offer a 10 percent higher price for organic than for conventional [ginger]. Now I can offer a 20 percent higher price.”*

Soybean

Good agricultural practices

VC-RD's training introduced a number of GAPs. However, utilization of these practices was limited. Input-provider Pioneer introduced a hand seeder, which producers adopted and started using. This uses less seed (producer group) and has helped them produce a 20-30 percent higher yield of soybean. Producers in 27 villages purchased a total of 126 seeders, a move supported by a purchase scheme for hand seeders (Soybean adaptation data 2018; VC-RD AR Y3). One producer group mentioned a successful demo plot where it applied the techniques recommended and used an improved seed variety (Yezin 34). According to one FGD, the result was better income for producers than maize earned them and, subsequently, producers expanded their soybean farming area.

Improvements in processing soybean

Several interviewees for this value chain (n=4) stated that the VC-RD activities have improved the way soybean is processed into tofu. The VC-RD supported tofu processors to produce tofu efficiently and hygienically. The processors received training for efficient and hygienic processing, and two processors received grants to buy better machinery. This puts processors in a better market position. Processors found that the training allowed them to extend their network and increase their knowledge of the market.

Market linkages

VC-RD has strengthened the relationships between actors. All processors mentioned the direct relationships built between processors and village group producers. Two processors remarked that this relationship helped increase mutual understanding and offered them insights into production potential and quality requirements for the products. They also noted that these stronger relationships make direct sale possible, according to over half (n=7) of the interviewees.

Three processors mention needing quality beans—dry, clean, white, and chemical free—to produce high-quality tofu. They know about 10 tofu processors at the national level. One member of the soybean team mentioned working with 34 farmer groups, of which between 8-12 groups function well and produce and aggregate quality beans to sell to tofu processors. VC-RD projections for 2017 showed that eight producer groups could produce and sell a total of 250 MTs of high-quality soybean worth \$120,000 to tofu processors (VC-RD AR Y3). VC-RD staff noted advantages to having a guaranteed market, according to one processor. Under the former military government, soybean growing declined because it was not market-driven. Imported soybeans for oil and cakes were less expensive. This left local soybean, which was of higher quality, feasible only for tofu production. The VC-RD attention offers new potential for growing soybean. This is indicated in quotes by two tofu processors:

“Direct linkages have been established between processors and farmers, where beforehand contacts went through intermediary traders/brokers. Now processors understand the farmers and farmers understand the processors better.” –Tofu Processor (1)

“Winrock’s value is in linking, not in technical innovation.” –Tofu Processor (2)

Better fair sale prices and payment terms

One FGD and KII stated that producers receive a fair price by selling soybean directly to processors in Yangon. Producers felt they were cheated by local traders for reasons related to weighing the beans and moisture content. Both producers and the soybean staff added that, when they sell directly to processors, producers do not have to wait long to get paid.

Melon

Good Agricultural Practices

According to VC-RD, a total of 3,788 melon farmers in 2016 and 2017 were trained in GAP awareness via MFVP. This is substantially above the target of 3,000. These figures were corroborated by MFVP and the National Melon Cluster (NMC), according to one FGD and one KII. In Sagaing and Mandalay Regions, all primary and secondary melon value chain beneficiaries interviewed in KIIs and FGDs confirmed they were implementing GAP to varying degrees after receiving training. All of them were implementing GAP in the form of disease and pest control, chemical management, and worker health protection.

According to the melon traders interviewed in one KII and nine FGDs, 70 percent of farmers became aware of the new GAP techniques, but only 20 percent applied them. According to one interviewee,

some knowledge gaps between the trainer and trainee remain. In the past, salesmen from input suppliers would come and train them on using the inputs in an indiscriminate way, saying “the more, the better.” Some farmers have mindsets still conditioned by these salesmen.

According to two members of the Department of Agriculture (DOA) staff in Sagaing Region, the VC-RD training made farmers more aware of GAP practices. The farmers came to DOA for assistance in producing organic manure and started using neem extract to replace some of the pest control chemicals. The DOA facilitated ordering neem from factories in Mandalay Region. According to one DOA representative in Chaung-Oo Township, melon farmers did not properly dispose of plastic waste left over from mulching. The DOA taught farmers not to randomly dispose of plastic waste because of its effect on soil condition. The plastic sheets are now being recycled and collected by local traders.

Most beneficiaries were also implementing GAP practices in the form of fertilizer optimization and management. Some farmers took this a step further by optimizing water, fertilizer, and nutrients by adopting drip irrigation systems (see Mini Case Study I in Annex K).

Three producer groups reported they were implementing GAP recordkeeping and planning to apply for formal GAP registration under the Burma GAP scheme. According to MFVP, there are 90 NMC applicants for GAP certification. All melon beneficiaries interviewed in nine FGDs said they were willing to obtain GAP certification if the market demanded it, or if it would provide a price advantage. Farmers who were not trained indicated basic awareness of GAP as a concept involving recordkeeping but had limited ideas about GAP practices. This points to the fact that successes achieved and noted by trained farmers can be attributed to VC-RD training, not other sources.

Improved yields and gross margins

Representatives of seven of nine melon-producer groups from Sagaing and Mandalay Regions were interviewed and indicated that their yields increased, and gross margins improved due to better fertilizer management learned in VC-RD training. In the past, according to producer groups, farmers applied nitrogen or urea fertilizer and made no adjustments for soil conditions such as potential of hydrogen (pH) levels. Based on soil-assessing knowledge gained from VC-RD, the farmers interviewed began using an optimal ratio of fertilizer components that included nitrogen, phosphate, potassium, and other secondary nutrients.

The farmers reported that the changes in fertilizer ratios, coupled with favorable weather conditions, resulted in substantially increased average yields in 2017. Average yield increases of 50 percent were reported by primary beneficiaries from three producer groups (up from an average of 8 MT of melon per acre to 13 MT per acre). Average yield increases of 40 percent were reported for one producer group (up from between 8-10 MT of melon per acre to 15-16 MT of melon per acre). Average yield increases of around 25 percent were reported for farmers in another producer group (up from 8 MT of melons an acre to 10-11 MT per acre). All melon farmers interviewed reported that yield increases were achieved with no per-acre cost increase for inputs like fertilizer. These figures from the FGDs are consistent with the figures in the VC-RD AR Y3, which reported yield increases for melon farmers of between 25-50 percent—up to 15 MT per acre. KIs with MFVP and VC-RD melon value chain staff indicated similar yield increases. A melon trader, who is both a buyer and a large farmer, reported yield increases of around 25 percent (new yields 12-15 MT per acre) due to a combination of favorable weather conditions and the application of knowledge gained from VC-RD training for around 20 percent of his farmers.

The same success in yield increases was indicated in interviews with secondary beneficiaries from four producer groups. One producer group in Mandalay mentioned learning how to measure soil pH and adjusting the fertilizer ratio accordingly. The groups prefer more practical activities supported by market actors—the provision of soil testing kits, for instance, so they can test soil pH and adjust fertilizer ratios accordingly. The following quotes from melon farmers further illustrate this success:

“I am quite happy with a teamwork of farmers with assistance of the project. We have benefitted from the project since we can share information and exchange ideas of technologies we received from the TOT and GAP.” – Farmer, Sagaing Region

“I am satisfied with [the] know-how provided by Winrock as we are able to use the new technology systematically and effectively. I myself also gained more understanding about the local contexts and existing issues that the melon farmers are facing.” – Farmer, Sagaing Region

“I am very thankful to Winrock and USAID for their assistance to the melon farmers in the dry zone...[it] has provided us new technical knowledge and know-how to change our traditional practices of fertilizer application. I am expecting some more assistance from Winrock to receive more benefits.” – Farmer, Sagaing Region

“I am happy that I am able to increase yield with less input costs after receiving the TOT training from Winrock. Before that, I had mostly relied on traditional practice without sound scientific knowledge and know-how. I was sometimes worried that I may make mistakes in using some farming practice, but I am more confident to make decisions about technologies that I’ve learned from the training.” – Farmer Mandalay Region

“Eighty-five percent of the melon farmers increased their yield. Earlier we used to use the fertilizer randomly (ratio of nitrogen was higher than potassium). Following the training, they are more aware of what ratio of fertilizer to apply (such as potassium). Farmers who did not receive training also received information from the farmers who received training and thus benefitted from this through word of mouth.” – Farmers, Sagaing Region

Improved pest and disease control

All nine of the melon farmer beneficiary groups interviewed reported improved awareness of and practices for controlling pests and diseases due to VC-RD training. These included:

- Control of leaf blight (one producer group);
- Distinguishing between pests and non-harmful insects (three producer groups);
- Distinguishing crop damage caused by insects and diseases (three producer groups); and
- Application of alternative pesticide instead of chemical-based pesticides (one producer group).

All interviewed melon beneficiary farmer groups indicated they were able to indirectly increase yields per acre by reducing the number of plants lost to pests and diseases. The following quote illustrates this success:

“We’ve already agreed on implementing GAP system, and so we will make organic fertilizers and pesticides using raw materials such as garlic, soap, and diesel, which are locally available. I have done a pilot test of spraying my pesticide on melon and found no serious pest attack with a normal yield like when using chemical fertilizer. I’ve already applied GAP for melon. We are also very interested to culture beneficial insects that [VC-RD staff] shared during his visit.” – Farmers, Mandalay Region

Chemical management and worker safety

All melon beneficiaries interviewed in 11 FGDs reported an increased awareness of the harmful effects of farm chemicals—particularly pesticides and fungicides—on worker’s health, water sources, the environment, and, ultimately, on wider society for issues of food safety. They also reported gaining awareness of appropriate chemical management before, during, and after spraying. All beneficiaries interviewed said they apply new knowledge to systematically store and dispose of pesticide containers. The farmers also provided personal protective equipment (masks and gloves) to their farm laborers. Farmers from one producer group used raincoats as an additional protective measure.

Lead farmers from one producer group interviewed said that about half the farmers who received multiplier training were using personal protective equipment during pesticide application. One lead melon farmer and trader said his farmers are more aware of the importance of safe chemical management than before VC-RD training, and use personal protective equipment. However, farmers from four producer groups and one trader/large farmer said that, despite providing personal protective equipment to laborers, many do not use it because of the heat. The laborers find the equipment cumbersome, and some prefer wearing traditional clothing like lungis⁷ to gloves, raincoats, and trousers. In these cases, farmers request that laborers at least use the face masks when working for them. For example, farmers in the Sagaing Region FGDs shared the following observations:

“[VC-RD staff] has provided us new technical knowledge and know-how to change our traditional practices of fertilizer application.”

⁷ Lungi is a length of cotton cloth worn as a skirt in Burma (Myanmar), where it is the national dress for both sexes.

“We like GAP training provided by Winrock because we saw a number of advantages from the training like awareness for environmental management; and the proper use of chemicals, fertilizers, and pesticides, which will later contribute to better social, economic, and health of melon farmers. We will continue the activities ourselves after the project has ended.”

Enhanced formation of producer groups

VC-RD, through its IP MFVP and an associated grant, supported expanding the organized melon producer groups in the form of the NMC. The MFVP’s head office and field office staff said that after working with VC-RD, the NMC expanded from five to 26 township-level melon clusters. These clusters include 14 clusters in Sagaing Region and 12 clusters in Mandalay Region—one township-level cluster more than what was reported in the AR Y3. Cluster leaders represent each township-level melon cluster, and each leader covers one or two villages. With 2,498 members (KII 48), the NMC is in the process of registering as an association. VC-RD supported this process through programs on building organizational management capacity, developing roles, clarifying responsibilities, and drafting job descriptions for management staff (FY 2017 AR; MFVP KII).

MFVP has partnered with VC-RD since December of 2015. Since then, 2,498 new members joined the NMC at the township level (FY 2017 AR; MFVP KII). All primary and secondary melon VC beneficiaries interviewed reported that the NMC gathered momentum after VC-RD began. Because of the TOT, GAP awareness, and multiplier training, farmers began to see the value of joining the NMC.

The VC-RD-provided TOT training led to 100 farmers being trained as trainers. According to MFVP’s head office and field office staff, of these 100, 50 were trained in 2016 and another 50 in 2017. The first batch of trained trainers was not able to conduct proper multiplier training because of poor facilitation skills. In 2017, a contract between MFVP and the second batch of trained trainers made it mandatory for each trainer to provide multiplier training to at least 30 farmers. All melon primary beneficiaries interviewed reported that they met this requirement. The interviewed primary and secondary melon beneficiaries all reported that farmers now share knowledge, experiences, and troubleshooting tips through regular meetings and other channels such as telephone, Viber, and Facebook. One farmer in the Sagaing Region said, *“Now farmers come and gather in our houses to exchange ideas. We have regular monthly meetings in the township. We are well connected now also via phone and Viber.”*

Sesame

Improved gross-margins

The ET interviewed sesame beneficiaries from three producer groups in Magway Region. All reported a reduction in fertilizer input costs by applying knowledge gained in the VC-RD and SARA training and demo plots. The sesame beneficiaries reported that, after the training, they switched from artificial fertilizer such as urea to a natural fertilizer they can make themselves, one based on fish amino acid and material extracted from bamboo. Participants in one producer group said they reduced fertilizer costs—including transportation costs—from 24,000 MMK/acre to approximately 5,000 MMK/acre by switching to natural fertilizer. Participants in one FGD reported they saved around 30,000 MMK/acre in fertilizer costs due to the fertilizer-type switch. All interviewed sesame beneficiaries said their gross margins increased because fertilizer input costs were reduced, but yields remained largely the same. In the case of some seasons, such as the 2017 season, yields per acre increased as a result of more favorable weather conditions. These findings were consistent with the VC-RD field staff in Magway. One farmer in the Magway Region said, *“I am a lead farmer and I had measurable results from [the] Winrock project because the yield of sesame was profoundly increased by the use of new technical know-how. Last year, the profit of sesame from my field was increased by about 50 percent.”*

Improved pest and disease control, chemical management, and worker safety

All sesame beneficiaries interviewed in three FGDs reported increased awareness of pest and disease control because of training provided by VC-RD and SARA. Now, these farmers can distinguish between pests and non-harmful, even beneficial, insects. Farmers from two producer groups confirmed in interviews that they practice measures to control soil-borne diseases. All farmers interviewed have increased their knowledge of the harmful effects chemical pesticides and fungicides can have on workers—including skin diseases, lung diseases, eye issues, and, in some cases, cancer. All farmers interviewed are substituting less harmful, natural pesticides like neem oil for chemical pesticides. Farmers in one producer group said that eight out of 10 farmers in their village are using botanical pesticides now. A large oil mill

that is one of the sesame trader-processors said that in 2017 there was a drop in chemical residue found in sesame. The drop was most noticeable in products grown by farmers from the Network Activities Group (NAG) project. According to VC-RD field staff, NAG producers showed a greater drop in chemical residue because their production approach focuses on isolated farming plots and mandates that all farmers in the production group adopt the same production standard.

“I am very happy we have gained new knowledge and technical know-how on land preparation methods and proper use of chemicals. We had used traditional tilling methods for many years, but now changing to the practice of deep plowing and shallow seeding has allowed the presence of good seedlings and prevented soil-borne diseases and control of pests with an environmentally sound method.” – Farmer, Magway Region

Post-harvest treatment

Many of the sesame beneficiaries the ET spoke to in two FGDs said they were able to improve post-harvest product treatment because of the training they received through VC-RD (FGDs 25 and 28). According to the sesame beneficiaries, farmers used to pile the produce for four to five days. This resulted in a build-up of fatty acid content. The ET reviewed studies (Sesame Value Chain Analysis in the Dry Zone, 2014, Emerging Markets Consulting, and VC-RD Sesame Value Chain Assessment, 2016, Winrock) that corroborate this. After the VC-RD training, farmers began to pile the produce for only one day, after which they bundle the produce and dry it in the sun, which also prevents discoloration. Some farmers stopped storing produce in old plastic sheets or fertilizer bags and began using polyethylene bags instead. VC-RD facilitated this new practice through links with a supplier. Two farmers noted the benefits:

“I am very happy to collaborate with Winrock, as we are able to improve our land preparation techniques and control pests and disease to get good yield, as well as change post-harvest handling methods to reduce the losses. I am also willing to participate in collective selling that aims to get a better price.” – Farmer, Magway Region

“Farmers have access to new agricultural technologies like plant nutrient management, integrated pest management (IPM), and post-harvest management, so they can efficiently disseminate those know-how to other peer farmers through multiplier training and sharing sessions.” – Farmer, Magway Region

Enhanced producer groups

In conjunction with SARA, VC-RD supported expanding and strengthening sesame producer groups to form the Sesame Farmer Development Association (SFDA). This was confirmed by all interviewed farmer groups. The SFDA currently consists of 34 village-level farmer groups, each with five representatives from each village, for a total of 170 representatives. A committee was formed in Magway at the township level with 15 committee members and two reserve committee members elected from 170 representatives. According to VC-RD sesame lead, there are 1,650 members in the SFDA. Farmers from all three production groups interviewed said that, by establishing the SFDA, they now have a collective voice to address issues and negotiate better prices for inputs and sale. Establishing the SFDA has also increased knowledge sharing among farmers who have regular meetings and use channels like Viber and Facebook. According to all three producer groups interviewed, the VC-RD sesame lead, and the FY 2017 AR, VC-RD supported the SFDA by providing a scope of work (SOW) for the committee, facilitating committee meetings, providing organizational training and capacity building on topics like SWOT analysis (Strengths, Weaknesses, Opportunities, and Threats), book-keeping, business planning, and market negotiation. VC-RD also facilitated links between SFDA and input companies like AWBA and Good Brothers (GBS). These links allowed easier negotiation of bulk input purchases and provision of finance (*ibid*). VC-RD also facilitated links between the SFDA, the Department of Agricultural Research (DAR), and sesame seed farmers.

The results of strengthening the SFDA are further illustrated in these farmers' quotes:

“I feel satisfied with having a farmer association because they are more united, trust each other, and find solutions together. And also, the farmers are now able to produce chemical-free produce due to the VC-RD's technical training.” – Farmer, Magway Region

“I'd never dreamed before to form such a farmer association, but now we can work together on market interventions with assistance from Winrock. I look forward a better market in near future.” – Farmer, Magway Region

“Before the project, there was only a traders’ association but no farmers’ association. Now we have formed SFDA, assisted by Winrock. We were bullied by the traders before. Now, as we have an association, we were invited to join the trader’s association meeting. Our major expectation is to get reasonable prices for our produce. Now, the current market price is 40,000 kyat per basket, and we want the price of at least 60,000 kyat/basket through the project’s market interventions.” – Farmer, Magway Region

“[I am] highly satisfied with Winrock because it is an organization helping the farmers and not taking advantages of the farmers.” – Farmer, Magway Region

“[I] am thankful to Winrock, as we have access to loans provided by GBS. I would highly appreciate if the interest rate can be reduced to some extent.” – Farmer, Magway Region

“I have good feelings about networking with Winrock, as farmers have experience in the production of better-quality produce, and also wish to access better markets. Our farmers are now getting opportunities to sell at reasonable prices in upcoming years, since we are able to produce better-quality produce by linking with the VC-RD project.” – A young farmer (aged 26), Magway Region

“Networking with government departments (DOA, DAR) and other market actors, such as the trader association at the regional level, through a stakeholder workshop organized by Winrock [was good]. Farmers are now able to understand the local trading system and some marketing issues.” – Lead Farmer, Magway Region

Key factors driving identified success across the five value chains

The training VC-RD provided to producers—TOT, multiplier training, and GAP awareness—contributed to improved farmer awareness and adoption of better agricultural technologies and practices in areas like fertilizer management (melon and sesame), improved pesticide and disease control (melon and sesame), and chemical management and worker safety (melon, sesame, and ginger).

For coffee, producer groups and a major processor mentioned that coffee farmer training, production advice, processing, and coaching coffee-producing communities has increased awareness and the capacity of farmers and processors. This new knowledge allowed them to improve quality and productivity levels. The KT Coffee Report, 2017 notes an increase in harvest from 371 to 477 kg/hectare. Training Q graders to distinguish and grade coffee based on an internationally-recognized system enabled local actors to distinguish the quality of coffee from different producers and communicate with international buyers about the quality of available coffee.

Introducing and supporting hard technology innovations in coffee (dry tables, dry mill, dryer, coffee labs) and soybean (hygienic processing) enabled the coffee and soybean sectors to improve their product offerings and their market positioning allowing them to command better prices.

The market linkages that VC-RD established for specialty coffee, organic ginger, and high-quality soybean gradually motivated producers to increase production volumes and improve product quality to meet market needs. For coffee, in particular, multi-level, multi-platform efforts to promote Burmese coffee have borne fruit. Linking international buyers to processors and producing communities has also been a boon to the coffee value chain.

In the case of the coffee, melon, and sesame value chains, strengthening producer groups has enabled farmers to better organize themselves; create economies of scale; share knowledge, experiences, and troubleshooting tips; provide leadership; and, in some instances, provide a collective voice for better negotiating.

CONCLUSIONS

Coffee

By introducing a new, high-quality product and finding new market opportunities, VC-RD successfully practiced value chain programming. It addressed agricultural and handling practices, market linkages, and producer organization. The value chain approach is inclusive and enables smallholder producers to raise their incomes by adding value and reaping the profits. The system strengthens actor relationships within the chain—between producers, processing groups, processors, and buyers. It strengthens the private sector’s capacity and market linkages. VC-RD organized 22 producer groups at the village level and linked specialty coffee producers and processors to the international market. This raised the number of farmers

growing coffee and piqued interest in dry, specialty coffee. VC-RD is working intensively with producers in 31 of 83 coffee-producing villages in Ywangan and has noted increased interest from other parts of Shan. Together, these successes lead to better quality coffee for export, a higher income for producers and processors, and employment for some in harvesting and drying coffee. Key factors that contribute to these successes include the quality and relevance of the training given to producers and processors, the introduction of new equipment, the establishment of an international market, and the strengthened producer groups.

Soybean

In the soybean value chain, VC-RD looked for new products, new market opportunities, and new ways for producers to add value to existing products. The focus was on a high-quality soybean for tofu production. VC-RD addressed agricultural and handling practices and market linkages. VC-RD has successfully improved tofu processing efficiency and quality and established market linkages so that processors can develop a better market position. A large number of soybean producers—3,000—have been trained (AR 2017), and VC-RD has worked more intensively with 32 groups (a total of 300 producer members). Direct linkages have been established between processors and 8-12 producer groups. These processors and producer groups know and understand quality soybean production and can provide the required quality of beans. If they can afford it, producers use good storage measures and the dryers introduced by VC-RD.

Ginger

VC-RD tried to expand opportunities for a relatively new, high-quality ginger product. There is no specific local market for organic and chemical-free ginger, but there is an international market and the potential is growing as the international market continues to develop, and investments are being made in chemical-free and organic ginger. VC-RD supported direct market linkages between producers and national-level processors and exporters for organic and chemical-free ginger. Producers with appropriate linkages get higher prices. VC-RD also supported chemical-free ginger production for the international market. Unfortunately, production preceded the market and processing developments, which led to disappointment among producers without proper market linkages. Processors are gradually developing processing facilities and developing the market for processed and fresh organic ginger, so there are opportunities in the near future. Organic and chemical-free ginger producers are not organized yet; but if market linkages and good profits are realized, organizing around this specific production is feasible and may include coordination on inputs, seed storage, harvest, product gathering, and transport.

Melon

VC-RD has successfully increased gross margins for melon farmers by increasing yields. These yields were increased through improved practices in fertilizer management and optimization and disease and pest control. Farmers have adopted elements of GAP, which led to safer management of chemicals like pesticides and herbicides and increased protective equipment usage among farm workers. Some farmers are adopting additional innovations like drip irrigation systems. The productivity improvements and technology adoptions resulted from relevant, good-quality training provided by VC-RD. Expanding the NMC to 26 township-level melon clusters and 2,498 members allowed VC-RD to enhance melon producer groups. VC-RD has facilitated the NMC playing a key role in developing the value chain and strengthening local ownership and prospects for scalability and sustainability. Ownership has extended to the producer group and farmer level. As a result, farmers share knowledge, experiences, and troubleshooting tips through regular meetings and channels such as phone, Viber, and Facebook.

Sesame

By encouraging a switch to natural fertilizer based on fish amino acid, VC-RD reduced fertilizer input costs. In turn, this increased gross margins for sesame farmers by almost 80 percent. Farmers improved pest and disease control and adopted GAP practices for safe chemical management—including substituting pesticides with botanical products like neem oil. Farmers also improved the post-harvest treatment of produce, which led to a reduction in both fatty acid content and product discoloration. These productivity improvements resulted from the high-quality training provided by VC-RD and SARA, its former IP. The formation of the SFDA, which includes 1,650 members across 34 village-level farmer groups and a township-level committee, enhanced the sesame producer groups. VC-RD supported these groups to

gradually establish vertical and horizontal value chain linkages. Farmers are now better organized, collaborate to resolve problems and exchange knowledge, and have a collective voice for negotiating with market players.

Cross-cutting

Initially, VC-RD supported establishing groups on Viber for coffee and soybean, which connected community extension officers to producers. Melon and sesame value chains built on this experience by setting up their own Viber groups through their producer associations (NMC and SFDA respectively). There is a “safe use of pesticides” Viber group that cuts across all value chains. Through digital apps and social media, Green Way, Impact Terra, and AMIA share extension and outreach materials with producers across the five value chains.

4.1.2 EQ 1.2 What challenges towards meeting intended goals, objectives, and results have been faced? How has the implementer dealt with those challenges?

FINDINGS

Coffee

Producer participation

VC-RD has reached a large number of villages and attracted producer interest (according to four FGDs), which has allowed opportunities for the project to attain considerable impact. In principle, VC-RD facilitation created sustainable opportunities and provided incentives for smallholder producers and small and medium enterprises (SMEs) to participate and grow. Currently, however, the number of farmers in the target villages who participate in VC-RD project activities is below what it could be. For the poorest farmers, the barrier to participating in processing dry naturals centers on not having the margin to take the risk—they have fewer possibilities for investing, and they cannot wait for payments. Producer groups mentioned other limiting factors, which included a lack of both time (labor) and funds to participate in the group, longer payment timelines, and the risk of unexpected rains damaging the harvest, according to three FGDs.

If VC-RD could reduce these barriers, they could reach an estimated 10 times the number of coffee producers presently participating. In the five coffee-producing village groups around Ah Lae Chaung village, Ywangan township, only 11 percent of coffee producers are members of the group. Unfortunately, this is a common phenomenon among most of the groups visited. For example, out of 1,370 households in the area, 940 grow coffee, yet only 103 are members of the five coffee-producing village groups. Currently, 30 villages are organized and produce dry specialty coffee. Out of 3,000 coffee-producing households, only an estimated 300 producers are members of groups. When comparing Ywangan and Southern Shan, the difference is stark. Ywangan has 88 coffee-growing villages, an estimated 30 percent of which participate directly in the program. Southern Shan, on the other hand, has approximately 9,000 coffee producers, and only 3 percent participate directly in the program. These figures, based on data provided by buyers, processors, producer groups, and the coffee team (according to four KIs and two FGDs), illustrate the great potential to directly reach more producers in villages where VC-RD is already active. In both Lilypad and Hopong, the ET observed coffee producers from other villages who were interested in the project, contacted the processors and producer groups, and adapted their coffee production. Once a framework is in place to support quality production and market linkages without external input, the dry specialty coffee processing can expand and replicate the actual successes.

According to three FGDs, the amount of coffee processed as dried specialty coffee is a small part of the total amount available in the project areas—approximately 20-30 percent. For quick cash income, some producers choose to sell a portion of their fresh berries. Several producer groups mentioned that even some farmers who are members of coffee-producing groups chose not to dry-process coffee because of the risk of sudden rains and losses and because after delivery they have to wait for payment.

By processing fresh coffee in cooperation with the three main processors—MCG, Amayar, and Lilypad, all of which produce washed coffee (MCG 95 percent, Amayar 100 percent)—VC-RD supports many more farmers than only members of coffee-producing groups. In 2017, 10 other processors received training in wet processing. If they provide high-quality berries, producers profit from high-quality processing and market linkages because the prices offered for their fresh berries is higher. The VC-RD

coffee team intends to make frequent visits to more farmers and provide them with information on specialty coffee.

Access to finance

During five of the FGDs and I KII, the dependency on the cross-market function of finance became clear. Most producer groups identified access to finance as a bottleneck for farmer participation in VC-RD coffee initiatives. Selling fresh berries to local traders gives an immediate return, while selling on the international market does not. In fact, per the Coffee Sales Data Transaction Report for 2017, sellers can wait for 4-10 months to receive final payment for coffee sold on the international market through MCG. That wait can sometimes reach a year, which is a challenge for many sellers. One FGD participant, a village producer in the Southern Shan State, concluded that *“the very long waiting period, up to one year, to receive a payment of the delivered coffee, is a major constraint for the community specialty coffee group.”*

There are a number of reasons for the delays in payments for exported coffee. The process itself involves several stages—identifying a buyer, establishing a contract, collecting a sufficient volume of produce, arranging the logistics for export, all of which take time, and the final payment is not made until after the coffee is received. Many producer groups said they cannot wait for months to receive the (final) payment. For example, one producer group mentioned a village that stopped producing dried specialty coffee because of the length of time it took to receive payment. Some buyers and roasters provide loans and pre-financing to producer groups before the harvest because they need cash to purchase berries. This alleviated the problem. The Mya Ze Di group tried to work around the late payment issue by choosing its sales strategies, diversifying its clients, and striving for better financial management. Central Bank regulations limit banks from lending without very stringent collateral criteria, which are not feasible for most SMEs in the agriculture sector of Burma. The services of micro finance institutions (MFIs) are often not a good fit for the needs of producer groups. However, MCG provides loans to producer groups to invest in processing tables, to purchase berries, and to apply towards transport costs; and, now, a loan from Yoma bank, with a guarantee from Rabobank, helps support MCG.

Climate change

Unexpected rain while berries are drying causes problems for dry-processed coffee and often spoils the coffee berries. One processing company in Southern Shan State noted that they *“lost their investment. Due to rain, their undried cherries were spoiled and not marketable. They had 3 MT of dried specialty coffee, but only 0.5 MT could be sold.”* Normally, there is no rain during the harvest period in January. However, in recent years, it has rained unexpectedly during this period. Dry-processed coffee takes 10-20 more days to dry than wet-processed coffee. When farmers process the coffee themselves, they bear the risk of spoiled production, which would otherwise lie with the processor. Farmers reduce their risk by using dry processing for only a portion of their coffee. When rains fall, they cover the drying coffee with plastic sheets.

Reflecting adaptive learning and management, Winrock addressed this problem by financing a dryer for Lilypad, an intervention that reduced drying time for dry-processed coffee and made the system more resilient. As a result of the intervention, the risks of damaging the berries were reduced and processing capacity was increased. This positively impacted the processors and some producers.

Market issues

VC-RD established market linkages were for both dry- and wet-processed coffee. However, because of the risks perceived by producers, producer groups cannot always reach the dry-processed coffee volume thresholds promised to buyers. As most producer groups [and some NGOs like Myanmar Agriculture Network (MAN)] explained, this is due to producers' reluctance to commit sufficient produce towards dry-processed coffee.

Because of the internal conflict in Rakhine state, Myanmar coffee as a name poses a brand risk. Following VC-RD-facilitated consultations among processors, MCA, and international buyers, coffee was instead branded with the local place of origin in Shan State.

Low productivity and high costs

Burma coffee is still new to the market, so its novelty factor commands higher prices [processor, buyer, community-based organization (CBO), producer groups]. However, it remains to be seen if this pricing will continue. Some participants in three FGDs felt that MCG charges too much for its services; while

others, with potentially more insight, mentioned that farmers receive a large share of the sales price [80 percent of the free on board (FOB) price]. One interviewee suggested that input costs could be reduced by upscaling processing to enable better economies of scale. MCG noted that, *“Vietnam produces 10 times as much coffee per acre, so it is cheaper. Their yield is 2 MT/acre, price \$2,000 MT against Myanmar: 0.2 MT/acre, \$5,000-6,000 MT). Other countries reach between 2.5 to 5 MT berries/[hectare (ha)]. Within Myanmar, the yield of small holders is half the yield of estates. The production in itself can be raised, reducing the costs per acre.”*

A buyer and estate owner mentioned that fertilizers, pruning, and shade management are essential to improve coffee yields per acre. Such best practices have increased yields from 371 kg/ha in 2015 to 477 in 2017 (VC-RD Kantar TNS Coffee Report 2017).

Value chain organization

Value chain programs aim to strengthen the relationships between actors to make the value chain more competitive, resilient, and inclusive. This necessitates a level playing field—that is, giving producer groups a position next to processors and buyers. However, in actuality, producers have a weaker position. Many actors at different levels mentioned the need to improve the organization of the coffee value chain so producer groups can garner support in quality control and in developing the long-term market. Moreover, some players such as banks believe that organizing and strongly positioning producers is an approach that could ensure sustainable and balanced sector development and avoid exploitation by stronger partners, like processors and buyers.

In addition to VC-RD, other organizations also intervene in the coffee sector and support the organization of coffee producers. UNODC set up the Green Gold cooperative—three townships and 63 villages, mainly in Hopong, with a total of 1,015 producers—and linked it with Malongo, a buyer from France.

To strengthen the organization of coffee producers, VC-RD started cooperating with Progreso, a coffee specialty NGO, assigned by Rabobank Foundation to strengthen the YSCG as a sector-level organization of producers according to one interviewee. In another interview, a processor singled out organization among actors such as processors and roasters as very important for quality control, market linkages, and cooperation in exporting—such as filling up containers. As staff member from one bank stated *“At a higher level there are no capacities. Capabilities at present are low. So, it is advised to take care of strengthening organization and the knowledge base in the country for the coffee value chain.”*

Transparency in selection of grantees and beneficiaries

VC-RD’s selection process for grantees and beneficiaries followed the same standard procedures and processes as regular tender procedures, including attention in the media. However, buyers, a processor, and a producer group indicated that some processors and producer groups were not sufficiently transparent and did not sufficiently communicate information about the process and decisions made, which led to resentments within the sector.

Ginger

Market linkages

VC-RD tried to engage buyers through trade shows that facilitated workshops for buyers to meet farmers and processors. VC-RD invited the major trading houses from Aungban and Heho, and established contact with international buyers, such as the Dutch companies Tradin and Aosta. The major processing companies (SPSH, OAL, MABG, Heho potato company) export organic ginger next to conventional ginger, both processed (sliced and dried), and fresh, all over the world—to the U.S. via ECOMAS, and to Sri Lanka and some European countries via Tradin. Some processors, specifically SPSH and Heho potato company, started investing in washing stations for fresh ginger aimed at the international market. These will be ready later in 2018.

The local VC-RD field team contacted a fresh organic ginger company to try to get contracts before the next growing season. VC-RD supports selling organic and pesticide-free ginger to buyers as a group. VC-RD activities created expectations among producers of an export market for these types of ginger, and a number of villages participating in VC-RD activities started growing organic or chemical-free ginger. Some have direct links with buyers, but many producer groups mentioned these links are still missing. These groups are not able to get a higher price for their produce in the domestic market, and their costs have increased from replacing herbicides with manual weeding, which is more expensive. Further, according

to a trader and several producer groups, there is no local market for organic ginger, with producers in one village saying they plan to stop growing organic or chemical-free ginger. Four producer groups that were provided with market linkages reported that at harvest time the buyer had not come to purchase the ginger, and they doubted whether he would ever come. Farmers need be certain they can sell their organic ginger before the growing season. They need to know if the extra input costs to produce organic and chemical-free ginger will be covered. However, buyers are mostly not identified until harvest time. This creates a chicken-and-egg problem.

Gross margins

Organic ginger is sold at a price 10-20 percent higher per unit than regular ginger (variation 5-30 percent). However, three producer groups reported no gross margin benefits because, with organic production at the same yield level, a higher price has to compensate for the higher production costs. These higher costs include extra labor for weeding because herbicides are not used. A ginger farmer in Shan State said, “[t]he price difference at present is too small. Farmers are less interested in investing more in organic than in regular ginger: the incentive for change is minimal.”

Training and communication

In 2017, VC-RD set up a ginger team. In the first year, farmers considered the training—which used demo plots—as less beneficial than other VC-RD training. Two groups mentioned that the ginger training was often scheduled too late in the production season, so they could follow only some of the advice disseminated. Training and demo plots were often not sufficiently adapted to the local environment, the cropping system, or to the capabilities of the farmers, both in terms of available labor and funds. Producer groups and the ginger team reported that, at present, the demo plots showed limited results and were not convincing. When a specific ginger team was set up, there was a positive change. Winrock Yangon and field staff teams mentioned that, “the previous year was lost. Now they see results in the demo plots, so some farmers start using it. When they started, the demo plots were already established, by the other teams.” GAPs were not adopted because mulching with extra rice straw costs more than current practices, as does the extra labor needed. Another GAP, plant spacing, was not adopted because farmers were unwilling to take risks with unfamiliar spacing measures. Furthermore, any crops grown on the same land also need to be produced organically. In 2017-2018, a quarter of the farmers followed some of the GAPs—intercropping, mulching, and seed preparation.

In the training, VC-RD promotes organic ginger production by pointing out the potential for higher prices on the market. Many producer groups mentioned a lack of buyers and said that farmers started selling portions of their reserve ginger. Sometimes there was miscommunication between VC-RD and the producers. For example, farmers in one village interpreted a request from Winrock for an inventory of expected production as a promise for purchase by a buyer. They reserved their ginger after harvest for this purpose, but nobody came to buy it.

VC-RD has responded to these challenges by shifting demo plots from a focus on organic production to herbicide- and pesticide-free production. This allows the use of chemical fertilizer (ginger team). Buyers accept this approach because the product stays chemical-free, which means certification is not necessary, and it is easier to grow with chemical fertilizer. The product is acceptable for international markets like the European Union (EU).

Soybean

Gross margins

Smallholder farmers do not only look at the product price; they also try to have profitable production with a net positive result. The price difference between local sale (1,000-1,100 MMK) and direct sale to processors in Yangon (1,150-1,250 MMK) is minimal. Producer FGDs (n=2) mentioned that it often just covers the extra costs of delivering good-quality soybean. Processor Yangon Nike Bean Factory pays 6 percent more to producers. In interviews, producers and processors mentioned a 5-20 percent price difference in direct sales to processors in Yangon compared with sales to regional traders. However, for producing and selling high-quality soybean in Yangon, producers incur extra costs for grading, packaging, and transportation, plus costs for the extra labor for weeding if herbicides or pesticides are not used. These increased costs are often as much as the price difference. Many village producer groups mentioned that, in general, they do not earn a higher net income—a reason several groups prefer to sell locally.

GAP, demo plots, and innovations

Using GAP advice has been limited. Out of the beneficiaries interviewed, two villages adopted GAP practices. In one of those, the demo plot was seen as a success. In other villages, producers thought the GAP training was not adapted to their local circumstances, or they regarded the demo plots as unconvincing, so many farmers did not adopt these practices.

There is a large variation in farmers' circumstances and in producer potential, which requires flexibility. Producer groups reported various issues: sometimes the training was given too late in the season to be useful, or the demo plot was not successful, and the new varieties did not produce better products. In one case, the irrigation advice was not suitable for the context because the soil in the area demands another intensity of irrigation. An input supplier remarked that GAP training on soybean offers advice on spacing, row sowing, and weeding, but farmers stick to broadcast sowing and spraying herbicides because the proposed changes require investment. One group explained that implementing GAP requires investment, so producers must take out loans from traders—however, to be motivated to take these loans, they need to be convinced of success.

The innovations farmers are most positive about are the use of hand seeders and dryers. Farmers began using hand seeders. However, the dryer is cost-prohibitive for most individual farmers. In one of the villages, five producers invested together to buy a dryer. An input supplier observed that, *“Winrock has done a lot, but farmers are not ready yet for adoption.”*

One processor stated, *“Winrock searches for staff who are graduates, speak the ethnic language, and work in the field. Often the [Local Field Assistants (LFAs)] do not have an agriculture background.”* The VC-RD field team includes nine engaged LFAs who have diverse educational backgrounds. However, only one is an agronomist. VC-RD staff acknowledged that, *“it is difficult to find people who come from the area and know the local languages, they should have a farming family background.”*

Access to Finance

Financial services, a cross-market function, influence the results and inclusiveness of production. Several groups of soybean farmers mentioned their need for financing at the start of a growing cycle. They often obtain it through loans from traders, input suppliers, or money lenders—often with an interest rate of 5-6 percent per month. They use the loans for operational costs like buying seed and fertilizer and paying laborers. The VC-RD AR for Year 2 mentions finance as a key barrier to adoption of innovations, such as dryers. Sometimes farmers can access cooperative loans or get loans from the Myanmar Agriculture Development Bank (MADB), but these loans are either available too late in the season or they do not fit the cropping season. A land certificate is typically needed as collateral, but most farmers do not have this documentation. Because they have collateral, enterprises such as processors have access to loans from relatives or banks.

VC-RD tried to address this challenge, through (among other things) a six million MMK loan from Jaguco enterprise to the village group of Phaung Daw. With this, the village was able to deliver 70 percent of its production to Yangon. The soybean team also supported the linkage of banks to smallholder farmers, but as yet has seen few results.

Climate change

One producer group reported climate change as a risk that could alter the color and moisture content of soybean and result in lower prices. VC-RD responded to this challenge by partnering with input provider Pioneer. Pioneer introduced four improved soybean dryers and airtight bags to keep stored beans dry. In the village of Kyit Tthit, five producers purchased a dryer with money they pooled.

Melon

Seed quality

The availability of quality seed was an issue for 76 percent of respondents in the MFVP melon value chain. Eight out of nine producer groups agreed this is still a challenge for beneficiary farmers. All melon beneficiaries the ET interviewed obtained their muskmelon seeds from China—typically through agents at the Muse border trade. In the case of watermelon, about 50 percent sourced their seed from domestic companies, while the rest sourced seeds through the Muse border trade. Because seed quality is not regulated, many farmers expressed uncertainty about their purchases. A number of farmers known to ET interviewees lost a major portion of their crops due to poor seed quality, which resulted in low

germination rates and low-quality fruits. Farmers from six of the producer groups interviewed felt the seeds imported from China were vulnerable to diseases. This is consistent with the findings in the MFVP Melon Value Chain Assessment Report, 2016. In response to these challenges, VC-RD partnered with MFVP to organize a melon seed forum. Over 800 melon farmers, seed companies, and government members attended the forum, which resulted in one Seed Company registering their seed.

However, all melon beneficiaries interviewed and other actors, such as MFVP and a trader, felt the melon seed forum had limited success because follow-up was lacking, which eroded the trust some farmers had in MFVP and VC-RD. This is seen in the quotes below:

“We do not have a choice in selecting the type of seed. We discussed this at the seed forum, but it did not lead to any result.” – Farmers, Sagaing Region

“We attended the seed forum in Mandalay (big hall in a monastery attended by over 800 farmers). The event had very high expectations from the farmers. Many government stakeholders attended. The farmers demanded quality-guaranteed seeds. However, there were no concrete action or solutions. We feel the seed forum was not successful.” – Farmers, Sagaing Region

“There was no follow-up to facilitate good seed quality or guaranteed seed. It was the first time for us to attend such a big grouping. We listened but didn’t ask any questions. [There was] no real impact, but it exposed us to such a forum.” – Farmers, Mandalay Region

Market linkages

According to all farmers interviewed, MFVP, government staff, and VC-RD staff, the current muskmelon market relies largely on China. This has created challenges in terms of market reliance and limited opportunities for market diversification. Farmers truck their melons to the Muse trading post, where prices are susceptible to Chinese demand and the market supply. Various pricing practices exist, and most often traders pick the lower-quality fruits in a batch and base their prices on those. Once the product reaches Muse, farmers have few alternatives to accepting the offered prices. Transporting the produce back from Muse is not feasible due to costs and perishability.

In response to this challenge, VC-RD held a workshop with Chinese traders and melon farmers. They agreed to develop criteria for three grades of musk produce—A, B, and C. Transport boxes were designed to improve melon shelf life and indicate their grades. Linkages were facilitated between box makers and farmers. Lead farmers from one Mandalay Region producer group who were interviewed felt the boxes were one size too large for a given grade, based on the grading system facilitated by VC-RD through MFVP. They felt the box manufacturers had a vested interest due to their ties with Chinese traders. This is a suspicion VC-RD could explore and verify.

Training

Many farmers reported that the timing of the VC-RD and MFVP-conducted training was not suitable. The training was held during busy crop periods, which meant that the most relevant household members—those actively involved in farming—could not attend. Some farmers had to travel 100 kilometers (km) to Mandalay to attend the TOT, which made it less accessible. Other informants provided the following feedback:

“Due to the timing of the training, sometimes the farmers are busy, so they will send their father to attend the training. The actual participants from the households at the training were not real practitioners but rather other members of the household.” – Farmers, Sagaing Region

“We were invited to attend the training. The timing of the training (which was held in Mandalay) coincided with the farmer work in the field (October) which was a busy period.” – Farmers, Mandalay Region

Climate change

Although some melon farmers have adopted drip irrigation systems to deal with irregular weather, other melon beneficiaries from three producer groups interviewed cited irregular weather—early rains, late rains, and drought—as a major external challenge. These beneficiaries reported not receiving suitable training from MFVP to address the climate change-induced challenges they face.

Labor

Most of the melon farmers interviewed reported that labor availability is a challenge to their business. Some farmers tried to overcome this by offering better wages and improved labor welfare. VC-RD provided some melon farmers with exposure to mechanization technology. As detailed in the melon success story, one lead farmer operating at a larger scale (45 acres of cultivation) adapted mechanization technology to mitigate his labor issues.

Sesame

Labor

All sesame farmers from the four producer groups interviewed, including non-beneficiaries, indicated that the labor shortage challenge is acute during harvesting and post-harvest periods. This is due to domestic and international migration. Labor shortages affect business in a number of ways. According to one producer group, some farmers have to sell the produce early, without waiting for a better price, because they need to pay their workers. According to another producer group, this means that sometimes product quality is affected. These sentiments were consistent with feedback from DOA staff.

VC-RD organized demonstrations of machinery for farmers. Some of them were not satisfied, and this sentiment was expressed by farmers from Magway region. *“We observed different types of harvesters, including one made in Italy—these are very expensive. The smaller ones are around 1.8 million MMK and good to use, but they still need some manual labor. Also, farmers still need to buy rope to tie the bundles. This makes it costlier than using purely manual labor.”*

Market linkages

Producers sell much of the sesame produce through a system of agents, brokers, and buyers who take commissions at each stage of the value chain. This lowers the gross profit margins for the sesame farmers and limits their ability to invest in upgrading their produce. Through SARA, VC-RD explored market linkages, including exporting sesame oil and snacks to Germany, tahini to Israel, sesame oil to Korea, and selling sesame oil to local millers. However, according to farmers interviewed from all three beneficiary producer groups, these linkages have not yet resulted in tangible market opportunities. VC-RD is trying to address this challenge by facilitating a Warehouse Receipts System (WRS). The WRS will enable producers to place some or all of their sesame harvest in a certified warehouse of accepted international quality. Farmers will receive a receipt for storing their harvest in the warehouse and can keep it there until they decide to sell it at the right price and time. Farmers will also have the option to receive a partial payment. VC-RD has facilitated discussions between these parties and the Magway state government to obtain a suitable piece of land on which to establish the WRS.

This concept was initially designed in Year 3, and the expected implementation is in Year 4.

Access to finance

According to interviews with farmers from two sesame producer groups, access to finance remains a challenge. This limits the amount farmers can invest in their businesses and, because they have to pay their laborers, reduces their options for holding back produce until market prices increase. VC-RD helped facilitate contact with GBS, which is able to provide some finance—about 100,000 MMK/acre if no fertilizer is purchased from the company, and 150,000 MMK/acre if fertilizer is purchased. Included in the loan amounts is a GBS-implemented insurance scheme that covers personal accidents and injury to farmers. VC-RD supported a number of interventions that increase access to finance. However, the private sector’s access to finance is a wider systemic issue in Burma, one compounded by external factors like the banking regulatory framework.

CONCLUSIONS

Coffee

In principle, the value chains approach in coffee is successful, but there is room for growth if challenges in value chain, finance, climate change, and higher-level organization are addressed. The risks from unexpected rain (climate change) and the reportedly long timelines for final payment limit the number of producers involved in dry processing, and the volume of high-quality dry specialty coffee that is processed dry is lower than it could be. VC-RD has tried to address this by financing dryers and facilitating links with banks, which led to some successes and should be pursued further. Coffee producer productivity is low

due to the relatively small economies of scale and practices. Coffee producers are organized at the village level, but lack organization at the value chain level. A national producer organization can address this challenge, and VC-RD has begun strengthening the YSCG value chain organization.

Ginger

There are international market opportunities for high-quality ginger products, and there is local production for this market. However, the necessary local market linkages and processing capacity seem to be lagging. VC-RD trained farmers in GAP and encouraged them to grow organic and herbicide- and pesticide-free ginger to reap higher prices, but often market linkages are unclear or missing, and this led to farmers being disappointed. Communication with farmers can be improved to avoid misunderstandings and to appropriately adjust expectations. A local conventional ginger market, accessible through local traders, offers similar gross margins. Farmers opted for these alternatives and left organic and herbicide- and pesticide-free ginger behind. After a non-successful first pilot, the second-year training and demonstrations succeeded. However, the low prices do not inspire enough enthusiasm in farmers to shift to organic production. Producers currently lack the organization and capacity to develop and maintain market links and develop successful market-oriented actions. VC-RD was not successful in attempts to improve access to finance by working with the finance sector.

Soybean

With market linkages present and high-quality production possible, producers missed the outlook for profitable production. The limited improvements in gross margins (irrigated soy) provided little motivation for producers to supply good-quality soybean to processors in Yangon instead of continuing to use local traders. However, because the Yangon processors use fairer weighing practices, there is an incentive for farmers to pursue this channel.

GAP training and demo plots had limited results. Most producers interviewed felt the training was insufficiently adapted to their circumstances and capacities. Most demo plots were not convincing. One limitation is the insufficient number of trained VC-RD field-level staff who are able to relate well to producers. Another challenge is unseasonal rain and moisture, which can damage or destroy the irrigated soy harvest and lead to lower prices.

Melon

Most melon farmers found the lack of available, quality, regulated seed to be an issue. VC-RD initiated a melon seed forum, which was perceived to have no impact. Market linkages are also an issue because of reliance on China as the main market. Initiatives to implement a grading system for produce have yet to be adopted and accepted by traders on a large scale. Many farmers reported that the timing of the training conducted by VC-RD and MFVP was not suitable because it coincided with the busy crop periods. Labor shortages remain a challenge during cultivating and harvesting seasons. Some farmers have experimented with mechanization, but this is too costly for smallholder farmers who lack the necessary economies of scale.

Sesame

Market linkages have not yet generated impact on a large scale. Limited access to finance and labor shortages are continuing challenges. VC-RD is trying to address these challenges by establishing a WRS.

Cross-cutting challenge: high staff turnover

VC-RD had a high staff turnover and was without a Chief of Party for about five months. Respondents from USAID and other donors mentioned the high field staff turnover as a challenge to building up experienced LFAs.

4.1.3 EQ 1.3: How can VC-RD improve its implementation and management approach to ensure progress towards achieving results? To what extent did they utilize adaptive management?

FINDINGS

Value chain and market systems approach

KIIs with IPs, lead firms, and VC-RD staff indicated that the activity has implemented an inclusive value chains approach applying value chain principles to coffee, soybean, ginger, sesame, and melon. In the case of coffee and soybean, which were the first value chains embarked on by VC-RD, initial facilitation was heavy, with direct interventions by Winrock to improve production quality and capacity (among producers and processors), establish markets, and create value chain linkages. Following the development of capacities among lead firms in each of these sectors, interventions are moving towards an inclusive market systems approach and lead firms taking over roles for managing relationships with end markets, encouraging quality supply among producers, and creating vertical and horizontal linkages. In the case of ginger, lead firms have established end markets, undertake direct buying and collection from producers, and have made investments in processing. Furthermore, IP MIID has established a seedbank.

In the case of melon and sesame, the strengthening of producer groups in the form of the NMC and SFDA respectively, has enabled a light touch approach to facilitation of local systems including development of vertical and horizontal value chain linkages, information services, advocacy, and economies of scale through organized producer groups.

VC-RD has implemented a number of good practices in value chain interventions. For each of the value chains, efforts have gone to identify and strategically partner with key market actors who are respected in the local community, entrepreneurial, and willing to adopt a value chain approach. Such examples include lead firms in coffee, soybean, and ginger including MCG, Amayar, Lilypad, Yangon Nike Bean Factory, Jaguco, MABG, and SPSH. In the case of sesame and melon, VC-RD strategically partnered with producer groups who were at their infancy, namely SFDA and NMC, and strengthened their capacities to facilitate changes within their respective value chains. This has led to a gradual roll-out of a facilitation approach using the developed capacities of IPs and lead firms to sustain new behaviors and further catalyze changes among value chain actors leading to improved market efficiencies. VC-RD engaged these partners through a number of modalities including sub-awards, grants, and broader partnerships. VC-RD has also been flexible in facilitating a range of support services such as access to technology supply (for coffee, soybean, ginger, and melon), post-harvest approaches, storage, and access to finance to strengthen value chains.

Adaptive management

VC-RD used sub-awards and grants to engage with strategic partners in each value chain and catalyze changes to behavior. EQ 3.3 provides findings on how Winrock selected grantees and sub-awardees. The results of sub-partners and grantees were monitored through the VC-RD MEL system using the following standard operating procedures:

- An event report which partners and grantees fill in for key events such as trainings and demonstrations. This included a narrative, challenges, successes, and annexes (e.g., attendance sheets, photo records, and event evaluation based on feedback from participants).
- Annual surveys undertaken by a third party.

Evidence indicates that not all elements of the MEL strategy were implemented during the first two and a half years of VC-RD. According to interviews, data collection was largely quantitative and focused on annual surveys undertaken by the third party and event reports submitted by partners. According to staff from VC-RD field offices and IPs, MEL was initially undertaken to support the production of the quarterly and annual reports. MEL was perceived as a detached audit activity and not seen as an interactive process. According to interviews with IPs, the learning aspect was largely absent, and IPs and grantees often did not receive the final results of annual surveys or feedback on annual performance, despite having to provide MEL reports or monitoring data. These findings are elaborated further under EQ 3.4.

Findings for EQ 1.1 and EQ 1.2 provide examples of interventions within each value chain where VC-RD applied adaptive management, responded to emerging needs, and supported changes towards making the

inclusive value chain development approach in each sector more sustainable. This included facilitating access to mechanization to address labor issues in melon, sesame, and soybean and shifting demo plots focusing on organic to those focusing on herbicide- and pesticide-free ginger. However, these changes were largely ad hoc and were not part of a systemic approach informed by learning from the MEL strategy. As a result, VC-RD has not fully utilized the potential of its MEL function to provide learning which can effectively support adaptive management.

Training approach

Training and access to low cost technology were identified as crucial needs. Stakeholders suggested that the involvement of government and the private sector could help to attain improvements in these two areas. The ET found that VC-RD has utilized adaptive management to a certain extent, by responding to major challenges faced in each value chain in particular to make them more resilient, sustainable, and productive.

Melon beneficiaries interviewed in three FGDs suggested the TOT be held at the township level, rather than holding it in a faraway central location like Mandalay. In the case of the multiplier training, farmer participation is improved by using informal settings such as local tea shops and the premises of trainer farmers according to several lead farmers in one FGD and the melon farmer mini case study (see Text Box 1). This also provides greater flexibility in the timing of the training, as it can be held in the evening if it is during the growing season, when farmers would be in a better position to attend.

Some processors interviewed suggested reducing the number of demo plots (e.g., from six to two) and increasing demo plot quality, including better research on soil conditions and on best local practices.

Some melon beneficiaries interviewed requested that stronger linkages be established between them and VC-RD value chain experts via platforms such as Viber and Facebook to enable follow-up on training and troubleshooting tips.

In the case of coffee, farmers requested the number and range of training participants be expanded to include more farmers who are not members of producer groups, as these farmers need the training and often sell their produce through village groups. Large melon producers and traders interviewed stated that farmers need training on business management and business planning and suggested undertaking communication training activities in locations besides Mandalay. In the coffee, soybean, and ginger value chains, the organization of producers needs to be strengthened and supported to enable vertical and horizontal value chain linkages, improve collaboration, and enable economies of scale.

CONCLUSIONS

VC-RD implemented an inclusive value chain approach, applying value chain principles to its five target sub-sectors. During initial facilitation for coffee and soybean, VC-RD was heavily and directly involved. This is transitioning to a lighter touch market systems approach having built the capacity of lead firms. In the case of sesame, melon, and ginger, VC-RD began implementation with less direct involvement as a result of strong producer organizations and the capabilities of the lead firms. VC-RD implemented a number of good practices in value chain interventions, including strategically partnering with key market actors, like lead firms and producer organizations, to facilitate changes.

The detached nature of MEL activities carried out during the first two and a half years hampered VC-RD's ability to use adaptive learning and management. This ability was also hindered by VC-RD's emphasis to support reporting and not learning among VC-RD field staff, IPs, and grantees.

Stakeholders valued training but were not always able to take advantage of it. The scheduling of training activities was not always done with due regard for the crop cycles of particular value chains. Establishing linkages was a challenge for the program with respect to some value chains.

4.1.4 Recommendations for meeting overall intended goals and objectives (EQ CLUSTER #1)

Training and Technology Transfer

VC-RD should improve the timing and location of training activities to make them more accessible to farmers.

Training activities should be scheduled to suit the most appropriate time for farmers with respect to their crop cycles. In the case of the melon value chain TOT, multiplier, and GAP awareness training, VC-RD should conduct training during the off-season, such as between May and July. According to beneficiaries from eight out of nine producer groups interviewed, off-season training would ensure farmers are not in the field busy with preparation, cultivation, and harvesting activities. In addition, beneficiaries from three producer groups recommended VC-RD conduct training for the ginger and soybean value chains sufficiently early in the year so farmers can apply the practices for their crop cycle.

Planning locations for TOT, GAP awareness, and multiplier training more carefully would increase accessibility and participation by farmers.

In the case of ginger and soybean, VC-RD should make sure that training content is adjusted to suit specific local conditions, farmer capacities, and their crop rotation measures.

To maximize prospects of sustainability, impact, and replication, additional subjects could be added to the training delivered by IPs to broaden the crop and product focus. Training modules can be added and strengthened to cover wet coffee processing, processing of ginger at the village level, additional knowledge on fresh ginger, and a module covering familiar crops such as turmeric, garlic, chili, and maize, which might be applicable to ginger, melon, and sesame farmers.

VC-RD should better facilitate the access of essential low-cost technology to producers through government and private sector partnerships. Such technologies, now introduced in some places, include: moisture protection technology (soybean, coffee, and sesame); drying innovations (coffee); tools to measure quality and moisture (soybean, coffee, and sesame); and nitrogen, phosphorus, and potassium (NPK) soil testing kits (all value chains).

Producer organization

VC-RD should further strengthen the organization of producers in the coffee, soybean, and ginger value chains to enable vertical and horizontal value chain linkages, improve collaboration, and enable economies of scale. Lessons and best practices should be adopted from the success of establishing similar organizations at the regional level in the case of sesame and at the national level in the case of melon, which used a membership-based bottom-up approach. The establishment of such producer organizations can also enhance the sustainability prospects of VC-RD initiatives in the coffee, ginger, and soybean value chains. VC-RD can strengthen producer organizations and CBOs, such as Shwe Danu, to become providers of extension services. Appropriate mechanisms for funding the extension services (producer owned, with companies or as private services), should also be developed.

Market and critical value chain linkages

Additional focus on creating market and other critical value chain linkages should be a priority in the remaining period of the VC-RD. VC-RD can broaden the private sector basis for innovations and increase the prospects for sustainability in soybean and ginger by strengthening linkages with local traders. These can focus on improving the existing value chain so that it is close to producers and promotes quality products instead of relying only on national-level actors. Other mechanisms, such as a WRS, could be explored for melon, ginger, and soybean as feasible options, building on the lessons learned from the sesame value chain.

To further empower producer groups, VC-RD can also provide capacity building on establishing market linkages between producers and buyers. A good start has been made on this in the coffee value chain.

Value chain analysis

Extra occurring costs in the local part of the value chain are not included in end market value chain analysis. A total value chain cost and profit analysis needs to be made, total in terms of including all phases with the different actors. Smallholder producers look for a market system that makes their production profitable. Value chain changes can lead to higher prices for the end product but can also lead to higher production and handling costs as well. The question of whether inputs and innovations are sufficiently accessible for producers remains. For competitive strategies, producers need a strong position, which requires organization and building a negotiation position. This position should be developed prior to or

concurrently with the strengthening of the position of processors/buyers (who normally already have a strong position) rather than afterwards, as now happens.

Access to finance

VC-RD should intensify its existing efforts, such as facilitation of bank loans, to enable more producers to participate and offer more of their product. This can be achieved by exploring and facilitating mechanisms such as warehouse financing, agricultural loans, and MFIs. Establishing a revolving capital fund in conjunction with partners such as MFIs, donors (such as the DaNa facility⁸), and producer organizations that have suitable funds from membership fees is another option.

Adaptive management

VC-RD has utilized adaptive management, to a certain extent, by responding to major challenges faced in each of the value chains. However, VC-RD has not fully utilized the potential of its MEL function to support adaptive learning and management. The MEL function should be strengthened to become an integral component of adaptive learning, management and decision-making among VC-RD head office staff, field staff, IPs, and grantees and to improve communication among these actors. Detailed recommendations for the MEL system are provided under EQ 3.4.

4.2 EQ CLUSTER #2: HOW ARE VC-RD'S CROSS-CUTTING SECTOR APPROACHES CONTRIBUTING TO RESULTS?

4.2.1 EQ 2.1: How can VC-RD more effectively integrate cross-cutting sectors and gender considerations into interventions?

FINDINGS

KIIs and FGDs raised several issues related to climate change and other environmental concerns that the program could address more fully. For example, climate change is causing unpredictable weather that adversely impacts soybean, sesame, and melon growth. The unexpected rains caused by climate change damage the soybean harvest and the drying coffee berries.

Stakeholders also noted that wet processing uses a lot of water and pollutes water sources. For some processors, VC-RD's solution was providing them with water recycling machinery, which VC-RD can promote through its awareness and training programs. Strengthening partnerships between existing private sector organizations (e.g., GBS and Pioneer) and producer organizations and banks can facilitate access to and adoption of these technologies for wet processing coffee. Using drip irrigation systems successfully combatted rain shortages and drought and improved water and fertilizer efficiency for some melon farmers. These ideas can be better promoted by MFVP through the NMC and partnerships with suppliers facilitated to enable larger-scale adoption by producers.

Awareness and further training would more systematically introduce nutrition, a cross-cutting objective, to beneficiary households (see Recommendations for EQ Cluster #2 below).

The findings show that integrating gender and other cross-cutting issues into the program was partly successful. Youth has not received specific attention in the VC-RD approach, although, due to the economic benefits of melon farming, many melon farmers are in the 25-35 age category. Furthermore, stemming rural to urban youth migration was identified as a challenge by most farmer groups interviewed across all five value chains. Winrock is in contact with several local youth organizations that can be engaged to facilitate youth participation in farming and other value chain activities like seed farms, technology supply, extension services, post-harvest treatment, processing, packaging, and export. VC-RD tries to expedite changes in the target value chains by engaging the private sector through a lead firms approach. VC-RD should broaden its engagement of lead firms, including local traders and processors, to enable local value chain actors to be involved and enact inclusive market systems on a larger scale.

⁸ The DaNa Facility is a UK Department for International Development (DFID)-funded £25m, 5-year program, established in May 2016, focused on supporting inclusive economic growth and private sector development in Myanmar.

CONCLUSIONS

The program has addressed climate change and gender issues but has not fully engaged with youth. There are examples of successful public-private partnerships in soybean and sesame, which can be built upon. Similar public-private partnerships can be established to strengthen efforts to regulate and source quality seed for ginger and melon. Recommendations for strengthening climate change adaptation and mitigation, inclusiveness, and collaboration are in the Recommendations section for EQ Cluster #2. Findings regarding the extent to which cross-cutting objectives and considerations, including gender, were incorporated into value chain interventions are discussed further under EQs 2.2 and 2.3, respectively.

4.2.2 EQ 2.2: To what extent is the activity incorporating cross-cutting objectives and considerations into value chain interventions? Where are there gaps?

FINDINGS

Climate change mitigation

VC-RD has integrated climate change mitigation measures across the value chains through TOT, multiplier training, GAP awareness training, and demo plots provided to LFAs and farmers. Most interviewed farmers across the five value chains in 16 FGDs indicated they became more aware of the general way agriculture harmfully affects the environment, and of the negative effects that agricultural chemicals have, particularly pesticides and herbicides.

Most soybean, ginger, sesame, and melon farmers interviewed are implementing environmentally safer practices to manage and dispose of herbicides and pesticides according to the participants in 17 FGDs. Most sesame farmers from the three producer groups interviewed are practicing the use of botanical pesticides like neem oil and, due to cost factors, many have moved towards using natural forms of fertilizer based on fish amino acids. Both the neem oil and the natural fertilizers have fewer harmful effects on the environment. All melon farmers interviewed in nine FGDs have adopted fertilizer management and optimization practices to improve yield. This reduces the indiscriminate use of fertilizer, particularly nitrogen-based urea. The reduction of urea, in turn, helps mitigate climate change. Three melon farmers in one producer group who grow their produce in the dry zone have started using drip irrigation. This improves productivity and is a more efficient use of groundwater resources. Some ginger farmers in three FGDs and four KILs have moved towards cultivating ginger organically (producer groups and processors) which, because it does not involve pesticides or artificial fertilizers, reduces the harmful effect on the environment. VC-RD has also promoted the production of pesticide-free ginger. A washing station that could potentially reduce environmental hazards is being built in Heho for potatoes and fresh ginger. It is not ready for use during this harvest season. Soybean farmers, according to participants in two FGDs and one KIL, are producing herbicide- and pesticide-free seeds, which lead to lower chemical residues and are suitable for tofu production. For coffee, smallholder coffee production is largely environmentally friendly. The dry method of processing is a less polluting approach because it does not use water. Wet processing of coffee uses a lot of water and can pollute water sources through run-off. VC-RD supported two processors with water recycling equipment which, in turn, will reduce environmental and climate change effects.

Climate change adaptation

Some know-how has been provided to address climate change adaptation in the target value chains. According to two producer groups interviewed, in ginger, training and demonstrations have been done on promoting contour planting. For soybean, VC-RD and an equipment supplier partnered to support developing appropriate dryers. Through service agreements, they encouraged local soybean processors to use four dryers and facilitated producer groups to purchase dryers. At present, 10-15 dryers have been purchased. Now those groups rent the dryers out to others, which enables soybean drying and reduces the risk of spoilage from unexpected rains. For dry-processed coffee, producers are exposed to climate change risks in the form of unexpected rains which, during the drying period, will spoil the crop. VC-RD provided a grant to the processing company, Lilypad, to buy a dryer. Now, the drying time for dry-processed coffee is shorter and risks from unexpected rains are diminished. This intervention provided climate change adaptation measures to processors and some producer communities, but not to the bulk of the VC-RD coffee-producing villages. Through training, sesame farmers have improved their post-harvest treatment—they now bundle and dry produce within four days, which reduces the risk of

exposure to unexpected rains. In melon, awareness on the benefits of drip irrigation has been created and linkages established for the demonstration and supply of such systems to farmers.

In the area of seeds, VC-RD facilitated linkages between DOA, DAR, and Jaguco to produce quality soybean seeds (VC-RD FY 2017 AR). These seeds provide farmers with options for different maturing cycles. They enable adaptation to Burma's unpredictable weather patterns by allowing cultivation before, during, or after the monsoons. According to farmers interviewed during three FGDs, some know-how was provided to melon farmers on the timing of crop cycles and seed varieties that enabled farmers to adapt to unpredictable weather. However, producers in melon, sesame, and soybean who participated in 17 FGDs noted a gap in development of high-quality, more climate-resilient seed varieties. This merits further attention. Another gap is the systematic provision of weather information to the five value chains. Melon and sesame farmer organizations have initiated the provision of weather information on their own initiative, but this is something that can be strengthened with VC-RD support. As one sesame farmer in Magway Region noted, *"the availability of seed variety is limited from DAR. Winrock selected some demo farmers to produce and multiply this good seed in this year and then distribute to other farmers. We are awaiting this."*

Inclusiveness

Inclusiveness has been integrated to some extent in gender, and this is discussed further under EQ 2.3. According to all farmers interviewed in 16 FGDs, youth integration in farming activities has not received attention. All farmers mentioned that labor shortages—due to youth migrating to urban areas and overseas—are a challenge they face in their business, so this is a significant gap.

Ethnicity has been integrated into coffee, ginger, and soybean. VC-RD implements interventions in locations with different ethnic minorities, including Danu, Pa-O, and Shan (according to four FGDs and two KIIs). CBOs and producer groups in Shan confirm this. In ginger, former IP MIID implemented activities targeting ethnic minorities in upland regions of Southern Shan—specifically in two self-administrated zones of Pa-O and Danu, in Kalaw and Nyang Shwe townships. MIID also worked with a Taunggu minority, a very conservative and isolated group who had received no government attention. MIID remarked that organizing their ginger growing communities helps make market linkages and integrate the communities into the value chain.

Public-private partnerships

Public-private partnerships were not feasible until 2016 due to Burma Sanctions in the VC-RD award contract. In 2016, based on a waiver, VC-RD was allowed to gradually engage with government stakeholders. VC-RD facilitated collaborations between the government, private organizations, and producers. In soybean, VC-RD facilitated a partnership between Jaguco, DOA, DAR, and producers to trial and replicate better varieties of seed. VC-RD also collaborated with the Food and Drug Administration (FDA) and United Nations Industrial Development Organization (UNIDO) to provide training in hazard analysis and critical control points (HACCP). This training enabled soybean processors and manufacturers to improve food safety and hygiene during processing and meet food safety regulations (KIIs with UNIDO and Control Union). In coffee, VC-RD and MOALI collaborated to draft a National Coffee Sector Strategy focused on smallholder producers. This initiative brought together the private sector, including smallholder and estate-level producers, processors, roasters, and traders/exporters, MCA, and MOALI at a workshop. According to Winrock and MOALI staff interviewed, the workshop provided recommendations for strengthening coffee development in Burma. At the time of the ET interviews, MOALI was awaiting the draft National Coffee Sector Strategy paper to explore next steps.

In ginger, VC-RD partnered with the Plant Protection Department and Mennonite Economic Development Associates (MEDA) to implement a TOT on safe use and handling of pesticides (VC-RD FY 2017 AR, FGD with VC-RD Yangon staff, KII with VC-RD field staff). In melon, VC-RD facilitated a melon forum involving input suppliers, melon producers, and government officials from the MOC and MOALI. According to all farmer beneficiaries interviewed in 11 FGDs and the MOC, forum participants discussed issues and possible solutions related to the supply of quality melon seed. According to DOA staff interviewed from Magway, Sagaing, and Mandalay regions and according to a KII with VC-RD field staff, DOA is gradually supporting GAP efforts of VC-RD in sesame and melon by providing record books and demonstrations and facilitating supplies such as neem oil. In sesame, VC-RD facilitated a partnership between DOA research staff, farmers, and technology suppliers to explore seed replication and

experiment with irrigation systems. All sesame beneficiaries interviewed (in three FGDs and two KIs) noted that VC-RD is also facilitating a partnership between the Magway regional government, Infra Capital Myanmar (ICM), an investor, Yoma Bank, Control Union, and SFDA to initiate implementing a WRS for the sesame sector. KIs with VC-RD field staff, and the VC-RD sesame lead, corroborated this.

Nutrition

The beneficiaries interviewed from the five value chains in 16 FGDs reported that only a few nutrition-related interventions were implemented. According to two DOA staff, VC-RD indirectly addresses nutrition through its efforts in GAP training to create awareness on food safety. Some events facilitated by VC-RD and its partners have covered nutrition topics. These included a workshop by Amayar for coffee producer groups, which covered nutrition and balanced diets, and a workshop for soybean producers and processors, which covered soybean's nutritional value. The HACCP training Control Union conducted for soybean product processors and manufacturers created awareness of food safety and hygiene as a means of improving nutrition among participants.

Capacity building

Building the capacity of value chain actors is a major element of VC-RD's approach to achieving its intended goal and results. Capacity building is implemented through activities such as organizational strengthening, training, demo plots, extension, and workshops.

VC-RD has implemented a large number of training activities targeting producers in each of the five value chains. According to beneficiaries in 16 FGDs conducted, these activities included a TOT on crop establishment and plant nutrition, integrated pest management, and post-harvest treatment; multiplier training; GAP awareness training; and demonstrations through demo plots. VC-RD has also provided capacity building to producer groups. This has led to the creation of sectoral-level organizations in the case of melon (NMC) and sesame (SFDA). In the case of coffee, ginger, and soybean, capacity building has supported the establishment of local-level producer groups and links with other value chain actors.

In the case of coffee, VC-RD has also implemented capacity building measures among processors (dry processing, quality, and cupping), ginger (organic processing and tracing), and soybean (hygiene and HACCP) by providing training and grants for equipment.

There is a gap in the capacity building provided, and that is reaching other value chain actors, such as local traders (soybean and ginger) and local processors (sesame). Providing additional capacity building for producer organizations so they can develop themselves as sectoral players in the coffee, ginger, and soybean value chains should also be considered.

CONCLUSIONS

VC-RD has integrated several measures that target the cross-cutting sector of climate change. Successes are noticeable among beneficiaries adopting environmentally safer practices for the management and disposal of pesticides due to improved awareness and concern. In the case of fertilizer management in melon, sesame, and ginger, when there are economic justifications, beneficiaries have adopted practices. Climate change mitigation measures have been integrated on a small scale by coffee processors through new equipment (dry processing and water recycling) and a ginger washing station (not operational at the time of the ET visit).

In the area of inclusiveness, VC-RD has strongly addressed ethnic minorities (coffee, soybean, and ginger) but has not been as strong addressing youth. Public-private partnerships were initially hampered by VC-RD's contractual restrictions to engage directly with government. However, with the relaxing of the restrictions, public-private partnerships are gaining momentum and partnerships are visible across all value chains.

Integrating capacity building has been strong for producers. Among producer groups capacity building has supported melon and sesame to establish sectoral-level organizations to engage with value chain actors. These capacity-building successes should be extended to coffee, ginger, and soybean producer groups. In coffee, ginger, and soybean, VC-RD has implemented capacity building measures among processors by providing training and grants for equipment.

Nutrition is perhaps VC-RD's weakest cross-cutting sector. Many beneficiaries interviewed showed no awareness of nutrition. VC-RD has indirectly addressed nutrition through its efforts to create knowledge of food safety through GAP awareness training. Ad hoc nutrition awareness activities have been implemented in soybean and, to a lesser extent, in coffee. This is an area which needs further attention.

4.2.3 EQ 2.3: Did the gender interventions achieve their goals?

FINDINGS

In terms of gender interventions, the coffee and soybean value chains have been successful in promoting women's participation at both the producer and processor levels. There are successful business cases that illustrate this—four female entrepreneurs, including three from coffee and one from soybean, are engaged in value chains as champions for quality products who were supported by Innovative Grants.

Women play active roles in coffee production and in processing, but statistics for female participation in producer groups vary—numbers ranging from 10 percent to over 50 percent were mentioned. A women's producer group remarked, *"Women are trusted leaders, so women's groups are more popular."* A buyer sees that by focusing on smallholders, more women are automatically involved because in the larger estates the owners are men. Two out of the three VC-RD partner processors are women-led. These processing companies received the VC-RD Innovative Grants, which have improved their product quality and social entrepreneurship skills. Processors and three groups reported that they co-invested in better milling equipment, hosted training, and established their facilities as access points for local farmers to aggregate, learn about, and use new technology including a drying table, moisture meters, and improved storage systems, according to two KILs and three FGDs. During a KIL with a representative of a bank, the ET learned that VC-RD's efforts led to a signed bank loan agreement, valued at 20 million MMK (or approximately US\$14,800), with Amayar.

VC-RD also trained women processors to process specialty coffee, and women were three of the top 10 winners in the cupping competition and received awards for best coffee processors. International coffee buyers like the American Blue Bottle Co. recognize women's roles and appreciate their involvement in coffee value chains in Shan. They also paid a higher price for coffee processed by women's groups, according to interviewees from Blue Bottle.

Subsequently, with support from the VC-RD project, a female small-scale coffee trader motivated women's groups in Ywangan to produce specialty-grade coffee. Her business model also targets specialty coffee production for the export market.

For the soybean value chain, a female entrepreneur was awarded an Innovative Grant from VC-RD, which enabled her to install better machinery at her tofu plant. The entrepreneur mentioned that her factory later launched new lines of healthy and nutritious products aimed at capturing a greater market share of Burma's growing middle-class consumers.

In sesame, more women are being engaged in the farmer development association (i.e., SFDA) and encouraged to take a leading role. Lead farmers from one sesame producer group interviewed said that at the township level, four of 17 SFDA committee members are women.

Data from the VC-RD MEL system shows that, in the sesame value chain, the adoption rate of innovations was higher for female participants in training than for male participants. Specifically, 30 percent of women's participation led to 30 percent technical adoption, but 70 percent of men's participation led to only 50 percent technical adoption.

Gaps

At the program level, Winrock integrated some gender activities into each value chain's yearly work plan in 2015 and 2016. However, the gender integration work plan was not developed (VC-RD AR Year 1, Year 2, and Year 3). VC-RD staff mentioned that the national gender specialist from Winrock organized a small session on gender awareness during the work plan development workshop.

The gender studies and assessment conducted in Southern Shan highlighted issues that need to be effectively addressed in order to increase women's participation and ensure women's empowerment. These include women's decision-making about production; access to productive resources; control of income use; community leadership; and time allocation for training. According to the study report, the

project trained 1,730 farmers from a total of six project townships on ginger GAP training, but only 28 percent of attendees were female (483 women). The survey results (based on the perceptions of 89 percent of the female participants) provided some practical recommendations to remove constraints women face for future training. These recommendations included ensuring more women participate in training, selecting training venues more accessible to women, using local languages, and using a female trainer.

Gender training and workshops using the gender action learning tool were held at the household and community levels only in Shan. Although they were planned, producer groups mentioned that no additional gender training has occurred at the producer and processor levels in other target areas.

Women's roles are very important in all targeted value chains. For example, more than 50 percent of the tasks in melon production are done by women. Likewise, women in sesame farming play prominent roles in weeding, harvesting, and threshing, while men do the heavy labor like plowing and harrowing. However, according to beneficiaries interviewed across four FGDs in melon, there are many female farm laborers who are not aware of precautions and safety measures. In terms of wages, FGDs revealed a gap in the melon value chain—men are paid 5,000 MMK and women are paid 3,000-4,000 MMK for the same tasks. Yet, interviewed melon beneficiaries across eight FGDs noted that if there are labor shortages, women get paid equally. Interviews with DOA and a female lead farmer corroborated this. Farmers at all four sesame FGDs pointed out that daily labor wages for both men and women are the same—4,000 MMK.

The number of women participating in TOT and GAP training was still relatively low compared to that of men. For instance, for coffee, the project organized a total of 81 training sessions with a total of 1,515 farmers. Only 38 percent (575) of the total number of trainees were women. MFVP carried out 50 multiplier trainings across the Sagaing and Mandalay Regions. Through these, VC-RD reached 1,602 beneficiaries at 30 different locations in the regions, and women's participation was about 23 percent (368). In the ginger value chain, the VC-RD conducted 20 trainings in 19 villages in March 2016. Training aimed to provide bokashi fertilizer and soil conservation techniques. Of the total number of trainees, only 39 percent (380) were women farmers. In training on growing new soybean varieties and using improved agricultural practices held on 66 farmer field days (FFDs) at 111 soy demonstration plots, only 500 of 1,546 smallholder soybean farmers were women.

VC-RD made documentaries on some of the targeted value chains, including melon and coffee to encourage women's participation. The MFVP team interviewed in Yangon reported that VC-RD prepared a documentary on women's leadership (video clips). However, only about 10 percent of trainees in the field are women. A total of only three women TOTs were trained. They, in turn, conducted multiplier training.

From a feasibility and acceptability point of view, women's traditional norms and positions in society still hamper their roles including access to extension services and training. Through the gender studies and survey conducted in Shan for the coffee, soybean, and ginger value chains, the project analyzed the factors limiting women's participation and empowerment. Women's participation in training was limited in all value chains because field-level gender interventions were lacking. For example, at the community level, the timing of the training usually coincided with women's busy hours. In addition, women face limited mobility—most women cannot drive a motorbike to get to training—because of the distances involved; this hampered their ability to attend training in the sesame target areas. Even male melon beneficiaries interviewed in seven FGDs suggested that providing specific training for women farmers, such as technical and gender training, at the village level at a suitable place and time would be more effective.

A female TOT participant raised the idea of training female trainers for women farmers. During the FGD, she shared her experiences on multiplier training that she had conducted. She mentioned that *"I conducted multiplier training after the TOT. In one village, I conducted multiplier training for 30 farmers; and most are women. Together with other woman TOT trainee, I also conducted a multiplier training for another village in which there was an equal attendance of male and female participants."*

According to female beneficiaries interviewed across melon and sesame, there was no leadership training for women to support their active participation in producer associations. In Magway, about 25 percent of committee members, or 12 out of 50 members, are women. In each SFDA committee formed in 34 project villages, two women were selected as committee members and women often filled the role of

accountant or treasurer, which is a common role for women. Women are usually involved in village-level meetings. Women were asked to participate in training, but the opportunity to do so was quite limited for them. Most could not join training because events were held during the day in other villages or in town, and they needed to stay home and handle household chores. Women also found travel difficult—even local travel—for logistical reasons. Some committees began to organize meetings at night to encourage women's participation—something VC-RD might consider for future activities.

4.2.4 Recommendations for effectively integrating cross-cutting factors and initiatives into interventions (EQ CLUSTER #2)

VC-RD should increase the range of private sector actors engaged to enhance inclusivity in the market systems approach and provide more options for facilitation to suit producer realities in the value chains. For soybean and ginger, VC-RD may shift its current approach—facilitating mainly national-level processors—to one that includes more local private sector actors such as processors and traders at the township or regional level. These local actors are closer to producers and could facilitate economies of scale in handling products. VC-RD should accelerate government engagement to facilitate interventions in GAP across all five value chains—either directly or through IPs. DOA staff from Shan State and Magway and Sagaing regions were interviewed and indicated that local government is interested in collaborating.

VC-RD should accelerate the completion of the Coffee Sector National Strategy paper and explore developing similar sector strategies for other crops such as melon.

Nutrition remains a weak link that can be strengthened by integrating nutrition awareness modules into the awareness and training programs provided to farmers. VC-RD can implement these changes directly or have them facilitated by IPs using the TOT and multiplier training approaches adopted by VC-RD. The TOT programs for nutrition can be designed to give special consideration to cultural and social norms. Not only would this maximize women's participation, but it would have the significant benefits of replicating multiplier training while strengthening women's roles.

VC-RD should look into facilitating better accessibility to simple tools, with private sector facilitation, to protect drying coffee berries and to measure moisture in places where climate change has resulted in wetter or more unpredictable weather.

Specific seed varieties that enable planting and harvesting before, during, and after the annual monsoon should be used to help farmers cope better with unpredictable weather.

A more strategic approach to addressing gender should be considered for the remainder of the VC-RD. A robust yet feasible gender strategy should be developed to mainstream gender considerations across VC-RD interventions. A dedicated gender specialist should be appointed to coordinate gender integration for the remainder of VC-RD. All VC-RD local staff and staff from IPs should be trained in gender sensitization and trained on gender integration approaches. For each value chain, gender champions should be appointed within VC-RD staff, IPs, and grantees to improve local gender capacities and cascade gender interventions across activities.

Female entrepreneurship and leadership should be promoted, building on the experience of NGOs in Burma like Women's Organizations Network (WON), Myanmar Women Entrepreneurs Association (MWEA), and Gender Equality Network (GEN). These NGOs can play a more active role in integrating gender across the value chains.

Gender champions should be identified among producers, private sector partners, and within the government.

Producers, processors, producer organizations, and extension services should be provided with capacity building on key topics, including:

- Gender sensitization training to encourage male and female understanding of the shared-benefits of resources, income, and assets; and
- Gender equality that uses a more transformative approach and includes engaging men in the transformation process to encourage women, not only encouraging women to join profitable lines of work.

Providing dedicated capacity building on gender to producer organizations should be explored, perhaps in partnership with the aforementioned NGOs and existing IPs.

VC-RD should facilitate extension and advisory services, through LFAs and partnerships, to provide improved access to knowledge for women and to include adequate female representatives.

VC-RD and its IPs should better integrate cultural sensitivities when designing and delivering training. This would encourage women's participation. According to DOA staff and male and female beneficiaries interviewed, dedicated training sessions for female farmers and household members should be conducted by female trainers. To maximize women's participation, training location and timing should also be considered.

VC-RD should develop and implement a youth engagement strategy across its value chains. The strategy should consider important roles that youth can play as part of an inclusive market systems approach in supporting value chain development, including seed farms, plant nurseries, provision of botanical inputs [such as Effective Micro-organisms (EM) Bokashi and neem], extension advisory services, information services, logistics, post-harvest treatment, and packaging. Approaches to youth engagement should be identified and facilitated through public-private partnerships involving youth organizations, CBOs, national and regional government, lead firms, universities and colleges, producer organizations, input providers, and banks. Case studies of young, successful farmers and agriculture entrepreneurs can be used as part of the promotion.

4.3 EQ CLUSTER #3: HOW EFFECTIVELY IS WINROCK IMPLEMENTING AND MANAGING VC-RD INTERVENTIONS?

4.3.1 EQ 3.1: To what extent have interventions deviated from the original scope?

FINDINGS

There were two major contractual deviations from the original scope. The first was VC-RD adopting a new results framework. The initial framework included three IRs—IR1, agricultural productivity improved; IR2, strengthened value chains; and IR3, enhanced private sector engagement. However, as an attempt to encourage sustainable private sector partnerships beyond grant-making, VC-RD reduced the number of IRs to two. They kept the original IR1, made IR3 a cross-cutting objective (according to interviews with VC-RD staff and the VC-RD Modification of Assistance Two), and created a new IR2, market access and trade increased.

The second deviation was VC-RD selecting a revised set of indicators and targets. Indicators were selected from the most relevant Feed the Future indicators based on the operating environment. Those no longer applicable to the new project results framework were removed. Additionally, direct versus indirect beneficiaries were further defined in the revised program description, which resulted in the overall targets changing.

Table 5, below shows the original and revised indicators and targets for VC-RD activity.

Table 5: Original List of Indicators and Targets Versus Revised Indicators and Targets

Original Indicator	Target	Revised Indicator	Revised Target
Number of hectares under improved technologies or management practices	90,000	Number of hectares under improved technologies or management practices as a result of United States Government (USG) assistance – Feed the Future	20,000
Number of farmers and others who have applied improved technologies or management practice	80,000	Number of farmers and others who have applied improved technologies or management practices – Feed the Future	40,000
Value of new private sector investment in the agriculture sector or food chain leveraged	\$10 million	Value of new private sector investment in the agriculture sector or food chain leveraged by Feed the Future implementation	\$10 million

Original Indicator	Target	Revised Indicator	Revised Target
Number of stakeholders implementing practices to improve resilience to climate change	20,000	N/A	-
Number of private enterprises, producers' organizations, water users' associations, women's groups, trade and business associations, and CBOs that applied improved technologies	500	Number of private enterprises, producers' organizations, water users' associations, women's groups, trade and business associations, and CBOs that applied improved technologies	500
N/A	-	Total number of beneficiaries in project-assisted value chains (including both direct and indirect beneficiaries)	80,000
Yields of targeted crops per hectare	+25%	N/A	-
N/A	-	Total number of hectares under improved technologies or management practices (including both direct and indirect beneficiaries)	40,000

During the first three years of implementation, VC-RD used an inclusive value chain approach with value chain principles and focused more on improving agricultural productivity among the value chains (IR1 of VC-RD). According to interviews with VC-RD staff and the VC-RD FY 2018 Work Plan, in Year 4 the focus began to shift towards a market systems approach focusing on market access and trade, with a lighter touch, which targets IR2 of VC-RD.

The Year I Annual Report (October 1, 2014 – September 30, 2015) indicates that VC-RD started working on the soybean and coffee value chains in Quarter (Q) 3 and Q4 of FYI and, according to the FY 2016 Annual Report, began working on the other value chains in the following year.

KIs and FGDs with IPs, field office staff, and beneficiaries revealed no noticeable deviations from the original scope in value chains. However, the ET observed that there was a deviation in focus in the ginger value chain. In their training and demo plots the first year, VC-RD promoted ginger production for the international organic market. There was a limited market for organic ginger at that time, so in the second year, VC-RD focused on promoting herbicide- and pesticide-free ginger production, which allows chemical fertilizer.

Some deviations were observed for gender interventions. The gender activities outlined in the annual work plans for 2015 and 2016 were not fully implemented, as evidenced by the VC-RD Annual Report Year I, VC-RD FY 2016 AR, VC-RD Year I 2015 Work Plan, VC-RD Year 2 2016 Work Plan, and the VC-RD Year 3 2017 Work Plan. The IPs' work plans in the sesame and melon value chains included activities to mainstream gender—SARA in sesame and MFVP in melon. These did not take place. KIs and FGDs said that there was no gender awareness training for these IPs. Gender training workshops, which used the gender action learning tool, were held at the household and community level in Southern Shan. Although the VC-RD FY 2016 AR, the VC-RD FY 2017 AR, the VC-RD Year 2 2016 Work Plan, and VC-RD Year 3 2017 Work Plan included plans, these gender training workshops were not replicated in the central dry zone. Further, the gender-integrated activities approach outlined in the annual work plan was not included in the VC-RD FY 2017 Work Plan.

CONCLUSIONS

The main deviations from the original scope were the consolidated IRs, which reduced redundancy making public-private partnerships a cross-cutting objective, revising and prioritizing indicators, and changing the beneficiary definitions and their resulting target changes. Another noticeable deviation in scope was that gender activities shifted noticeably from FY 2016 to FY 2017.

4.3.2 EQ 3.2: How have value chains been identified and what criteria have informed selection? What criteria proved to be the most critical for determining success?

FINDINGS

The value chains were initially identified based on baseline surveys. Coffee, soybean, and ginger focus on Southern Shan as the production area. Neither the different value chain assessments nor the VC-RD quarterly or annual reports give a rationale for choosing one value chain over another. Instead, they focus only on the selected value chain itself. Although certain value chain choices are appropriate within the Feed the Future objectives, the ET is still unclear why sometimes one and not another was chosen.

Soybean and coffee were chosen in the first year, the other three in the following year. Through a selection process, 10 value chains have been shortlisted for further assessment.

The baseline data used to make the first selection relied on government and partner data. Because some of the data proved unreliable, adjustments were made. The following criteria, sourced from the VC-RD FY 2015 AR, informed the broad selection of value chains:

- Number of available direct beneficiaries;
- Existing income level of farmers;
- Potential for value chain improvement in terms of growth, quality, and private sector investment;
- Potential for market development;
- Potential gross margin for the product;
- Feasible enabling environment and lower logistical complexity;
- Potential for increasing women's empowerment;
- Positive nutrition and food security impact; and
- Farmers and crops not yet supported by others.

The final selection of the five value chains relied on specific value chain assessments. The Value Chain Assessment Report, Soybeans (March 2015) provides insight into the process of developing a strategy for different value chains. The process started with interviews of key value chain actors in Southern Shan, Mandalay, and Yangon. The assessment included an analysis of the market (local, regional, and international) for different product types (differently processed products, raw, different qualities). Then assessors looked into the supply for both domestic and international markets, for Burma as part of the world market, and the regional position in these markets. Then they analyzed the market linkages. The assessment also looked into inputs, production, and trading. Based on these findings, it provided a summary analysis of constraints and possible market-based solutions.

The Coffee Value Chain Analysis followed the same process but included an initial description of the commodity itself and the local production. It is more extensive in Descriptions of the Value Chain actors, and it suggests a potential way forward.

A number of donors, NGOs, and trader/processors who were interviewed reflected on the value chains VC-RD selected. Coffee was selected first, and it provided a good value chain success story due to market linkages and the specialty branding created.

On ginger, several start-up assessments are available. There two competitive analyses were done, both of which focused on markets and market development. The Ginger Value Chain Assessment Summary from September 2016 looks into the whole value chain—from production to market and actors to analysis—just like equivalent summaries for coffee and soybean. This study, however, is distinctive from others because it offers a rationale for selecting the ginger value chain and makes suggestions for a follow-on strategy. It sees ginger as *“a potentially high-value crop for smallholders,”* because they can grow it on *“marginal hillside land.”* The assessment also provides a blueprint for an economic opportunity by noting the *“strong market demand for ginger and processed ginger products,”* that could be found *“with increased productivity.”* The assessment points out that this potential for increased productivity is true *“especially if farmers band together and improve their capacity to negotiate better prices.”* It also illustrates that there is *“very little capacity for farmers and other value chain actors to effectively negotiate price and terms of trade deals,”* a topic the ET mentioned several times in this report.

Processors and Control Union members viewed ginger's potential in value-added products and potential productivity for farmers. They also saw it as less risky because it is part of a global value chain. The VC-RD FY 2016, Ginger Value Chain Summary 2016, illustrates that VC-RD chose ginger based on assessments, indicating *“the potential profitability of ginger, market potential, barriers to entry, and potential to*

scale up farmers' participation." In late 2018, VC-RD staff say they expect a larger ginger oil extraction factory to open its doors. In Southern Shan, approximately 10,000 smallholder producers grow about 90 percent of Burma's fresh ginger, with relatively high average yields of 12 MT/ha. VC-RD focuses on 30 percent of these producers, about 3,000. Some respondents agree with the choice to specifically support organic ginger. OAL mentioned that ginger has a stable price of 250-500 MMK/viss, and organic ginger has a price 10 percent higher. One KI said, "Ginger can give one million MMK per acre. You can get profit even at a lower market price if you have good seed and clean, disease-free soil." SPSH is one supporter of organic ginger, and they mentioned that "Ginger has a lot of impact, but for a small area, as it is grown by few farmers...compared with a million soy farmers."

Turmeric merited several mentions by producers and processors/exporters as a potential alternative for ginger (FGDs with ginger beneficiaries and three KIs with IP staff and processors). Turmeric prices are comparable, yet turmeric has a larger market and is easier to grow and store. This opinion is evidenced below:

"Focus on turmeric, not on ginger. Compared with turmeric, ginger has no market, and you have to rotate the land. If there is no market this year you can dry and store it for next year. Include turmeric in training/focus. Turmeric needs less weeding; the plant is taller. Even if [it] has less yield, it is more profitable because the costs are less." – Producer Group

"Ginger has a small market. Turmeric has a large market in India and EU." – Processor

According to respondents, the rationale for choosing soybean is that "it has a stable price, one compared to maize" and it "fits better in the cropping cycle with paddy and needs less investment—just 30 percent." Producers mentioned that, if the maize and soybean prices are the same and soybean produces well, soy is a better choice because it requires less labor after harvest and leaves the soil in better condition. Various groups gave a number of reasons for not favoring irrigated soybean, including the fact that if grown on irrigated land the production area is limited to paddies, which leaves a very short period of time for harvesting before the rice is sown in the newly vacated land. At harvest time, labor is more expensive, and rain has a major effect as it can damage the soybean and destroy the harvest. Several producer groups and two processors mentioned other possible crops—maize, ginger, and turmeric—that have fewer risks and may provide more income.

A consultant and VC-RD national staff members conducted a fruit and vegetable value chain assessment (VC-RD Fruit and Vegetable Value Chain Assessment Report, 2015), which focused on Southern Shan. They identified crops from three major categories—fruits, vegetables, and roots/tubers—and then short-listed the most appropriate ones. Shortlisting involved VC-RD staff from the Yangon and Taunggyi offices. Previous value chain short-listing criteria were reviewed and "potential outreach"—the number of smallholders engaged in the value chain—was identified as the most significant criterion. Later, one more criterion—relative price and market stability—was added so that VC-RD could gauge smallholders' risk perception. Following these criteria, the team compiled a shortlist of 22 fruits and vegetables. Melon was not included because, in Southern Shan, it has limited growth potential. The assessment recommended tea and potatoes as possible targets, which show a lot of potential. Melon was added later through the Innovative Grants Fund award to MFVP. The grant proposal focused on improving production capacity for melon farmers in the dry zone, strengthening the melon value chain, and supporting smallholder farmers. A 2016 MFVP Melon Value Chain Assessment, identified several opportunities and constraints, and provided recommendations for upgrading the melon value chain. According to KIs with NGOs and MFVP, melon was justified as a choice due to its high yield. It has become a popular crop in the central dry zone and, with the major Chinese market so close, it has a relatively short value chain.

VC-RD conducted an assessment in sesame to determine potential opportunities for value chain interventions in the central dry zone. The assessment, VC-RD Central Dry Zone – Oilseeds Value Chain Assessment Report, was done through a consultant and focused on high-value crops. Sesame selection criteria included risks and constraints the product faces in the value chain, such as weather-related impacts from climate change, high product cost and low product yield, limited access to input credit for smallholders, dependency on China as the end market, and domestic oil imports. Other selection factors included the feasibility of market-based solutions to these constraints and whether or not potential collaborators were available to facilitate solutions. Based on this assessment, VC-RD engaged SARA as a sub-grantee through the Innovative Grants Fund program. SARA undertook a sesame value chain

assessment, which is included in VC-RD FY 2016 Q2 report, geared towards identifying opportunities and strategies for facilitating and developing this value chain.

KIIs with potential investors in the WRS and other donors showed that many advanced end markets, including Japan and Europe, viewed sesame as a marketable product with good prospects for developing a viable market.

According to a VC-RD staff, the most critical criteria to determine success were:

- Potential for improving quality;
- Availability of partners;
- Feasible scaling-up processes;
- Whether the product can meet international market needs;
- Quality assurance; and
- Competitiveness of the local value chain.

CONCLUSIONS

Value chain selection was based both on baseline survey data and on value chain assessments and used a number of core criteria which were in line with VC-RD objectives. Coffee was selected first and provided a success story—market linkages were good and specialty branding was created. Melon was selected based on outreach and income potential for smallholders and was driven by an Innovative Grants Fund Award to MFVP. Sesame was chosen based on a number of existing constraints, the feasibility of market-based solutions to these constraints, and whether or not potential collaborators could facilitate those solutions. Ginger was selected because of its potential profitability, its market potential, the lack of barriers to entry, and the opportunity to scale up farmers' participation. There was, on the other hand, little clarity around the specific reasons for choosing soybean. Many interviewees had reservations about choosing both soybean and ginger. They pointed to other interesting crops smallholder producers use, including turmeric and maize. Value chain success seems to hinge on the potential for improving quality, the feasibility of scaling up, whether the product can meet international market criteria, quality assurance, and local value chain competitiveness.

4.3.3 EQ 3.3: How has Winrock selected community and private sector grantees as recipients of VC-RD assistance? What were the lessons learned for working with each of these partners?

FINDINGS

Based on the VC-RD FY 2017 AR, it seems sub-awardees collaborate to implement activities, which also benefit from grants, with local partner organizations and private sector enterprises. The Winrock team states that, when it comes to private sector grantees, *“Winrock is looking for progressive actors, who want to include farmers and pay a fair price, and who go for a quality product. They should be socially conscious etc. and add value.”*

As of December 2017, VC-RD awarded grants to the following organizations—denoted in the VC-RD FY 2017 AR:

- Sub-awardees: Internews, CQI, and Shwe Danu
- Community grantees: MFVP, MIID, and SARA
- Private sector grantees: Ywangan Amayar Co., Lilypad Co., MCG, MABG, Yangon Nike Bean Products Factory (NBP), and Mandalay T-Brand Tofu Factory

The sub-awardees were included in the initial VC-RD design proposal that Winrock submitted. After consultations with USAID, a specific SOW was developed and sub-awardees were contracted. Their performance was monitored on a quarterly basis and, according to one FGD, more comprehensive reviews were conducted annually.

As conveyed by participants of this FGD and the VC-RD FY 2015 AR, an Innovative Grants Fund scheme awarded private sector grants and community grantees. Award mechanisms were outlined in a grants manual, although flexibility to adapt to local conditions and specific VC-RD objectives and IRs was allowed. This was developed in Q2 of 2015. A range of grant mechanisms was available and included fixed-

obligation, simplified, standard, and in-kind grants for amounts of up to US\$300,000. Grants were to be implemented over a 6- to 24-month period.

According to interviews with VC-RD staff, the team developed a Grants Fund Annual Program Statement (APS) that included eligibility criteria like project type, activities, eligible costs, and applicant eligibility criteria.

The first Innovative Grants Fund call was issued in Q3 of 2015. Workshops provided guidance on the application process. A grants evaluation committee short-listed five of 28 applicants and awarded grants to the remaining four short-listed parties. Many of the awardees went through a due diligence process that—in some cases—took up to six months. The VC-RD FY 2015 Q1 and the VC-RD FY 2015 Q2 reports say that the Grant Fund remained open for a year.

Although VC-RD followed standard procedures and was transparent in its selection process for grantees and beneficiaries, some processors and producer groups in the soybean and coffee sectors thought otherwise. They did not understand the selection criteria or the basis for choosing the eventual recipients or grantees. For example, some soybean villages found that Winrock provided a dryer to one village through a grant and they wondered why their village was not chosen for the grant. A processor questioned why it seemed that wealthier soybean processors received support while smaller processors did not.

The main lessons from working with lead firm grantees was that they were able to play important roles in facilitating value chain activities among farmers and development of higher value end markets driven by a business case. They invested in production innovation and were rewarded with higher quality products. They all developed or strengthened their relationships with producers. These value chain behaviors are likely to remain sustainable post VC-RD.

In the case of the community grantees, MFVP, SARA, and MIID facilitated value chain activities among farmers, particularly in improving agriculture productivity. SARA contributed to the establishment of a strong producer group for sesame (SFDA) and this will provide a strong mechanism for sustainability of value chain behavior. Perhaps the most strategic partner among community grantees has been MFVP and its melon cluster (NMC) which has facilitated better organization of producer groups, and improved agriculture practices and horizontal and vertical value chain linkages. It has also facilitated advocacy among government and private sector for better regulation of seed quality and product standardization. Due to its membership base and producer incomes, NMC provides a credible mechanism for organizational and financial sustainability of value chain behavior and inclusive market systems development in the melon value chain.

In the case of sub-awardees, the work of Internews enabled the establishment of a local media organization, which has since implemented agriculture outreach activities on its own and led to some level of sustainability. Shwe Danu facilitated value chain activities for improving agriculture production among its producers and requires additional capacity building in order to sustain the behavioral changes in the coffee value chain.

CONCLUSIONS

VC-RD established a documented process for announcing, short-listing, and selecting grantees. However, some private sector stakeholders in the coffee and soybean value chains found the final selection process and rationale of grantees unclear and not well communicated. Unfortunately, this led to resentment among some value chain actors.

Private sector grantees engendered stronger engagement with smallholder producers, and because this engagement provides a business case, it is probably sustainable.

Community grantees and sub-awardees facilitated value chain activities among farmers, particularly in improving agriculture productivity for melon, sesame, coffee, and ginger. For sesame and melon, they facilitated establishment of strong producer groups, which provide a strong mechanism for sustainability of value chain behavior, and continued development of an inclusive market systems approach. Shwe Danu requires additional capacity building in order to sustain the behavioral changes in the coffee value chain.

4.3.4 EQ 3.4: To what extent are standard operating procedures in place and being followed to monitor results of sub-partners and grantees? How effectively were both primary and secondary beneficiaries captured?

FINDINGS

VC-RD monitors sub-partner and grantee results through the MEL system established in January 2015. The MEL plan includes strategies for collecting data from a number of sources, notably: data management and storage; comprehensive learning to inform the program cycle; data quality assessment; gender considerations; and social inclusion. A set of data quality assessment sheets were developed to define each of the indicators. VC-RD contributed Feed the Future indicators, which were based on definitions found in the Feed the Future Indicator Handbook, 2016.

According to interviews with VC-RD staff, VC-RD Progress Reports for FY 2015-2017, and VC-RD IM Performance Narrative reports for FY 2015-2017, the standard operating procedures for monitoring sub-partner and grantee results included:

- An event report that partners and grantees complete for key events like training and demonstrations. The report includes a narrative portion, asks about challenges and successes, and requires annexes for things such as attendance sheets, photo records, and event evaluation based on feedback from participants.
- Establishing gross margin baselines for the key impact indicator (for example, a farmer's gross margin per unit of land) achieved by smallholders. These are based on five data points that address gaps and inaccuracies in the official baseline data, which all donor programs and agencies who were interviewed perceived to be problematic.
- Annual surveys completed by a third party and randomized with different criteria—depending on the value chain—to stratify the data. This was illustrated in the Kantar TNS Annual Beneficiary Survey for VC-RD – Melon, Coffee, Sesame, Ginger, and Soybean.
- Submitting quarterly narrative and MEL reports by grantees under standard cost reimbursable agreements, and visits by VC-RD staff and technical teams to grantee project sites.

There is evidence that VC-RD did not implement all elements of this MEL strategy during the first two and a half years. According to interviews, data collection was largely quantitative and focused on third-party implemented annual surveys and partner event reports. MEL was undertaken to support the quarterly and annual report production, according to KIs with IPs and with VC-RD field office staff. These KIs also implied that MEL was perceived to be a detached audit—not an interactive process. The learning aspect was largely absent as IPs and grantees did not receive final annual survey results or feedback on their annual performance.

Staff from two IPs who were interviewed said they found the standard operating procedures unclear, which led to misunderstandings. This was exacerbated because the MEL reporting format changed so often. IPs interviewed from the coffee, soybean, and ginger value chains also found that the working agreements, division of roles, and staff management were vague. VC-RD staff requested information from partner staff outside regular communication lines, which meant that VC-RD staff often separately asked for the same information. According to staff from the coffee value chain IP, VC-RD field office staff evaluated IP staff and, without telling the IP's head office, made recommendations for salary changes.

VC-RD has both primary and secondary beneficiaries. Primary beneficiaries are defined as those VC-RD trained directly. Secondary beneficiaries are those trained “indirectly” by VC-RD through formal and informal partners. These definitions are according to VC-RD staff interviewed and the VC-RD MEL Plan: Y1-Y5, January 2015. VC-RD field office staff and partners capture beneficiary data using the Event Report Template, which provides guidelines on how to count unique beneficiaries and households—and how to avoid double counting.

Interviews with IPs and field office staff indicated that during VC-RD's first two and a half years, some outcome data reported in the MEL system appeared inconsistent with numbers IPs and field offices reported. Interviewees noted there was no robust approach for validating outcome data, and implied that the systemic constraint of poor baseline data across Burma's agriculture sector, and the use of qualitative data sources, contributed to the confusion.

VC-RD appointed a new Senior MEL specialist in 2017. He has instituted improvements to the MEL system that include developing a quarterly report template with guidelines for IPs, holding two workshops with MFVP and sesame field staff to review outcome data and accuracy, and developing a reporting format for private sector investment. The submitted MEL improvement plan includes plans to implement a mixed-methods approach to MEL. These methods incorporate qualitative data collection and a three-step validation system for outcome data. According to VC-RD staff interviews and the VC-RD MEL Improvement Action Plan of January 2018, plans also include engaging a new service provider to provide input over a longer period of time, which will regularize data input.

CONCLUSIONS

The MEL system has had gaps, which include the lack of procedures to monitor IPs and grantees. Other gaps exist as well, including ones in communication that have created tensions with IPs. Some of the data gathered during the first two and a half years appeared inconsistent with numbers reported by IPs and field offices. Quantitative approaches capture primary and secondary beneficiaries and respondents noted inaccuracies that stemmed from the lack of a robust validation approach. Having a validation approach improves accuracy and would enable triangulation—especially when inaccuracies of existing official baseline data in Burma are accounted for.

4.3.5 Recommendations for improving effectiveness of implementation and management (EQ CLUSTER #3)

Despite a comprehensive grant solicitation and award process, once final grantees have been selected, the process and rationale should be clearly communicated among applicants, accompanied for example by a list of applicants with their scores, to reduce the potential for misunderstanding and to improve transparency. For local NGOs and CBOs, besides their capacity to implement project activities, one important criterion is whether or not they intend to, or have the capacity to, play a role supporting value chains post-project. A grant or cooperation agreement can include a capacity building component to support NGOs and CBOs developing their self-sustainability.

The MEL function should become an integral part of VC-RD management and decision-making. Further details on how this might look are provided below but include the idea that the senior MEL specialist becomes a more integral a member of the VC-RD management team. The MEL specialist ought to participate in all management efforts and support decisions at management meetings by providing appropriate information from the MEL system.

IPs and field offices should become more integrated with the MEL function—not only by providing data but also by receiving regular MEL reports to use for their own adaptive learning, management, and decision-making.

VC-RD should use MEL and relevant tools like USAID’s collaborating, learning, and adapting (CLA) toolkit to improve collaboration with grantees, beneficiaries, IPs, and other stakeholders. VC-RD should clearly and regularly communicate with its grantees, IPs, and beneficiaries on lessons learned, final decision-making approaches, and criteria used for awarding grants and selecting beneficiaries. A number of mechanisms could help facilitate communication including adaptive learning and management workshops that involve VC-RD and its strategic partners—including IPs and lead firms. Those IPs and lead firms can, in turn, communicate relevant lessons and information on VC-RD decision-making to beneficiaries.

The strengthening of MEL champions in each value chain to help improve local MEL capacities of producer organizations. In order to strengthen their management and decision-making abilities, and to increase their capacity to sustain the development of their respective value chains, providing MEL capacity building to value chain producer organizations should also be explored.

MEL data gathering can expand from the current annual surveys to include qualitative data collected regularly (through KIIs and FGDs) from key stakeholders—including key vertical and horizontal value chain actors.

VC-RD progress reporting should be more results-oriented and demonstrate the link between activities implemented, such as training conducted, and their outcomes and IRs.

4.4 EQ CLUSTER #4: TO WHAT EXTENT ARE CURRENT VC-RD INTERVENTIONS SUSTAINABLE BEYOND THE LIFE OF ACTIVITY?

4.4.1 EQ 4.1: To what extent is Winrock engaging and incentivizing market actors to take ownership and build sustainable relationships with smallholder farmers?

FINDINGS

Of the few market actors in coffee, Winrock has engaged several key players to take ownership and build relationships with smallholder farmers. VC-RD facilitated one major processor, MCG, and two smaller processors, Lilypad and Amayar, to build linkages with smallholder farmers in Southern Shan State. All processors and focus groups interviewed reported that processors were given incentives of grants to upgrade their production, training, and link to export markets willing to pay premium prices for specialty coffee (three KILs with processors and six FGDs with 56 primary beneficiaries). These processors have a higher sales revenue turnover and have found new clients for both their wet-processed coffee and dry-processed coffee. Processors are committed to continuing their relationships with smallholder producer groups (three KILs with processors). The smaller processors, with VC-RD's support, developed their businesses and raised their level of professionalism while working with smallholders. They see smallholders as important partners and view sustaining those relationships as critical for their business. For the largest processor, this direct work with smallholder groups represents only a small part of their processing volume. Their continued commitment to working with smallholders may depend on the opinion of one or two senior decision-makers within the company.

Three international buyers told the ET that a number of domestic and international buyers, facilitated by VC-RD, have established relationships with processors and smallholder producer groups, and are committed to continuing those relationships as long as smallholders continue to deliver the necessary quantities of high-quality coffee.

In soybean, VC-RD has engaged market actors—notably two processors at the national level and four traders. VC-RD incentivized the actors through training in quality and HACCP, and offered linkages to build relationships among processors, traders, and smallholder soybean producers. The two processors received grants for technology improvement, which could help develop their businesses by heightening processing capacity, product quality, and competitiveness. Through these incentives, these processors enlarged their domestic market. Now, in addition to buying from traders, these processors work directly with smallholders to source soybean. According to a local trader—supported with a dryer—he raised his product quality and linked with tofu processors in Yangon. According to two processors and a trader, the supported processors and traders can provide higher prices and will continue working directly with producers. Winrock staff mentioned in interviews that they are still looking for progressive actors who want to include farmers, pay a fair price, and purchase a quality product. Most of the regional market actors are not engaged and have not been offered incentives. In Southern Shan, there are several traders and some small processors that do have relationships with smallholders. For example, one local processor told the ET that in the Taunggyi area there are four or five family-size processing enterprises, and that in Lawksawk there are 8-10 soybean traders. These examples provide evidence of the potential to improve and integrate players into a more comprehensive value chain, one which would involve smallholders, regional processors, regional traders, and national-level processors.

VC-RD focuses efforts in ginger on four national-level processors in the organic ginger value chain. Processors invested regionally in processing—drying sliced ginger and turning some into ginger powder—and in washing factories for fresh ginger. They also invested in a new ginger oil extracting factory. One processor said that VC-RD offered the incentive of co-funding equipment purchase to increase the processing capacity for fresh and dried ginger for export. As part of a contractual agreement, the processor bought organic ginger from 120 smallholder farmers in 2017 (with a target of 300 by the end of 2018). Now, the processor sees demand for organic ginger expanding through other variations like ginger powder, which can be sourced from the VC-RD's smallholders. VC-RD gave another organic ginger processor the incentive of a facilitated bank loan. With it, the processor said he established relationships with organic ginger smallholders from three or four villages. Three processors mentioned that VC-RD established linkages with other traders and processors—two of which are potentially sustainable relationships with smallholders from 18 producer groups. The conventional (non-organic) ginger value chain is well developed and has many actors at different levels who are not engaged by VC-RD. Traders

for conventional ginger have diversified their product requirements in terms of tuber size and color and, according to three processors and one representative of the government, pay a premium price. Processors can take in both organic and herbicide-/pesticide-free and conventional ginger or focus on organic and herbicide-/pesticide-free ginger. For organic ginger, they establish direct relationships with producers and sometimes pay in advance to ensure delivery. This has the added benefit of strengthening those relationships.

In melon, all beneficiary farmers interviewed noted that VC-RD efforts, through MFVP, to strengthen linkages with the end market had limited results (nine FGDs with 46 primary beneficiaries). Most farmers established their own end market linkages through traders or agents. According to beneficiaries, this situation may change. Through training and NMC activities, VC-RD and MFVP have arranged with two melon traders, themselves farmers with existing links to smallholders, to strengthen linkages with the end markets.

Efforts in the sesame value chain have not yet yielded tangible results. VC-RD facilitated contact between two processors and some smallholders able to supply better quality sesame. According to beneficiaries participating in three FGDs, results have not materialized. The most promising initiative in progress in the sesame value chain is establishing a WRS with an investor, a warehouse operator, and the SFDA. The investor was interviewed and is committed to working with VC-RD smallholder farmers during the first year, and then expanding to additional farmers in the second year. Sesame farmers and SFDA members who were interviewed are eager and motivated to join the WRS (four FGDs with 47 farmers and beneficiaries).

CONCLUSIONS

VC-RD incentivized market actors in coffee, ginger, and soybean by establishing sustainable links between processors and smallholder farmers. Incentives included grants for technology upgrades, training, and market linkages—both upstream and downstream. VC-RD also established relationships between coffee buyers, processors, and smallholders. These relationships appear sustainable as long as the supply of good quality coffee continues at a reasonable volume. In soybean, VC-RD engaged market actors including two processors and four traders. As an incentive, they were offered grants for technology improvement, training on quality and HACCP, and linkages to build relationships with smallholder soybean producers. The actors are national-level. Most local actors have not been engaged or offered incentives, which limits the scope and scale of impact. In ginger, VC-RD efforts focused mainly on two national-level processors in the organic ginger value chain, and their relationships with smallholder soybean producers appear sustainable. The focus the ginger value chain has on market actors appears too narrow because attracting local traders offers more possibilities to market access for smallholders. Expanding the scope to cover conventional, non-organic ginger grown according to GAP, provides additional economic prospects for both smallholders and processors.

4.4.2 EQ 4.2: How is VC-RD engaging or incorporating government, non-government, and private sector counterparts in long-term sustainability strategies for interventions?

FINDINGS

Analysis of VC-RD annual reports and work plans, as well as interviews with partners, market actors, and USAID (33 KIIs) show a lack of a cohesive, formal long-term sustainability strategy for VC-RD overall. Interviews with VC-RD staff, and the VC-RD FY 2015 AR, show that sustainability was not a prominent criterion in the selection of value chains. The Innovative VC-RD FY 2017 AR shows that, for grants awarded, sustainability was explicitly mentioned as an objective in two of the nine. A few ad hoc sustainability strategies are referenced in annual reports and work plans. These feature government, non-government, and private sector counterpart involvement.

Government stakeholder engagement was tempered during the first two years of the project because Burma Sanctions meant that contractually VC-RD was unable to directly engage with government. Now, while keeping within the guidelines of the sanction waiver, VC-RD is gradually engaging government stakeholders. Most of the engagement is in the areas of seed, GAP, regulation implementation, and, in melon, product standards. These government stakeholders have been engaged through meetings,

invitations to training events and workshops, and public-private partnerships with IPs, grantees, and smallholder producers.

Initial efforts in soybean included a partnership between Jaguco, DOA, DAR, and producers. According to KIIs with Jaguco, the partnership aimed to trial and replicate better varieties of seed. VC-RD collaborated with the FDA to provide HACCP training for soybean processors and manufacturers. KIIs with Control Union and UNIDO indicate this was an effort to upgrade food safety and hygiene during processing and allow processors to become legally compliant. Following attendance at VC-RD training events, DOA in Magway and Sagaing is gradually supporting VC-RD's GAP efforts in sesame and melon. Three DOA staff interviewed said that DOA is providing record books and additional know-how and is facilitating acquiring relevant inputs like neem oil. This is done in partnership with the producer organizations—SFDA, for sesame, and NMC, for melon. In sesame, VC-RD facilitated a partnership between DOA research staff, SFDA, farmers, and technology suppliers to explore replicating seeds and experiment with irrigation systems through demo plots, access to DAR-developed seeds, and seed certification. Interviews with beneficiaries, the investor, and VC-RD staff made clear that VC-RD has facilitated a partnership between the Magway regional government, an investor, Yoma Bank, and representatives from the SFDA. This partnership will initiate implementation of a WRS for the sesame sector. In melon, VC-RD facilitated a melon forum that involved input suppliers, melon producers, and government officials from MOC and MOALI. During the forum, participants discussed issues and possible solutions for issues in the supply of quality melon seed. So far, melon beneficiaries say this has only had limited results. Consequently, the scope for sustainability is limited (11 FGDs and one KII).

In ginger, VC-RD partnered with the Plant Protection Department and MEDA to implement a TOT on the safe use and handling of pesticides. This is according to an FGD with one ginger producer group and with VC-RD field staff. However, the TOT needs to be replicated to achieve scale for long-term sustainability. VC-RD also facilitated the Vision Zero initiative of the International Labor Organization to provide Occupational Safety and Health (OSH) support to processors such as SPSH.

In coffee, VC-RD and MOALI collaborated to draft a National Coffee Sector Strategy that focuses on smallholder producers. This brought together the private sector, including: smallholder and estate-level producers, processors, roasters, traders, and exporters; MCA; and MOALI. MOALI staff and VC-RD staff explained that these actors participated in workshops that explored recommendations for strengthening coffee development in Burma. The National Coffee Sector Strategy provides an important source of policy sustainability for VC-RD initiatives in the coffee sector.

Non-government stakeholders have been integrated into sustainability strategies in the melon and sesame value chains through grants, capacity building, mentoring, value chain linkages, and by being provided with standard operating procedures for roles and meetings. Notable successes are MFVP efforts to strengthen the NMC in melon and the SFDA. VC-RD increased participation in the NMC to 2,498 farmer members and 26 township-level clusters and now the NMC is in the process of formally registering as an association. NMC generates funds through annual membership fees of 6,000 MMK per smallholder farmer. Larger farmers make bigger contributions. VC-RD strengthened SFDA so that now it includes 1,650 farmer members, 34 village-level farmer groups, and a township-level committee. SFDA annual membership fees are 600 MMK per farmer. Both SFDA and NMC receive financial and in-kind contributions from input companies to support technology transfer. MNC and SFDA provide an important source of organizational sustainability, which includes structures, extension support, and market linkages. They also provide financial sustainability through their internal funds for VC-RD interventions in melon and sesame.

Relationships have been established between private sector market actors, CBOs, and village producer groups in coffee, ginger, and soybean. For coffee, VC-RD facilitated three processors to build linkages with smallholder farmers in Southern Shan State. They engaged the processors through incentives like training and grants to upgrade their production. In interviews, beneficiaries, the investor, and VC-RD staff said that processors were linked to export markets for specialty coffee and that they are likely to sustain the business model. Three processors mentioned that several buyers who were facilitated by VC-RD through trade fairs and visits have been linked to processors and smallholder producer groups. These buyers are apparently committed to continuing their relationships with the smallholders if the smallholders can continue to deliver high-quality coffee in reasonable volumes.

In soybean, VC-RD engaged some market actors, mainly at the national level. These actors included two processors and four traders involved in value chain activities for high-quality soybean. Because the activities are market-driven, they are likely to be sustainable. Three processors explained that the actors were engaged through grants for technology improvement, training on quality and HACCP, and linkages to smallholder soybean producers. In ginger, VC-RD engaged two processors to establish market-driven linkages with smallholder producers for organic ginger. These processors were engaged through incentives like grants and bank loans, and linkages to smallholder ginger producer groups through tools including Facebook.

In coffee, ginger, and soybean, CBOs have been strengthened through technical training, development of LFAs, and organizational capacity building. CBOs, including MIID in ginger and SARA in sesame, have been awarded grants.

The ginger and soybean value chains lack a strong, functional, sectoral-level body or organization that represents producers. This kind of body could ensure long-term organizational and financial sustainability prospects. MCA is well established in coffee but was perceived by most interviewed beneficiaries as mainly representing the interests of large coffee producers, estates, and exporters. However, since December 2017, MCA has implemented interventions to support smallholders. These included a coffee competition in Pyin Oo Lwin, a coffee producer cluster reorganization, and GAP workshops with DOA for producer clusters.

CONCLUSIONS

The strongest organizational prospects for sustainability appear to be the melon and sesame value chains. A start has been made in the coffee value chain by building on the existing local organization of producers. Their sustainability potential is due to the efforts to strengthen the producer organizations so that they become capable and influential value chain bodies. An additional means of sustainability in sesame would be the WRS, which involves government, investors, banks, SFDA, and farmers. For coffee, vertical links within the value chain have been established to link smallholder producer groups, processors, buyers, and export markets. Although these are likely to be sustainable, they need to be expanded to make the larger-scale impact necessary to improve sustainability prospects. For soybean and ginger, value chain linkages were established between national-level processors, national traders, and producer groups. These are likely to be sustainable but need to be expanded. One expansion possibility lies in engaging local-level traders in value chain activities. The government is gradually being integrated through public-private partnerships in areas such as GAP, seed quality, regulation, and policy. These efforts can lead to long-term sustainability if local partners develop the capacity to manage and continue the relationship.

4.4.3 EQ 4.3: What internal and external threats exist that could impact the sustainability of key interventions beyond the life of activity (e.g., buyer linkages, credit identification, etc.)?

FINDINGS

Internal threats

One internal threat identified by two buyers, the coffee team, and three producer groups is the reliance on VC-RD and Winrock to sustain the value chain linkages and maintain and monitor coffee quality (three KIs and three FGDs). As one coffee buyer said, “[i]f Winrock leaves, you need someone not only with knowledge of the sector and the market but with the right intentions to support the smallholders.” A donor in the ginger value chain also expressed this possibility. Another internal obstacle identified for coffee is that the dried specialty coffee value chain is vulnerable because of its dependency on MCG (three KIs and three FGDs). Two buyers, the VC-RD coffee team, and three producer groups all noted this as a worry.

External threats

Respondents identified a number of external threats. Most melon, sesame, and soybean farmers (16 FGDs) and government staff as well as VC-RD staff interviewed (six KIs) said that extreme weather is a major threat. Farmers and DOA staff (32 FGDs and four KIs) also saw disease and pests as problems for soybean, melon, and sesame—problems that could lead to food safety concerns. The escalation of internal conflict in Burma, which could lead to export market closure, reduced investment, and internal logistical issues, was seen as another threat by most producer groups and VC-RD staff interviewed (31 FGDs and

two Klls). Producer groups and VC-RD staff also mentioned that blockages to the Chinese market could pose a problem to melon and indicated that blockages could stem from a number of things, including internal conflict, extreme weather, and trade blockages (nine FGDs and two Klls).

CONCLUSIONS

The main internal threats are in the coffee sector and include reliance on Winrock to maintain the value chain linkages, monitoring, and product quality. In terms of market linkages, respondents feel there is too much reliance on one market player. External threats identified include extreme weather, disease and pests that may lead to food safety concerns, and the escalation of the internal conflict in Burma.

4.4.4 EQ 4.4: What interventions are at most risk of becoming unsustainable post-VC-RD and what action is Winrock taking to mitigate risks to sustainability (fluctuations in the world price of value chain outputs, etc.)?

FINDINGS

Coffee

In the case of coffee, questions can be raised about whether or not market linkages are sustainable. Winrock facilitates value chain interventions with a heavy touch. These interventions include contacting buyers for the producers, sending samples to buyers, coaching farmers, following up on harvest, and monitoring the harvesting and processing. The sustainability of market linkages is a concern that three trader/processors, VC-RD field staff from Shan, and three producer groups mentioned in interviews. *“The main concern is how the linkage and contacts between international coffee buyers and the groups of producers will stay, after Winrock leaves.”* Winrock plays a key role in linking buyers with producers and is enabling MCG, Lilypad, and Amayar to retain market linkages. Smallholder producer groups lack this capacity and scale; this means they risk becoming reliant on MCG, which exports most of the coffee in Ywangan, especially the dry specialty. Amayar and Lilypad are developing their capacity to export coffee, however.

Another concern mentioned by two lead firms, the IP, and VC-RD’s field staff is how to sustain the quality of coffee (four Klls). One interviewee put it this way, *“Another concern is if village communities of specialty coffee producer groups can maintain the quality and who will be responsible for monitoring this during the process.”* Interviewees from two lead firms indicated that Winrock plays a key role in training and coaching producers groups, and in monitoring coffee processing to ensure quality. VC-RD’s head office and field office staff confirmed that to mitigate the possibility of a quality decline when Winrock can no longer perform those functions, VC-RD had identified and trained several youth volunteers in the villages. These trained youths created a pool of extension workers who can pursue employment post-project by offering their services to producer groups and processors. VC-RD staff also noted that Winrock supports both village volunteer agents being trained and LFAs becoming private extension agents.

Another key risk, which bears repeating, is the problematic period between harvest and receipt of the final payment for dry-processed and exported coffee. Producers and producer groups need cash, and often cannot comfortably wait for that final installment. Access to funds depends on the finance sector—where change may not be possible—and on organization among coffee producers. Organized producers have more potential to access loans. VC-RD is taking remedial action to facilitate this, according to staff interviewed, but organization is not systematic and the results of these early stages of organization are not clear.

For most groups, the organization among producers is still very weak, yet it is critical for sustainability. The IP mentions that *“community groups are not yet functioning independently, they rely on their leader only. If absent, nobody takes its role.”* However, Mya Ze Di is one example of an organization that has been around for a long time and is, according to Amayar, functioning quite well.

One processor said, *“you need someone not only with knowledge of the sector and the market, but with the right intentions to support the smallholders to fill the gap between producers and market actors.”* MCG, the largest processor, advised, *“farmers need representation, organization among all the 27 villages together.”* Three traders/processors and the IP expressed the view that, because MCA aligns its interests with those of MCG and larger estate owners, it is not strategically interested in smallholders. However, given recent interventions to support smallholders (as reported in EQ 4.2), this may change. VC-RD is working toward building organizations; however, until now, they have focused on the producer group level, which seems

insufficient. The Winrock coffee team sees potential in the coffee cluster, which is informally organized but is in the process of being formalized. VC-RD is providing them capacity building support and, after encouragement from the Rabobank foundation, Progreso, began providing long-term capacity building support to the Ywangan special coffee producers association.

Soybean

According to beneficiaries in two FGDs, the main risk to successfully sustaining the innovations introduced is that high-quality seeds sold locally receive a substantially lower price than those sold in Yangon, which results in a limited net financial gain for producers. Two traders and one CBO who were interviewed said they were afraid that the innovations in the soybean value chain will stop after Winrock leaves. As one CBO put it, *“after Winrock finishes, the program will stop. Farmers follow the direction Winrock gives, they don’t lead by themselves. The lead farmers don’t lead. It will stop.”*

Maintaining quality soybean production post-project is not guaranteed. Because producers are not organized, it is not clear who will train and coach the producers or control the quality so that high-quality soybeans continue being provided. Two KIs held with VC-RD staff brought to light the fact that the Winrock soybean team focuses on LFAs starting as private entrepreneurs who provide advice or hire themselves out to enterprises. The team finds building LFA capacity in networking, knowledge-sharing, finding market information, entrepreneurship, and developing a local network challenging. To sustain extension services, the LFAs themselves are starting enterprises to supply inputs such as Bokashi does with EM. VC-RD staff noted that LFAs from the soybean team are preparing a grant proposal to secure funding to start an extension network.

As mentioned in the findings for EQ 1.2, strengthened producers’ organizations are important to develop capacity, including knowledge building, quality standards, economies of scale, and market relations, all of which will allow actors to continue value chain behavior, create sustainable impacts, and facilitate further changes.

Ginger

Beneficiaries from four producer groups interviewed stated that the current difference in gross margin between organic or herbicide-/pesticide-free ginger and conventional ginger production is small. Supplying ginger to value-added products, such as the new oil mill, might change this discrepancy.

Currently, market linkages and contacts are not yet well established. In fact, according to three traders and DOA staff interviewed, the existing conventional ginger value chain actors at the local level, such as local traders, are not involved. VC-RD developed production but has not developed the market, which opens the possibility of losing producers. Producers’ capacity, in organization and market linking, has not been developed, and this makes the organic ginger value chain too dependent on VC-RD.

Sesame

In sesame, the main risk is the lack of developed, tangible end markets. Farmers from all four producer groups interviewed noted that there were limited results in market systems development. VC-RD is working on establishing a WRS involving an investor, a warehouse operator, and the SFDA. This is a promising initiative, which has the potential to address this risk and increase opportunities for sustainable impact.

Melon

In melon, the availability of quality seed was an issue for 76 percent of respondents in the MFVP Melon Value Chain Assessment Report, 2016. This remains the main risk to sustainability because a regulated seed market is still lacking, and all beneficiary farmers interviewed mentioned a continued reliance on Chinese seed suppliers (10 FGDs). VC-RD’s efforts to address this through MFVP, such as the melon seed forum, did not appear to have the desired impact because there was no tangible follow-up action. This was noted as a problem by all the melon primary beneficiaries interviewed. Melon beneficiaries from seven producer groups added that the grading system facilitated by VC-RD, through MFVP, has not had a major impact because it took too long for relevant value chain actors to adopt the system.

Access to finance in all value chains

One of the biggest challenges for developing the agriculture sector and broadening Burma's private sector is access to finance. Finance is needed for everything from inputs to maintenance, wages, processing, and technology upgrades. Most producer groups interviewed (15 FGDs with a total of 90 participants) saw finance as a problem; however, this is a wide, systemic issue caused by a number of factors. Central Bank regulations limit banks' ability to lend without very stringent collateral criteria such as gold or prime real estate. These kinds of collateral are not available for most SMEs in Burma's agriculture sector. Furthermore, most SMEs and smallholders in Myanmar have traditionally lacked information such as documented sales history and knowledge to improve markets. Several donors have tried to address the finance issue over the years.

VC-RD has facilitated a number of loans for value chain actors in coffee, soybean, ginger, sesame, and melon working directly with financial institutions. Different models were applied to provide collateral, such as export orders or trade finance, machinery, and guarantees from entities such as Rabobank. Staff from two of the banks interviewed said that these interventions are likely to continue on a case-by-case basis. VC-RD is collaborating with financial institutions to enable access to market pricing information which can facilitate decision-making on loans. The coffee value chain has three years of export pricing information and is thus in a position to benefit from informed decision-making regarding loans.

SMEs can get loans from MFIs, who lawfully cannot take collateral. MFIs can give small loans, though, a maximum 10 million MMK (US\$7,500). According to the staff of two local banks, the amount limit was 5 million MMK (US\$3,750) in 2017. One respondent mentioned that the regulatory department within the Ministry of Planning and Finance has informally said that MFIs can raise their ceiling to 20 million MMK (US\$16,000). When this is formally approved, VC-RD staff say that it will be a great help.

CONCLUSIONS

Some interventions are at risk of becoming unsustainable post-VC-RD. In coffee, Winrock's heavy-handed role is a potential threat to the sustainability of market linkages, extension services, and the quality-assurance process. The long payment timeline is another threat to the dry-processed coffee being sustained. Other risks include weak producer organizations and the lack of a sector-level organization or body to take the lead. In ginger and soybean, risks to intervention sustainability include the differences in low gross margin for new products and weak producer organizations. For sesame, no tangible markets have been developed, although the WRS is promising. In melon, the main risk to sustainability is the lack of a regulated seed market. In agriculture, generally, access to finance is a major threat to intervention sustainability, one which remains a broader systemic issue, beyond the scope of VC-RD, caused by external factors, including the regulatory environment.

4.4.5 Recommendations to improve sustainability prospects of VC-RD (EQ CLUSTER #4)

This financial year, VC-RD should develop a comprehensive sustainability or exit strategy, which should involve a participatory approach. All key members of the VC-RD team and partners should be involved, and the development session should be facilitated by an external expert or volunteer. When VC-RD implements new activities, they should include sustainability as a prominent feature.

In extension, VC-RD should carefully study which innovations are technically, physically, and economically feasible. VC-RD should consult and communicate more with producers and discuss concerns and possible solutions with them. The ET recommends VC-RD study and facilitate some extension service models to ensure their continuation. Feasibility can differ per value chain/product and per region. In terms of models for extension services, several options should be explored including the following:

- LFAs can be hired by processors or buyers. Input providers want to see that their inputs increase their clients' productivity. Processors and buyers want a good quality product that suits their end market needs, and they prefer to invest in long-term relationships. These relationships profit both the producer and the processor or buyer. To fulfil these requirements, the private sector actors (input providers, processors, and buyers) provide extension services through specialists. This model can be facilitated in VC-RD market systems where quality standards are requested and paid for by end markets such as for organic ginger, pesticide- and herbicide-free ginger, and dried specialty coffee and any other products for which quality standards are required.

- LFAs can be hired by organized producer groups or producer organizations such as NMC and SFDA for melon and sesame, respectively. Such producer groups can be facilitated to establish extension services for the specific tasks or products their members want. They provide independent and objective advice, which can be paid for out of membership revenue or provided as a fee-based service for members.
- LFAs can be hired by CBOs such as Shwe Danu and supported by the income of the members, or they can sell services as an extension package to producers. CBOs often struggle to have a sustainable source of income to cover their operating costs. This model may not be sustainable unless the CBOs are strengthened.
- The present LFAs could be facilitated by VC-RD and its IPs to create enterprises to supply village- and township-level extension services. When these enterprises also provide inputs such as EM Bokashi for composting and neem oil as a natural pesticide, the scope of services provided should be sufficient for a viable business model by the LFAs. For example, LFAs from the soybean team are preparing a proposal to secure a grant to start an extension network, which is a viable model seen in other countries. If the value chain creates enough revenue, making such investments in extension services is feasible.

At present, the range of private sector actors facilitating value chain and market systems approaches is narrow. It is recommended to include a wider range of actors. This would create a broader base in the local private sector for innovations and raise the potential for sustainability and impact. Further details are provided below:

- VC-RD should facilitate activities for processors and producers of wet-processed coffee, which accounts for about 95 percent of the total Burmese coffee production. These activities should include measures that limit water use and address potential pollution and should build on the successes of processors such as MCG and Lilypad.
- The soybean value chain includes local traders. They play a useful role in centralizing necessary actions such as sorting, storage, transport, relating to processors, and coordinating product flows. In the value chain activities VC-RD developed, producer groups take over these roles, which leads to extra costs and, in the end, consumes extra income. VC-RD should look into ways to broaden the basis of value chain linkages with the existing local traders. They could follow the example of the trader in Taunggyi who purchased a dryer through a service agreement and can now pay more producers. If traders use price differentiation for high-quality soybeans that are ready to be used by processors, local producers can adapt to the market and save extra costs—although prices will be lower than if the product was delivered directly to Yangon. When these changes are embedded in the local chains, they will probably be more sustainable. Winrock needs to look into the possibility of facilitating negotiations between processors, local traders, and producers in soybean, as they do in other value chains.
- In ginger, value chain linkages to local traders should be broadened. Other opportunities can also be explored; possibilities include developing an international market for organic ginger and setting up more facilities in Southern Shan for washing fresh, herbicide-free ginger aimed at the international market. Priority should be given to aligning supply and demand for organic ginger.

One of the critical measures necessary for addressing these factors is strengthening the producer groups in coffee, soybean, and ginger, and facilitating a lighter touch in value chain interventions by building capacity. This will then lead to a more sustainable impact. VC-RD's success in strengthening producer groups in melon and sesame can serve as a reference. Producer groups or producer organizations should be further capacitated to facilitate access for producers to technologies such as moisture meters, NPK soil test kits, and packaging to improve productivity levels.

For sesame, efforts to establish the WRS should continue and possibly be accelerated. The WRS concept should be explored for other value chains like melon, coffee, and ginger and facilitated based on feasibility.

For melon, NMC and MFVP can be further empowered to lobby the government to regulate melon seeds and regulate illegal Chinese melon farmers who operate in Burma. With the opening up of trade in the Association of Southeast Asian Nations (ASEAN) region, other viable regional markets can be explored.

For access to finance, VC-RD should cooperate more with USAID private sector development programs. Together, they could train smaller value chain actors and producer groups, and coach financial actors to

provide a range of services suited to Burma's agriculture needs and context. However, access to finance remains a broader systemic issue due to a number of external factors beyond the scope of VC-RD, including the regulatory environment.

4.5 EQ CLUSTER #5: GIVEN THE LESSONS LEARNED, WHAT CONSIDERATIONS SHOULD USAID/BURMA TAKE INTO ACCOUNT IN FUTURE DESIGN OF AGRICULTURE/ECONOMIC GROWTH ACTIVITIES?

4.5.1 EQ 5.1: How might USAID/Burma better structure its future interventions to address cross-market systematic constraints?

FINDINGS

Strong public-private partnerships can play a major role in addressing cross-market, systematic constraints, and achieving the objectives of agriculture/economic initiatives such as VC-RD. According to KIIs with three donors and VC-RD staff interviewed, government actors at the regional level can facilitate infrastructure development and promote investment opportunities. Experience from the public-private partnership established for the WRS can serve as a valuable lesson for future interventions.

VC-RD provides a number of lessons for the development of effective producer organizations. The successes in melon and sesame (NMC and SFDA) and the gaps in coffee, soybean, and ginger should be considered when designing future interventions. This includes the strengthening of producer organizations to create impact on the right scale at the producer, village, township, and sectoral levels. Such producer organizations should play an important role in facilitating value chain relationships and improving access to services and technology. Strong producer organizations can also facilitate the establishment of public-private partnerships to address critical issues for their members covering areas such as investment in public infrastructure, packaging, cold storage and other logistical infrastructure, seed banks, services for export, priority research (e.g., disease control, seed management, and packaging), and the regulation for quality of inputs.

Setting up sector-wide producer organizations in soybean and ginger was not undertaken and, in coffee, is just starting. The strengthening of producer organizations, in addition to working closely with the private sector, is necessary to get balanced development and achieve sustainability.

Financial services in rural areas to complement agriculture/economic growth activities are necessary to ensure sustainability.

CONCLUSIONS

Strong producer organizations are needed, next to private sector enterprises, for managing value chain relationships, technology transfer, and extension efforts and, therefore, ensuring systemic and sustainable changes. More can be done to engage MFIs and banks. USAID might take a role in supporting the development of MFIs and banks and their services in rural areas, complementing agriculture/economic growth activities. This support might take the form of establishing revolving loan funds to MFIs or banks for specific services, as noted by two donors interviewed, training MFIs and banks in establishing agricultural credit services, facilitating pilot involvement of social lenders including crowd funding and lobbying, and coaching financial authorities to adapt finance regulations to enable agricultural finance.

4.5.2 EQ 5.2: What level of facilitation, “heavy to light-touch” is realistic in Burma's agriculture sector?

FINDINGS

The majority of key informants who answered this question, including processors, traders, CBOs, donors, and government, suggested that a light touch is more realistic and will ultimately improve the prospects for market-led impact and sustainability in the value chains. Over 15 KII respondents, including donors, service providers, IPs, traders, processors, and regional DOA staff, recommended that private sector actors, such as processors and CBOs, should take the lead in facilitating further value chain behavior and market efficiencies with producers. The interventions should focus on identifying a critical mass of capable value chain actors who, in turn, can be supported to catalyze the change among producers. According to these respondents, the heavy touch does not allow for reaching all farmers and reduces the investment potential from private sector.

“The farmers could be assisted to improve their production approach. However, if the market is not developed then the produce will have no demand and farmers will not get paid. In my opinion, only 25 percent of assistance should be go to the farmers. The balance, 75 percent, should go to the value chain players to develop the market.” – Regional Government

“It all starts with the root, the crop. Farmers need good quality input, seeds, capital, and knowledge. Interventions should target these areas, but this can be undertaken through intermediaries like processors.” – Bank

“It should be light-touch. Working with the farmers directly does not solve the problems. Our project involves farmers, traders, and the investor. This is more impactful and sustainable.” – Bank

Farmers from 11 producer groups answered this question and indicated their preference for a light touch approach.

“Light touch is most important. If we have guaranteed or stable markets for our products, we can undertake the necessary production improvements.” – Melon Farmers

“Light touch is more important to get better market access.” – Sesame Farmers

CONCLUSIONS

The majority of informants who answered this question indicated that a light touch is preferable. It provides greater opportunities for impact and sustainability through an inclusive market-driven approach. It could also address wider systemic constraints such as access to finance. Surprisingly, the majority of farmers who answered this question preferred a light touch approach. They were of the opinion that they could produce to meet market demands if a robust market was facilitated by relevant value chain actors.

4.5.3 Recommendations for future agriculture/economic growth activities (EQ CLUSTER #5)

- Through public-private partnerships, Burma’s government should be encouraged and supported to play its role in regulating important areas such as seed quality and trade practices.
- Government, in tandem with the private sector and CBOs, should be facilitated by key value chain actors to develop viable and sustainable models for agriculture extension services, which provide better reach and access.
- Lessons learned from the establishment and facilitation of VC-RD value chains should be captured in the form of a guideline for the development of agriculture value chains that can be used by development partners, NGOs, and government. These lessons can serve as a resource for future value chain interventions.
- The reform process of the Central Bank needs support through dialogue, public-private partnerships, and capacity building to facilitate a finance model that is conducive to private sector development and investment.
- Future interventions should consider capacity building for MOALI to support its reform process, including capacity building for development of a Policy Division and Monitoring and Evaluation Division.
- Future value chain interventions should not only ensure the involvement of some lead firms (that are good for a first pilot phase) but also be inclusive. They should engage a range of actors in the private sector, ensuring that lead firms really lead and are followed by sufficient other private actors. This will enable change along the entire value chain, not only in the places where a project is active and make change sustainable and the value chain more inclusive and resilient. Value chains should include local actors such as regional traders, processors, and entrepreneurs to become truly inclusive and provide choices to producers. Using the existing local entrepreneurship for strengthening innovation and increasing youth participation in agriculture is advised.
- Value chain interventions should also consider different production processes and products with potential within a value chain (e.g., washed coffee, fresh ginger) or other crops important to beneficiaries in their cropping system (e.g., turmeric, garlic, maize, chilies), which they come across in addition to the chosen priority crop. The incentives in different product value chains can sometimes be taken together, where different products together add up for farm profitability. This, on one hand, uses the services of an action more effectively and, on the other hand, provides

producers—who depend on annual changes to weather and markets—more flexibility. This approach would leverage the flexibility present in the market system and raises its resilience towards shocks. It offers the possibility and the flexibility to learn and shift attention to the product or commodity which proves to be the most promising in a certain context.

- The successes from VC-RD should be adopted in livelihood components of other USAID activities, for example in political economy.
- Future interventions should consider broadening their awareness activities to female and child household members to cover critical topics such as pesticide and chemical safety (building on the knowledge from VC-RD), a more comprehensive outlook on nutrition (including the dispelling of certain cultural myths), and hygiene and sanitation according to KII with donors.
- Education can also play a role in addressing labor shortages. Interventions can support the development of programs for formal (secondary) and informal education focusing on agriculture and addressing the increasing migration trends of youth. These can cover the important role that agriculture plays (in the economy and society, including nutrition and environment), the use of technology in agriculture, and potential financially lucrative businesses, such as seed farms, indigenous technology innovations, extension support, and indigenous input supply.
- It is also important that social and cultural assessments are undertaken to ensure initiatives are optimally aligned with the local cultural and social sensitivities.

ANNEXES

ANNEX A: EXPRESSION OF INTEREST



PEEL TASK ORDER

EXPRESSION OF INTEREST – PERFORMANCE EVALUATION

I. BACKGROUND INFORMATION

A) Identifying Information

1. Activity/Project Name	Value Chains for Rural Development (VC-RD)
2. Award Number	Associate Award No. AID-482-LA-14-00004 Under LWA Cooperative Agreement No. AID-OAA-L-13-00006
3. Award date	September 22, 2014 to September 21, 2019
4. Project/Activity funding	US \$27,000,000
5. Implementing organization	Winrock International Institute for Agricultural Development
6. Project/Activity A/COR	Khun Thein Soe (Primary AOR) Daniel Swift (Alternate AOR)

B) Development Context

I. Problem or Opportunity Addressed by the Project/Activity Being Evaluated

In November 2015, the people of Burma overwhelmingly voted for *political* change. Now, with the new government having assumed leadership in March 2016, the people of Burma hold high expectations for a better *economic* future as well. After decades of isolation, endemic corruption, and persistent poverty for many, meaningful social progress requires that political and economic liberalization go hand in hand.

The new government will have to show tangible results in the lives of everyday people to reinforce recent democratic gains and the peace process. The Asian Miracle⁹ clearly teaches us that development of the agri-food sector is the fastest and surest way to lift people out of poverty and build a foundation for sustained growth. Recognizing this fact, the new government has prioritized agricultural growth as the government's key economic priority.

To help this new government deliver, USAID/Burma needs to make intelligent investments and management our investments (activities) effectively to maximize the economic and political impacts of our assistance.

As the promise of the November 2015 elections takes form in a new government and parliament, people throughout Burma are eager to see improvements in their daily lives. This is particularly true of Burma's rural sector, where seven of every ten people live and where the majority of people in poverty reside. Over half of Burma's people are employed in agriculture, producing food for themselves, their communities, and for sale. Many in rural areas—often without their own land—also work hard in rural non-farm enterprises delivering farm inputs and other goods to rural markets, transporting produce to markets, processing foods, and providing needed services. Others may migrate in search of work in Burma's cities or abroad.

⁹ Refers to the economies of Hong Kong, Singapore, South Korea, and Taiwan, which underwent rapid sustained growth. Their growth was attributed to strong export-oriented and development policies, including development of the agriculture and food processing industries.

Burma sits in the most economically dynamic region in the world yet has among the highest rates of malnourished people. Burma's Asian neighbors have shown that investing in rural infrastructure and establishing policies to encourage their farmers to produce products that meet market needs unleashes a virtuous circle of growth among farmers, food processors, and service providers who are linked to growing urban centers and export markets. Raising productivity and diversifying from low-value grains into high-value meats, oilseeds, pulses, horticulture, and aquaculture stabilizes prices for increasingly urban consumers, raises incomes for rural areas, and strengthens competitiveness in regional and global markets. In Asia, it has helped raise millions of rural people out of hunger and poverty.

On September 22, 2014, the United States Agency for International Development in Burma (USAID/Burma) awarded Winrock International a Cooperative Agreement for the Value Chains for Rural Development (VC-RD) activity. The Agreement has a budget ceiling of 27 million USD and is part of the Global Presidential Initiative, Feed the Future (FTF). The project is implemented in collaboration with sub-awardees, Internews and the Coffee Quality Institute (CQI), and through Innovative Grants or other agreements with 10 local partner organizations and/or private sector enterprises. The Activity also includes a cross-cutting communication component to build capacity of agriculture producers. This has included engaging sub-awardee, Internews, to design and launch a new agriculture and market information radio show.

2. Target Areas and Groups

VC-RD follows a value chain approach to identify farmers' constraints, prioritize activities, and improve smallholder agriculture productivity and access to markets. Interventions in productivity focus on enhancing availability and accessibility of agricultural technologies including inputs, strengthening producer groups and organizations, and improving access to quality extension and advisory services. Interventions under market access focus on understanding the dynamics of selected value chains through analysis and competitiveness strategy development, using lead firms where possible and strengthening efforts that support value chain upgrading and investment.

At the Activity's mid-point, work has targeted smallholder producers, with an emphasis on female producers, working in five distinct value chains. In the Activity's first year, Winrock began work with producers in the coffee (Ywangan Township in southern Shan State) and soybean value chains (also in Shan State). In the second year, in accordance with its cooperative agreement, VC-RD expanded its geographical coverage to include smallholders in the Dry Zone in addition to Southern Shan State, and also added three value chains—ginger (Shan), sesame (Magway), and melon (Mandalay and Sagaing). A full list of the Activity's geographic scope is included in Annex I.

In addition to work in the selected value chains, the Activity employs an "Innovative Grant" component to foster links between community groups and the private sector to increase productivity and market access. The grants are also used to help high-performing producer groups develop member services that will generate a stream of revenues to sustain operations and allow them to continue services beyond the project.

C) Intended Results of the Project/Activity Being Evaluated

Value Chains for Rural Development (VC-RD) is based on the hypothesis that agricultural growth will increase stabilization and long-term reform only if all actors in the value chain have the opportunity to benefit from growth. Achieving this goal requires that smallholder producers enhance their productivity, have better market access, and be fully integrated into value chains through strong, equitable linkages with input suppliers, buyers and traders, and processors.

VC-RD's results framework was revised from the original concept and now works towards two intermediate results: 1) Agricultural Productivity Improved; and 2) Market Access and Trade Increased.

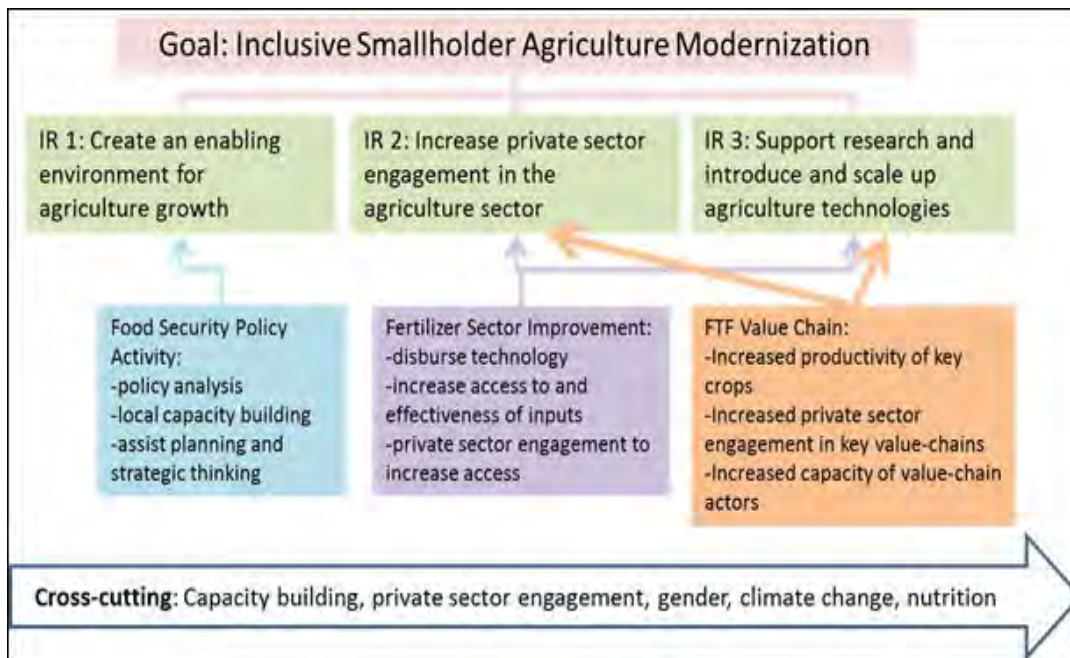
D) Approach and Implementation

The overall goal of VC-RD is to sustainably reduce poverty and hunger in Burma by improving smallholder productivity and profitability, strengthening value chain linkages and competitiveness, and increasing private sector engagement to support value chain upgrading. To achieve this, VC-RD engages important international and local partners to provide training and extension services to the five targeted value chains: coffee, sesame, melon, ginger, and soybean. VC-RD is organized into specific value chain teams with support from senior team leaders and technical staff. This approach allows the project to achieve inclusive agricultural growth by identifying value chain-specific constraints and market-based solutions.

VC-RD interventions are designed to improve yields and/or improve product quality across the value chains; these include introducing new varieties of improved seeds, introduction of improved processing

equipment, new cultivation techniques such as contour planting, soil fertility testing, and improved fertilization techniques. Each of these interventions has been specifically designed for the value chains to meet the needs of farmers based on crop type, geography, weather/season, and market demand. Because value chains reside within varying farming systems, interventions often impact multiple crops and multiple stakeholders.

VC-RD specifically contributes to USAID's Agricultural Project Intermediate Result (IR) 2 and IR 3 as well as to USAID's cross cutting objectives as illustrated below.



II. EVALUATION RATIONALE

A) Evaluation Purpose

The purpose of this evaluation is to: 1) assess Activity-level progress towards intended goals and objectives, including cross-cutting objectives such as gender integration; 2) review Activity successes and challenges to date to inform program decisions; 3) review progress against the Activity's Exit Strategy; and 4) provide recommendations to ensure intended goals and objectives are met by the end of project.

B) Audience and Intended Uses

The primary audience for this evaluation is USAID/Burma, specifically the Economic Growth Office. The evaluation results will be used to refocus, as needed, the Activity's interventions to increase overall results and impact, to provide empirical basis for the development of the Project Appraisal Document (PAD) of the Economic Growth portfolio, and to inform future programming. USAID will also use this analysis for the development of the first USAID Country Development and Cooperation Strategy in Burma, and potentially a new strategy for the Feed the Future (FTF) initiative in the country. In accordance with [AIDAR 752.7005](#), the contractor will make the final evaluation reports publicly available through the Development Experience Clearinghouse within 30 calendar days of final approval of the formatted report.

C) Evaluation Questions

1. To what extent is VC-RD meeting overall intended goals and objectives?

- What successes or results towards meeting intended goals and objectives has the activity achieved? What are the key factors driving identified success?
- What challenges towards meeting intended goals, objectives, and results have been faced? How has the implementer dealt with those challenges?

2. How are VC-RD's cross-cutting sector approaches contributing to results?

- To what extent is the activity incorporating cross-cutting objectives and considerations into value chain interventions? Where are there gaps?
- Is the gender integration approach being executed such that both married and unmarried women benefit from activity interventions (potentially through distinct channels)?

- What impact has the Gender Equality in Value Chains trainings had on gender outcomes or perceptions?

3. *How effectively is Winrock implementing and managing VC-RD interventions?*

- To what extent have interventions deviated from the original scope?
- How have value chains been identified and what criteria have informed selection?
- How has Winrock selected community and private sector grantees as recipients of VC-RD assistance?
- To what extent are standard operating procedures in place and being followed to monitor results of sub-partners and grantees?

4. *To what extent are current VC-RD interventions sustainable beyond the life of project?*

- To what extent is Winrock engaging and incentivizing market actors to take ownership and build sustainable relationships with smallholder farmers?
- How is VC-RD engaging or incorporating government, non-government, and private sector counterparts in long-term sustainability strategies for interventions?
- What internal and external threats exist that could impact the sustainability of key interventions beyond the life of project (e.g., buyer linkages, credit identification, etc.)?
- What interventions are at most risk of becoming unsustainable post-VC-RD and what action is Winrock taking to mitigate risks to sustainability (fluctuations in the world price of value chain outputs, etc.)?

5. *What lessons learned can be adapted to ensure intended goals and objectives of the activity are met by the end of project?*

- How can Winrock improve its implementation and management approach to ensure progress towards achieving results?
- How can VC-RD more effectively integrate cross-cutting sectors and gender considerations into interventions?
- What considerations should USAID/Burma take into account in future design of agriculture/economic growth activities?

III. TIMEFRAME & TRAVEL

A) Timeframe

USAID/Burma expects this evaluation to be completed with an approved final report no later than September 1, 2017. Field work needs to be completed in May and June to avoid the monsoon season which starts in July. Project participants are also accessible in May and June.

B) Travel

International and local travel is expected of the evaluation team. Local travel will include project site visits in the locations noted below. Approximate days to be spent in the in-country location has been estimated. Travel between Yangon and Shan, Shan and Mandalay, and Magway and Yangon will be done by air. Vehicles can be used between Mandalay, Sagaing, Magway, and project sites within Shan State.

- Yangon – Administrative Planning/USAID meetings – 5 days
- Shan State – Coffee, Soybean, Ginger – 10 days
- Mandalay – Melon – 3 days
- Sagaing – Melon – 2 days
- Magway – Sesame – 3 days

IV. DELIVERABLES & SOURCES

A) Deliverables

Please see Section F. 7 of the PEEL contract.

B) Sources of Information

The evaluation team will be responsible for proposing an appropriate evaluation design and data collection methods. It is recommended that proposed data collection methods consider the following:

- Reports
 - o VC-RD annual progress reports

- o VC-RD quarterly progress reports
- o Sub-awardee reports
- o From Rice Bowl to Bread Basket, <http://www.lift-fund.org/sites/liftfund.org/files/publication/Myanmar%20Agricultural%20Reform%20White%20Paper.pdf>
- o Paddy to Plate, <http://www.studiodravidurans.com/paddy-to-plate-report/>
- o Thematic studies
- Interviews
 - o Beneficiary focus group interviews
 - o Winrock staff
 - o Sub-awardee staff
 - o Grantee staff
 - o USAID staff
 - o Staff of other related USAID and non-USAID activities
 - o Government officials

V. TEAM COMPOSITION

USAID recommends a four or five-person team; however, other team compositions will be considered with clear justification of how they will produce the deliverables listed in Section VI. Single team members can fulfill more than one role if they meet the necessary requirements.

1. **Team Leader/Evaluation Specialist:** At a minimum, the individual should hold a Master's degree with at least five years of experience conducting large performance evaluations. The candidate should also have excellent writing skills with strong managerial skills. USAID experience is required, with international experience in South East Asia preferred. S/he will guide the evaluation team and ensure all tasks listed in the SOW are completed within the set timeframes. The team leader will be responsible for all deliverables and will present the draft and final reports. S/he will take the lead in explaining the evaluation process to the team members and ensuring they understand their roles and responsibilities, and how to properly record and describe data for the evaluation.
2. **Agriculture/Value Chain Specialist:** The individual should hold a Master's Degree with over five years' experience promoting agricultural value chains, preferably coffee, soybean, ginger, sesame, and/or horticulture commodities. Experience in South East Asia, preferably Burma, required. S/he will be responsible for ensuring technically precise information and analysis throughout the planning, data gathering, and reporting processes. S/he will ensure that the data gathered adequately addresses the agriculture and value chain aspects required in the evaluation design. S/he will take the lead in explaining all agriculture and value chain processes to the team members and ensuring they understand how these processes and their relation to the evaluation.
3. **Agriculture Specialist (local position):** The individual should hold a Bachelor's Degree with at least five years' experience promoting agriculture development in Southeast Asia, preferably in the coffee, soybean, ginger, sesame, and/or horticulture sector. The individual should bring excellent knowledge of Burma. Local language skills preferred. English proficiency a must. S/he will be responsible for coordinating with local agriculture producers and relaying the information provided to team members; being certain to explain the location and culture specific aspects of the evaluated areas and products.

In addition to the positions above, the following requirements need to be met by the evaluation team. If no member of the evaluation team has the required expertise, then a separate specialist should be added to cover the deficiency.

- **Gender:** Inclusion of gender equity/integration in Southeast Asia, specifically in the Burmese context. S/he is responsible for: explaining and integrating the unique gender-related issues associated with the project to team members, interviewees and USAID; ensuring gender is appropriately expressed and recorded in the evaluation; and helping to shape any evaluation questions, reporting, and recommendations. If additional person is required, s/he should hold a Bachelor's Degree with at least five years' experience promoting gender equity/integration in Southeast Asia. The individual should bring excellent knowledge of Burma. Local language skills preferred. English language proficiency a must.

- **Logistics:** Ability to arrange travel, visa approvals, rental cars, domestic travel, hotels, meeting arrangements, and any other logistical needs during the evaluation team's time in Myanmar. If additional person is required, s/he should have experience working in the international development context. Burmese language a must.

All team members will be required to provide a signed statement attesting to a lack of conflict of interest or describing any existing conflict of interest. The evaluation team shall also demonstrate familiarity with USAID's evaluation policies and guidance included in the USAID Automated Directive System (ADS) in Chapter 200. The VC-RD COR may observe some of the data collection efforts. Team Leader will provide brief progress reports to USAID upon request throughout the evaluation process; progress reports can be in person, over the phone or through electronic mail.

VI. SUGGESTED LOE

LOE for the evaluation should not exceed a total of **360 days**. A table of expected LOE by evaluation team member is presented below.

Position	LOE (in days)
Team Leader – Evaluation Specialist	120
Agriculture Sector Specialist	120
Agriculture Specialist (local hire)	40
Gender Specialist (local hire)	40
Local Logistics/Program Specialist	40

ANNEX B: DOCUMENTS REVIEWED

Agro-Input Supply Sector Review with Focus on Southern Shan State, 2015 VC-RD, Rouja Johnstone

Baseline Gross Margin Per Hectare Coffee Soybean, Baseline, Final Report 2015, TNS

CIA World Fact Book 2017

Coffee Report, 2017, Kantar TNS

Coffee Sales Data Transaction 180205, VC-RD

Feed the Future Indicator Handbook, 2016

Final AAC, Attachment B – Program Description Value Chains for Rural Development (VC-RD), 2014 VC-RD FY 15 Q1 Progress Report Approved Internal Version

Ginger Report, Annual Beneficiaries Survey, 2017, Kantar TNS

Ginger Report, Baseline, 2016, TNS

Ginger Value Chain Assessment Summary, 2016, VC-RD

IM Performance Narrative Template (FY2017 Reporting): 2017 VC-RD Program

Kantar TNS Annual Beneficiaries Survey for VC-RD Value Chains (Melon, Coffee, Sesame, Ginger, Soybean)

LIFT Uplands Programme: Scoping Assessment Report 2014, UNOPS-LIFT

MEL Improvement Plan Version 1.0-1, January 2018, VC-RD

Myanmar Arabica Value Chain Analysis, 2015, VC-RD

Myanmar Fertilizer Policy Evaluation, 2014, IFDC

Myanmar Ginger Competitiveness Analysis January 2017, Part 1, VC-RD

MYANMAR: NAPA, W P 1: Crop production, extension and applied research, FAO/LIFT/MOALI, 2016

MYANMAR: National Action Plan for Agriculture (NAPA); Working Paper 10: Land Tenure and Administration, FAO/LIFT/MOALI, 2016

New Tech; Adoption Data 2017 (Soybean TT), VC-RD

Purseglove, J.W. (1982) Tropical Crops, Longman, John Wiley and Sons Inc., New York.

Soybean Report, Annual Beneficiaries Survey, 2017, Kantar TNS

Soybean Second Year Report, Community Follow-Up Survey, 2015, TNS

Understanding Myanmar's Agricultural Market Information Systems: A Landscape Assessment

Value Chains Assessment Report: Soybeans – Southern Shan, Baseline, 2015, VC-RD Project

VC-RD FY 15 Q2 Progress Report Final Approved Public

VC-RD FY 15 Q3 Progress Report Final

VC-RD FY 16 Q1 Progress Report Final Revised 2 8 16

VC-RD FY 16 Q2 Progress Report Revised Final

VC-RD FY 16 Q3 Progress Report Revised approved September 2016

VC-RD Modification of Assistance Two

VC-RD_Q1_FY 2017 Progress Report Final Approved February 17, 2017

VC-RD_Q2_FY 2017 Progress Report Version April 29, 2017 Approved

VC-RD_Q3_FY 2017 Progress Report Annex C Summary of Grants

VC-RD_Q3_FY 2017 Progress Report Final Version August 2017

VC-RD_Y2_FY 2016 Annual Report Final

VCRD FTFMS Version 2.6 January 5, 2018, VC-RD Program

VCRD FY 2015 Annual Report Final Revised and Approved Public

Year 2 (FY 2016) Annual Report, 2016, USAID/Burma's VC-RD Program, Winrock International

Year 3 (FY 2017) Annual Report, 2017, USAID/Burma's VC-RD Program, Winrock International

Year 3 (FY 2017) Quarter Two Progress Report, USAID/Burma's VC-RD Program, Winrock International

Year 3 Work Plan, Revised 11 7 16, VC-RD Program

<http://www.worldbank.org/en/country/myanmar>

<https://data.worldbank.org/country/myanmar>

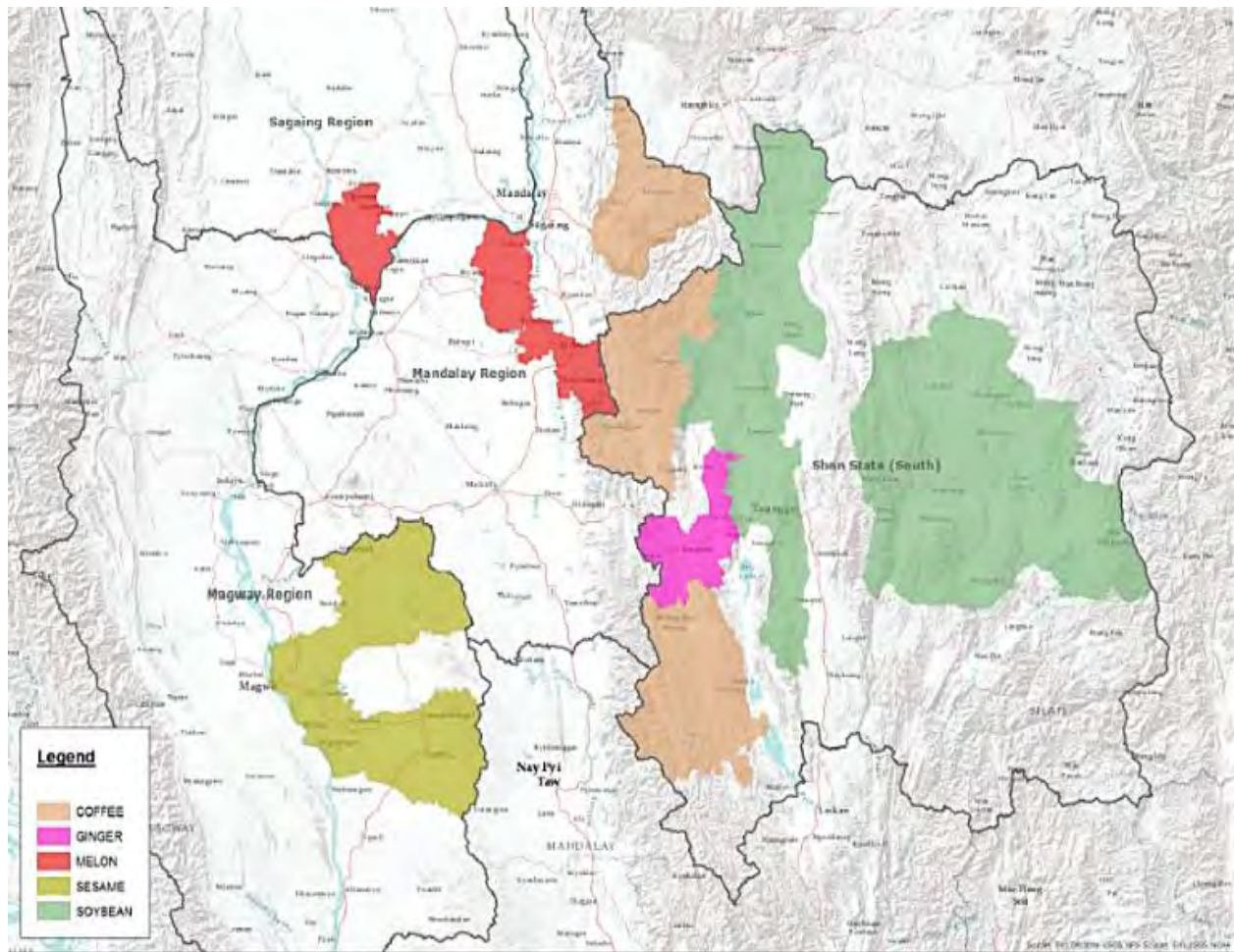
ANNEX C: METADATA

VR-CD Burma KII Metadata						
Reference	Organization	Respondent Type	Sector/VC	Region/State	Gender and Number of Respondents	
					1 (male)	2 (female)
KII 1	MIID	IP	ginger	Yangon Region	1	1
KII 2	Agriterra	donor-NGO	cross-cutting	Yangon Region	2	0
KII 3	MABG	trader-processor, buyer	ginger	Yangon Region	1	0
KII 4	Yangon Nike Bean Factory	trader-processor	soybean	Yangon Region	0	1
KII 5	LIFT	donor-NGO	cross-cutting	Yangon Region	1	0
KII 6	Easy Café, Sithar	trader-processor	coffee	Yangon Region	2	0
KII 7	Control Union	service input	cross-cutting	Yangon Region	1	0
KII 8	FOSTA	service input	cross-cutting	Yangon Region	1	5
KII 9	OAL	trader-processor	ginger	Yangon Region	1	0
KII 10	Seed Group	trader-processor	soybean	Shan State	3	0
KII 11	Jaguco Myanmar Intl Co.	service input	soybean	Shan State (Mandalay)	3	0
KII 12	Snacks Mandalay	trader-processor	ginger	Shan State	1	0
KII 13	MCG	trader-processor, buyer, service input	coffee	Shan State (Mandalay)	3	1
KII 14	Local coffee trader, Myain Village, Ywangan	trader-processor	coffee	Shan State	0	1
KII 15	Shwe Ywangan Coffee Processor, Ywangan	trader-processor	coffee	Shan State	1	0
KII 16	Amayar Ltd., Yangon	trader-processor	coffee	Shan State	0	1
KII 17	Atlas Coffee	trader	coffee	Shan State	1	0
KII 18	Shwe Danu	IP	coffee	Shan State	3	2
KII 19	Trader Aungban	trader	ginger	Shan State	0	1
KII 20	Trader Aungban	trader	ginger	Shan State	1	0
KII 21	Lilypad Co., Ltd.	trader-processor	coffee	Shan State	1	1
KII 22	U Moe Win, awksawk	trader	soybean	Shan State	1	0
KII 23	Heho Potato Company	trader-processor	ginger	Shan State	1	0
KII 24	DOA	government	ginger	Shan State	0	1
KII 25	DAR	government	soybean	Shan State	0	1
KII 26	San Kyaw Saw	trader-processor	soybean	Shan State	1	0
KII 27	SPSH	trader-processor	ginger	Shan State	1	0
KII 28	Anonymous	trader	soybean	Shan State	1	0
KII 29	Winrock	VC-RD staff	cross-cutting	All	1	0
KII 30	Proximity Finance	service input	cross-cutting	Shan State	1	0
KII 31	Winrock	VC-RD staff	soybean	Shan State	3	0
KII 32	Soybean seed producer, Naung Kar Village, Taunggyi	service input	soybean	Shan State	0	1
KII 33	Winrock	VC-RD staff	cross-cutting	Shan State	2	0
KII 34	Winrock	VC-RD staff	ginger	Shan State	2	3
KII 35	Tai Youth Organization	donor-NGO	soybean	Shan State	1	0
KII 36	Progreso	donor-NGO	coffee	Yangon Region	0	1

VR-CD Burma KII Metadata						
Reference	Organization	Respondent Type	Sector/VC	Region/State	Gender and Number of Respondents	
					1 (male)	2 (female)
KII 37	Blue Bottle Coffee	buyer	coffee	Yangon Region	1	0
KII 39	This Side Up	buyer	coffee	Yangon Region	1	0
KII 40	Agriprofocus	donor-NGO	cross-cutting	Yangon Region	0	1
KII 41	USAID Economic Growth Office	USAID	cross-cutting	Yangon Region	1	0
KII 42	USAID Economic Growth Office	USAID	cross-cutting	Yangon Region	1	0
KII 43	Winrock	VC-RD staff	cross-cutting	Yangon Region	1	1
KII 44	Nathan (USAID Private Sector Facility)	donor-NGO	cross-cutting	Yangon Region	1	0
KII 45	Internews	IP	cross-cutting	Yangon Region	1	0
KII 46	MAN	donor-NGO	coffee, ginger	Yangon Region	1	0
KII 47	Agriculture Market Information Agency (AMIA)	service input	cross-cutting	Yangon Region	0	1
KII 48	MFVP	IP	melon	Yangon Region	0	1
KII 49	Myanmar Women Entrepreneur's Association (MWEA)	donor-NGO	cross-cutting	Yangon Region	0	2
KII 50	Pioneer Agriculture Group	service input	soybean	Yangon Region	1	0
KII 51	DaNa Facility	donor-NGO	cross-cutting	Yangon Region	1	0
KII 52	GBS	service input	cross-cutting	Yangon Region	1	0
KII 53	UNIDO	donor-NGO	cross-cutting	Yangon Region	1	0
KII 54	Gender Equality Network (GEN)	NGO	cross-cutting	Yangon Region	0	1
KII 55	International Labor Organization (ILO)	donor-NGO	cross-cutting	Yangon Region	0	1
KII 56	Felix Haas	service input	coffee	all	1	0
KII 57	Ministry of Agriculture, Livestock and Irrigation	government	cross-cutting	Nay Pyi Taw	1	
KII 58	MOC	government	cross-cutting	Nay Pyi Taw	1	0
KII 59	DOA	government	sesame	Magway Region	1	0
KII 60	local melon cluster	primary beneficiary	melon	Yangon Region	1	0
KII 61	VC-RD Field Office Magway	VC-RD staff	sesame	Magway Region	3	1
KII 62	DAR - Research Farm	government	sesame	Magway Region	1	0
KII 63	Oil Mill Pho Ni	trader-processor	sesame	Magway Region	1	0
KII 64	United Melon	trader	melon	Sagaing Region	1	0
KII 65	Department of Consumer Affairs	government	melon	Sagaing Region	1	0
KII 66	DOA	government	melon	Sagaing Region	1	2
KII 67	Ko Naing Lin Htet	service input	melon	Sagaing Region	1	0
KII 68	DOA	government	melon	Sagaing Region	0	2
KII 69	Daw Tin New	secondary beneficiary	melon	Sagaing Region	0	1
KII 70	UNDP - Dryzone Adaptation Project	donor-NGO	cross-cutting	Sagaing and Mandalay Regions	1	0

VR-CD Burma KII Metadata						
Reference	Organization	Respondent Type	Sector/VC	Region/State	Gender and Number of Respondents	
					1 (male)	2 (female)
KII 71	A Bank	service input	cross-cutting	Yangon Region	1	0
KII 72	Yoma Bank	service input	cross-cutting	Yangon Region	1	0
KII 73	ICM (ADL Infra Capital)	service input	cross-cutting	Yangon Region	1	0
KII 74	Women Organizations Network (WON)	donor-NGO	cross-cutting	Yangon Region	1	0
KII 75	Daw Lay Thida	VC-RD staff	cross-cutting	Yangon Region	1	0
KII 76	USAID Burma Mission	USAID	cross-cutting	Yangon Region	1	0
KII 77	Winrock	VC-RD staff	cross-cutting	Yangon Region	1	0
KII 78	Winrock	VC-RD staff	sesame, melon	Yangon Region	0	1
KII 79	Winrock	VC-RD staff	cross-cutting	Yangon Region	1	1
KII 80	Winrock	VC-RD staff	cross-cutting	Yangon Region	1	0
KII 81	Winrock	VC-RD staff	cross-cutting	Yangon Region	1	0
KII 82	Rabobank Foundation	service input	cross-cutting	All	0	1
KII 83	Winrock	IP	cross-cutting	Yangon Region	1	0
KII 84	Winrock	IP	cross-cutting	Yangon Region	1	0
KII 85	Winrock	IP	sesame, melon	Yangon Region	0	1
KII 86	Winrock	IP	cross-cutting	All	1	0
KII 87	USAID Burma Mission	USAID	cross-cutting	Yangon Region	1	0
				Subtotal	83	39
				Total		122

ANNEX D: MAP OF VC-RD TARGET AREAS BY VALUE CHAIN



ANNEX E: VC-RD VALUE CHAIN OVERVIEW

Value Chain	Objective	Geographical Region	Value Chain Composition	Key Actors Involved in VC-RD Activity
Coffee	Shift Burma from a producer of mainly low-grade, commodity coffee to a producer of high-value specialty coffees sold in global and domestic markets	Shan State in Ywangan and Pinlaung townships	<p>Farmers: smallholder producers, producer groups, lead farmers</p> <p>Enterprises: traders, processors, input suppliers, exporters, domestic retail</p> <p>CSOs: NGOs, CBOs, and social enterprises</p>	<p>Farmers: 9,000 smallholder households organized into 30 producer groups each with drying stations (e.g., Mya Ze Di women's group, Amayar Women Coffee group, Ywangan Coffee Cluster-MFVP)</p> <p>Lead Firms: MCG, MCA, Barista Association of Myanmar (BAM), Lilypad Co., Genius Coffee, Valleverde Ltd.</p> <p>Other companies: Shwe Ywangan, Ywangan Amayar Company</p> <p>NGOs/CBOs: Southern Shan Local Development Organization, Shwe Danu, Shwe Kanbawza, Our Lovely World, Kanbawza Youth Library, Hitasan, Ban Chuan</p>
Soybean	Improve productivity and quality of smallholder soy production to meet domestic processing industry demand	Shan State across seven townships namely: Lawksawk, Pindaya, Kyauktalone Gyi, Loilen, Mong Nai, Namsang, and Laihka	<p>Farmers: smallholder producers, lead farmers</p> <p>Enterprises: seed producers, processors, other input suppliers, equipment suppliers, retailers</p> <p>CSOs: NGOs, CBOs, and social enterprises</p>	<p>Farmers: 161 lead farmers, 8,000 smallholder households, 31 producer groups, 43 demo plots, seed groups</p> <p>Lead firms: Pioneer Agrobiz, Myanmar Belle Company, Jaguco Company</p> <p>Tofu factories: Yangon Nike Bean Processing Factory, Mandalay T-Brand Tofu Co., Mandalay Y & 7-Brand Tofu B.</p> <p>Other groups: Southern Shan Agriculture Capacity Building Organization, Danu Literature and Local Development Organization, Parami network</p>
Ginger	Support an inclusive ginger industry that meets the increased quantity and quality requirements of both domestic and international end markets (especially the organic export market)	Shan State across Taunggyi district and slopes of Kalaw, Pindaya, Ywangan, Taunggyi, and Pinlaung	<p>Farmers: smallholder producers, lead farmers</p> <p>Enterprises: processors, input suppliers, equipment suppliers, retailers</p> <p>CSOs: NGOs, CBOs, and social enterprises</p>	<p>Farmers: 3,000 smallholder households, 25 lead farmers, three demo farms, MIID</p> <p>Lead firms: OAL, SPSH, MABG</p> <p>Other firms: Sunimpex Co., Phyto Kyaw Co.</p>

Value Chain	Objective	Geographical Region	Value Chain Composition	Key Actors Involved in VC-RD Activity
Sesame	<p>Support improved productivity and quality of raw sesame with the goal of increasing the quantity and price of sesame consumed domestically or exported</p> <p>Work with private sector firms to explore diverse, high-quality export markets</p>	<p>Magway division</p> <p>Magway, Natmauk, and Taungdwingyi townships across 33 villages</p>	<p>Farmers: smallholder producers, lead farmers</p> <p>Enterprises: processors, input suppliers, equipment suppliers, retailers</p> <p>CSOs: NGOs, CBOs, and social enterprises</p>	<p>Farmers: 12,000 smallholder households, 34 producer groups, 25 lead farmers, each with a demo plot, four trial plots, organized through the SFDA</p> <p>IPs: SARA</p> <p>Lead firms: Large oil mill, Awba Group, Pioneer Agrobiz., GBS, ACT Irrigation, SARA (NGO), Magway, Yoma Bank</p>
Melon	<p>Build efficiencies and relationships to strengthen market channels and increase income for melon farmers in the Dry Zone, by improving production practices, increasing sustainability, and meeting of GAP criteria</p>	<p>Mandalay and Sagaing divisions</p> <p>24 villages across seven towns</p>	<p>Farmers: smallholder producers, lead farmers</p> <p>Enterprises: processors, input suppliers, equipment suppliers, retailers</p> <p>CSOs: NGOs, CBOs, and social enterprises</p>	<p>Farmers: 8,000 smallholder households, 31 producer groups, 30 lead farmers, organized through the melon cluster under the MFVP</p> <p>Lead firms: Medi Hub Co.</p>
Ginger	<p>Support an inclusive ginger industry that meets the increased quantity and quality requirements of both domestic and international end markets (especially the organic export market)</p>	<p>Shan State across Taunggyi district and slopes of Kalaw, Pindaya, Ywangan, Taunggyi, and Pinlaung</p>	<p>Farmers: smallholder producers, lead farmers</p> <p>Enterprises: processors, input suppliers, equipment suppliers, retailers</p> <p>CSOs: NGOs, CBOs, and social enterprises</p>	<p>Farmers: 3,000 smallholder households, 25 lead farmers, three demo farms, MIID</p> <p>Lead firms: OAL, SPSH, MABG</p> <p>Other firms: Sunimpex Co., Phyto Kyaw Co.</p>
	<p>Support improved productivity and quality of raw sesame with the goal of increasing the quantity and price of sesame consumed domestically or exported</p> <p>Work with private sector firms to explore diverse, high-quality export markets</p>	<p>Magway division</p> <p>Magway, Natmauk, and Taungdwingyi townships across 33 villages</p>	<p>Farmers: smallholder producers, lead farmers</p> <p>Enterprises: processors, input suppliers, equipment suppliers, retailers</p> <p>CSOs: NGOs, CBOs, and social enterprises</p>	<p>Farmers: 12,000 smallholder households, 34 producer groups, 25 lead farmers, each with a demo plot, four trial plots, organized through the SFDA</p> <p>IPs: SARA</p> <p>Lead firms: Large oil mill, Awba Group, Pioneer Agrobiz., GBS, ACT Irrigation, SARA (NGO), Magway, Yoma Bank</p>

ANNEX F: TABLES

Table F.1: Value Chain Beneficiaries

Value Chain	Average Farm Size	Beneficiaries			Number of Hectares			IPs	Years
		Direct	Indirect	Total	Direct	Indirect	Total		
Coffee	0.50 ha	9,000	3,000	12,000	4,500	1,500	6,000	WI, Shwe Danu	Y1-Y5
Soybean	0.70 ha	8,000	4,000	12,000	5,600	3,200	8,400	WI	Y1-Y5
Ginger	0.20 ha	3,000	7,000	10,000	600	1,400	2,000	WI, MIID	Y2-Y5
Sesame	2.10 ha	12,000	20,000	32,000	25,200	42,000	67,200	WI, SARA	Y2-Y5
Melon	1.50 ha	8,000	15,000	23,000	12,000	22,500	34,500	WI, MFVP	Y3-Y5
Total		40,000	49,000	89,000	47,900	70,200	118,100		

Table F.2: Total Number of Individuals Engaged Through KIIs and FGDs for Data Collection

Data Collection Method	Number Conducted	Male Respondents	Female Respondents	Total Respondents
KIIs	86	83	39	122
FGDs	36	221	98	319
Total	122	304	137	441

Table F.3: Breakdown of KIIs and FGDs Conducted

Data Collection Method	Cross-Cutting	Coffee	Soybean	Ginger	Sesame	Melon	Total
KIIs	39	13	11	11	3	9	86
FGDs	1	8	5	7	4	11	36

Table F.4: Buyers and Processors Linked to Ginger Producers

Enterprise (buyer/processor)	Total Villages	Active Villages
OAL	10-12 (1000 producers)	3
MABG	16-20	5 (120 producers)
Aungban organic trader	5 villages (400 producers)	1
SPSH	22 groups (1000 producers)	7

ANNEX G: PERFORMANCE ASSESSMENTS RELATING TO IRS

Table G.1: VC-RD Indicator Performance Summary

Indicator	FY 2015	FY 2016	FY 2017	
	Actual	Actual	Target	Actual
EG.3-6,7,8 Farmers' gross margin per unit of land obtained with USG assistance (USD per ha)	Coffee 583 Soybean 411	Coffee 727 Soybean 314 *Ginger 673 Melon 1,309 Sesame 263	Coffee 671 Soybean 472 *Ginger 707 Melon 1,316 Sesame 276	Coffee 803 Soybean 290 *Ginger 913 Watermelon 6,636** Musk melon 16,471** Sesame 268
EG.3.2-18 Number of hectares of land under improved technologies or management practices with USG assistance	0	5,081 ha	New 7,000 ha Cumulative 12,081 ha	New 7,258 ha Cumulative 12,295 ha
EG.3.2-17 Number of farmers and others who have applied improved technologies or management practices with USG assistance	0	5,607T 3,415M 2,192W	New 18,393 Cumulative 24,000	New 24,015 Cumulative 29,622T 19,946M 9,677W
EG.3.2-1 Number of individuals who have received USG-supported short-term agricultural sector productivity or food security training	4,613 T 2,994 M 1,619 W	16,996 T 11,589 M 5,407 W	17,000 T 10,000 M 7,000 W	20,359 T 13,985 M 6,374 W
EG.3.2-4 Number of for-profit private enterprises, producers' organizations, water users' associations, women's groups, trade and business associations, and CBOs receiving USG food security-related organization development assistance.	21	55	New 30 Cumulative 106	New 130 Cumulative 235
EG.3.2-5 Number of public-private partnerships formed as a result of USG assistance	3	9	New 5 Cumulative 17	New 6 Cumulative 23
EG.3-1 Number of households benefiting directly from USG assistance under Feed the Future	2,591	15,155	New 9,845 Cumulative 25,000	New 15,969 Cumulative 31,134
EG.3.2-19 Value of smallholder incremental sales generated with USG assistance	Baseline	\$1,024,200	\$1.4 million	\$306,710,337
EG.3.2-22 Value of new private sector capital investment in the agriculture sector or food chain leveraged by Feed the Future implementation	\$476,000	\$1,433,060	New \$2 million Cumulative \$3,909,060	New \$ 2,153,550 Cumulative \$4,062,610
EG.3.2-23 Value of targeted agricultural commodities exported with USG assistance	0	\$16,868,400	\$1 million	\$140,214,991
EG.3.2-7-II Number of new technologies or management practices in Phase II: under field testing as a result of USG assistance	9	14	New 8 Cumulative 31	New 26 Cumulative 49
EG.3.2-7-III Number of new technologies or management practices in Phase III: made available for transfer as a result of USG assistance	7	28	New 15 Cumulative 50	New 22 Cumulative 57
EG.3.2-20 Number of for-profit private enterprises, producers' organizations, water users' associations, women's	0	27	New 193 Cumulative 220	New 132 Cumulative 159

Indicator	FY 2015	FY 2016	FY 2017	
	Actual	Actual	Target	Actual
groups, trade and business associations, and CBOs that applied improved organization-level technologies or management practices with USG assistance				
C-1: Number of lead firms participating in upgrading value chains in support of smallholder participation	8	26	New 15 Cumulative 49	New 34 Cumulative 60
C-2: Number of horizontal and vertical linkages among value chain actors	9	63	New 20 Cumulative 92	199 T 103 V 96 H Cumulative 291
C-3: Institutional capacity of partner producers' associations/groups (as measured by a project-level institutional capacity index)	2.28	3.22	3.0	-
C-4: Number of outreach media materials or events produced/conducted by staff, partners, and volunteers	40	216	New 50 Cumulative 306	New 126 Cumulative 382
C-5: Number of individuals receiving agriculture sector strengthening information as a result of project activities	14 million	15.2 million	15 million	15,632,361
C-6: Value of contracts/grants to local organizations, entrepreneurs, or private sector firms	\$452,000	\$994,519	New \$1,500,000 Cumulative \$2,946,519	New \$1,306,392 Cumulative \$2,752,911
C-7: Number of community groups supported to increase women and youth participation in value chain activities	-	7	New 10 Cumulative 17	New 27 Cumulative 34
C-8: Number of individuals receiving training to promote gender equality in value chain activities	-	23	New 100 Cumulative 123	New 318 Cumulative 341
C-9: Number of firms receiving training or other technical assistance to achieve end market requirements	12	25	25	96
C-10: Number of firms receiving facilitation to access finance	0	13	15	29
C-11: Number of beneficiaries supported in project-assisted value chains (including both direct and indirect beneficiaries)	2,591	New 12,602 Cumulative 15,193	New 14,807 Cumulative 30,000	New 31,508 Cumulative 46,701
C-12: Number of hectares under improved technologies or management practices as a result of USG assistance (including practices by both direct and indirect beneficiaries)	-	11,994 ha	15,000 ha	21,594 ha

ANNEX H: USAID/BURMA'S VC-RD PROJECT INDICATORS

Table H.1: Qualitative Assessments

Intermediate Results	Achievement for Coffee	Achievement for Soybean	Achievement for Ginger	Achievement for Sesame	Achievement for Melon
IR1 Agricultural Productivity Improved	Achieved with the introduction of a new product involving all actors in the value chain. Reaching directly and indirectly many smallholders, but estimations are far less than expected.	Limited achievement, very few using new seed varieties, more hand seeders, while many abstain, because of lack of financial gains and of results of innovations.	Limited achievement, because many abstain, because of lack of market linkages and of results of innovations.	Achieved with reduced costs in fertilizer input, improved pest/disease control and post-harvest treatment and knowledge sharing among producer groups.	Achieved with introduction of fertilizer management and optimization, improved pest/disease control and knowledge sharing among producer groups.
Sub. IR.1.1 Availability of productivity enhancing technologies enhanced.	Achieved with the introduction of drying tables for producers and innovative machinery for some of the processors.	Achieved with the introduction of hand seeders for producers and innovative machinery for some processors. Dryers contribute but are financially not much accessible.	Achieved with the introduction of safe use of chemicals for producers, and innovative machinery for some processors.	Achieved through introduction of natural fertilizers, natural/organic pesticides such as neem, and polyethylene bags for storage of harvested produce.	Achieved through introduction of fertilizer ratios and secondary nutrients to suit soil conditions, drip-irrigation systems, and farm mechanization (among some farmers).
Sub IR 1.2 Community-based producer organizations supported and strengthened	Achieved with the organization of community producer groups around processing and selling. Group membership is less than possible, can be raised.	Not achieved. A limited number of groups sell together. VC-RD starts supporting organization of producers in SMEs.	Not achieved. Attention focused at production of clean or organic ginger, then at markets, not yet at organization building.	Achieved through the strengthening of SFDA to 34 village-level groups, one township-level committee, and a total of 1,650 members.	Achieved through strengthening of NMC to 26 township-level clusters, 2,498 members, and imminent formalization as an association.
Sub IR 1.3 Access to quality extension or advisory services improved	Achieved for the moment, by having trained LFAs, but not for the long term. Efforts are started to have extension staff with regional sector organizations and enterprises.	Very limited achievement and only for the moment, with VC-RD-employed LFAs, but not for the long term. Extension services have been weak, not adapted to local circumstances and possibilities for farmers.	Very limited achievement and only for the moment, with VC-RD-employed LFAs, but not for the long term. Extension services were weak, not adapted, but VC-RD is improving its extension quality.	Partially achieved through training of lead farmers, TOT, and facilitating linkages to DOA.	Partially achieved through training of lead farmers, TOT, and facilitating linkages to DOA.
IR2 Market Access and Trade Increased	Achieved, by introducing a new product for Myanmar, attracting buyers, and linking them	Achieved, but vulnerable and not sustainable with the actual low profits.	Limited achievement, with market linkages weakly developed and yet low profit.	Limited achievement with market linkages established to an oil mill and the	Limited achievement through workshop on melon standard development

Intermediate Results	Achievement for Coffee	Achievement for Soybean	Achievement for Ginger	Achievement for Sesame	Achievement for Melon
	with the local actors.		Developments are promising.	establishment of a WRS with investor, operator, and potential linkages to international markets.	(grading system) and participation in trade fairs.
Sub IR 2.1 Vertical and horizontal linkages between value chain actors developed and strengthened	Achieved for vertical linkages between producer groups, processors, and international buyers for high-quality coffee, but vulnerable, because of key role of VC-RD. Not achieved for horizontal linkages in regional-level sector organization. This just started.	Achieved for vertical linkages between producer groups and processors, producers knowing where to sell quality soybean. Gap between technical and financial feasibility making the actual achievement vulnerable. Not achieved for horizontal linkages.	Limited achievement for vertical linkages between producer groups and processors, with just few communities linked. Gap between production innovation and market development. Promising market developments. Threatened by other crops being competitive. Not achieved for horizontal linkages.	Limited achievement with vertical linkages between producer groups, and limited number of input companies, a processor, and potential internal buyers. Some horizontal linkages established with other sesame organizations such as Dear Myanmar (30 villages), NAG (50 villages), and Regional Farmer's Development Association (RFDA).	Limited achievement through linkages with technology providers (drip irrigation) and input companies (fertilizer and seed).
Sub IR 2.2 Capacity to understand and meet end market requirements increased	Achieved for the moment, with a need to ensure this for the longer term, needing organization of support.	Achieved by training and contacts with processors, with producers understanding the market requirements for soybean for tofu processing. Not achieved for the capacity to meet these requirements, in quantity, because financial gains are too limited to deliver quality soybean.	Achieved by training and contacts with buyers, with producers understanding the market requirements for clean and organic production.	Partial achievement via training on crop establishment, integrated pest management, and harvest/post-harvest management.	Partial achievement through training on GAP, crop establishment, integrated pest management, and harvest/post-harvest management.
Sub IR 2.3 Private sector investment in value chain upgrading increased	Achieved with processors investing in machinery and stimulated with grants and	Achieved with processors investing in machinery and stimulated with training, grants,	Achieved with processors investing in machinery, stimulated with grants and	Partial achievement through WRS.	Partial achievement by bigger farmers investing in mechanization and drip-

Intermediate Results	Achievement for Coffee	Achievement for Soybean	Achievement for Ginger	Achievement for Sesame	Achievement for Melon
	facilitation of loans and market linkages to international buyers.	and facilitation of market linkages.	facilitation of linkages to producers. The actors themselves already invest heavily. VC-RD actions are additional to this development.		irrigation systems.

Table H.2: VC-RD Reporting Indicators by IR

Outcome (Expected Results)	VC-RD Indicators
IR.1 Agriculture Productivity Improved	
Sub. IR.1.1 Availability of productivity enhancing technologies enhanced	<p>4.5.2-2 and C.12 No. of hectares under improved technologies or management practices</p> <p>4.5.2-5 No. of farmers and others who have applied improved technologies or management practices</p> <p>4.5.2-7 No. of individuals who have received short-term agricultural sector productivity or food security training</p>
Sub. IR.1.2 Community-based producer organizations supported and strengthened	<p>4.5.2-5 No. of farmers and others who have applied improved technologies or management practices</p> <p>4.5.2-7 No. of individuals who have received short-term agricultural sector productivity or food security training</p> <p>C.6 Value of contracts/grants to local organizations, entrepreneurs, or private sector firms</p> <p>C.7 No. of community groups supported to increase women and youth participation in value chain activities</p> <p>C-11 No. of beneficiaries (direct and indirect) supported in project-assisted value chains</p> <p>C-3 Institutional capacity of partners' associations/groups (as measured by a project-level institutional capacity index)</p>
Sub. IR.1.3 Access to quality extension or advisory services improved	<p>4.5.2-5 No. of farmers and others who have applied improved technologies or management practices</p> <p>4.5.2-7 No. of individuals who have received short-term agricultural sector productivity or food security training</p> <p>4.5.2-11</p>

Outcome (Expected Results)	VC-RD Indicators
	<p>No. of food security private enterprises, producers' organizations, water users' associations, women's groups, trade business associations, and CBOs receiving USG assistance</p> <p>C-11 No. of beneficiaries (direct and indirect) supported in project-assisted value chains</p>
IR.2 Market Access and Trade Increased	
Sub. IR.2.1 Vertical and horizontal linkages between value chain actors developed and strengthened	<p>C-2 No. of horizontal and vertical linkages among value chain actors</p>
Sub. IR.2.2 Capacity to understand and meet end market requirements increased	<p>C-9 No. of firms receiving training or other technical assistance to achieve end market requirements</p> <p>4.5.2-23 Value of incremental sales (collected at farm level) attributed to Feed the Future implementation</p> <p>4.5.2-36 Value of exports of targeted agricultural commodities</p> <p>4.5.2-38 Value of new private sector investment in the agriculture sector or food chain leveraged by Feed the Future implementation</p>
Sub. IR.2.3 Private sector investment in value chain upgrading increased	<p>4.5.2-38 Value of new private sector investment in the agriculture sector or food chain leveraged by Feed the Future implementation</p> <p>C-6 Value of contracts/grants to local organizations, entrepreneurs, or private sector firms</p>

ANNEX I: KEY INFORMANT INTERVIEW GUIDES

Key Informant Interview Guide with All Stakeholders

Metadata		
a.	Reference	KII#
b.	Name of organization	xxx
c.	Type of respondent	USAID, VC-RD staff, IPs, primary beneficiaries, secondary beneficiaries, control group farmers, trader, trader-processors, buyers, service/input, donors/NGOs, government
d.	SECTOR/VALUE CHAIN (e.g., cross-cutting/specific)	Coffee, Melon, Ginger, Soybean, Sesame, Cross-Cutting
e.	Region/States	Yangon Region, Shan State, Magway Region, Mandalay Region, Sagaing Region
f.	Name of PARTICIPANTS	xxx
g.	Gender 1 (Male)	1
	Gender 2 (Female)	0
h.	DATE OF INTERVIEW	10 Jan 2018

Please describe your involvement in VC-RD.

1. To what extent is VC-RD meeting overall intended goals and objectives?

- Q1.1 What successes or results towards meeting intended goals and objectives has the activity achieved? What are the key factors driving identified success?
- Q1.2 What challenges towards meeting intended goals, objectives, and results have been faced? How has the implementer dealt with those challenges?
- Q1.3 How can VC-RD improve its implementation and management approach to ensure progress towards achieving results? To what extent did they utilize adaptive management?

2. How are VC-RD's cross-cutting sector approaches contributing to results?

- Q2.1 How can VC-RD more effectively integrate cross-cutting sectors and gender considerations into interventions?
- Q2.2 To what extent is the activity incorporating cross-cutting objectives and considerations into value chain interventions as per the following list:

Climate change mitigation
Climate change adaptation
Nutrition
Public-private partnerships
Capacity building

- Q2.3 Where are there gaps?
- Q2.4 Did the gender interventions achieve their goals?

3. How effectively is Winrock implementing and managing VC-RD interventions?

- Q3.1 To what extent have interventions deviated from the original scope?
- Q3.2 How have value chains been identified and what criteria have informed selection? What criteria proved to be the most critical for determining success?
- Q3.3 How has Winrock selected community and private sector grantees as recipients of VC-RD assistance? What were the lessons learned for working with each of these partners?

- Q3.4 To what extent are standard operating procedures in place and being followed to monitor results of sub-partners and grantees? How effectively were both primary and secondary beneficiaries captured?

4. *To what extent are current VC-RD interventions sustainable beyond the life of project?*

- Q4.1 To what extent is Winrock engaging and incentivizing market actors to take ownership and build sustainable relationships with smallholder farmers?
- Q4.2 How is VC-RD engaging or incorporating government, non-government, and private sector counterparts in long-term sustainability strategies for interventions?
- Q4.3 What internal and external threats exist that could impact the sustainability of key interventions beyond the life of project (e.g., buyer linkages, credit identification, etc.)?
- Q4.4 What interventions are at most risk of becoming unsustainable post-VC-RD and what action is Winrock taking to mitigate risks to sustainability (e.g., fluctuations in the world price of value chain outputs, etc.)?

5. *Given the lessons learned, what considerations should USAID/Burma take into account in future design of agriculture/economic growth activities?*

- Q5.1 How might USAID/Burma better structure its future interventions to address cross-market systematic constraints?
- Q5.2 What level of facilitation, “heavy to light-touch” is realistic in Burma’s agriculture sector?

ANNEX J: FOCUS GROUP DISCUSSION GUIDES

J.1: Focus Group Discussion Guide: Primary and Secondary Beneficiaries

Metadata	
a.	Reference
b.	Name of organization
c.	Type of respondent
d.	SECTOR/VALUE CHAIN (e.g., cross-cutting/specific)
e.	Region/States
f.	Name of PARTICIPANTS
g.	Gender 1 (Male)
	Gender 2 (Female)
h.	DATE OF INTERVIEW

Please describe your involvement in the VC-RD project.

1. To what extent is VC-RD meeting overall intended goals and objectives?

- Q1.1 What successes or results towards meeting intended goals and objectives has the activity achieved? What are the key factors driving identified success?
- Q1.2 What challenges towards meeting intended goals, objectives, and results have been faced? How has the implementer dealt with those challenges?
- Q1.3 How can VC-RD improve its implementation and management approach to ensure progress towards achieving results?
- Q1.4 To what extent did they utilize adaptive management and change implementation in reaction to new needs and challenges?

2. How are VC-RD's cross-cutting sector approaches contributing to results?

- Q2.1 How can VC-RD more effectively integrate cross-cutting sectors and gender considerations into interventions?
- Q2.2 To what extent is the activity incorporating cross-cutting objectives and considerations into value chain interventions as per the following list:

Climate change mitigation
Climate change adaptation
Nutrition
Public-private partnerships
Capacity building

- Q2.3 Where are there gaps?
- Q2.4 Did the gender interventions achieve their goals?

3. How effectively is Winrock implementing and managing VC-RD interventions?

4. To what extent are current VC-RD interventions sustainable beyond the life of project?

- Q4.1 To what extent is Winrock engaging and incentivizing market actors to take ownership and build sustainable relationships with smallholder farmers?
- Q4.2 What internal and external threats exist that could impact the sustainability of key interventions beyond the life of project (e.g., buyer linkages, credit identification, etc.)?
- Q4.3 What interventions are at most risk of becoming unsustainable post-VC-RD and what action is Winrock taking to mitigate risks to sustainability (e.g., fluctuations in the world price of value chain outputs, etc.)?
- 5. Given the lessons learned, what considerations should USAID/Burma take into account in future design of agriculture/economic growth activities?**
- Q5.1 How might USAID/Burma better structure its future interventions to address cross-market systematic constraints?
- Q5.2 What level of facilitation, “heavy to light-touch” is realistic in Burma’s agriculture sector?

J.2: Focus Group Discussion Guide: Control Group Farmers

Metadata		
a.	Reference	FGD#
b.	Name of organization	xxx
c.	Type of respondent	Control group farmers
d.	SECTOR/VALUE CHAIN (e.g., cross-cutting/specific)	Coffee, Melon, Ginger, Soybean, Sesame, Cross-Cutting
e	Region/States	Yangon Region, Shan State, Magway Region, Mandalay Region, Sagaing Region
f.	Name of PARTICIPANTS	xxx
g.	Gender 1 (Male)	1
	Gender 2 (Female)	0
h.	DATE OF INTERVIEW	14 Jan 2018

- Please share any success stories you have in the production of your crop.**
- What challenges do you face in your business?**
- What are the gaps in the integration of the following cross-cutting considerations in your production?**
 - Climate change mitigation
 - Climate change adaptation
 - Nutrition
 - Public-private partnerships
 - Capacity building
 - Gender
- How might USAID/Burma better structure its future interventions to address cross-market systematic constraints?**
- What level of facilitation, “heavy to light-touch” is realistic in Burma’s agriculture sector?**

J.3: Focus Group Discussion Guide: VC-RD and Implementing Partners' Staff

Metadata	
a.	Reference
b.	Name of organization
c.	Type of respondent
d.	SECTOR/VALUE CHAIN (e.g., cross-cutting/specific)
e.	Region/States
f.	Name of PARTICIPANTS
g.	Gender 1 (Male)
	Gender 2 (Female)
h.	DATE OF INTERVIEW

1. To what extent is VC-RD meeting overall intended goals and objectives?

- Q1.1 What successes or results towards meeting intended goals and objectives has the activity achieved?
- Q1.2 What are the key factors driving identified success?
- Q1.3 What challenges towards meeting intended goals, objectives, and results have been faced? How has the implementer dealt with those challenges?
- Q1.4 How can VC-RD improve its implementation and management approach to ensure progress towards achieving results? To what extent did they utilize adaptive management?

2. How are VC-RD's cross-cutting sector approaches contributing to results?

- Q2.1 How can VC-RD more effectively integrate cross-cutting sectors and gender considerations into interventions?
- Q2.2 To what extent is the activity incorporating cross-cutting objectives and considerations into value chain interventions as per the following list:

Climate change mitigation
Climate change adaptation
Nutrition
Public-private partnerships

- Q2.3 Where are there gaps?
- Q2.4 Did the gender interventions achieve their goals?

3. How effectively is Winrock implementing and managing VC-RD interventions?

- Q3.1 To what extent have interventions deviated from the original scope?
- Q3.2 How have value chains been identified and what criteria have informed selection? What criteria proved to be the most critical for determining success?
- Q3.3 How has Winrock selected community and private sector grantees as recipients of VC-RD assistance? What were the lessons learned for working with each of these partners?
- Q3.4 To what extent are standard operating procedures in place and being followed to monitor results of sub-partners and grantees?

- Q3.5 Please describe the MEL procedures adopted.
- Q3.6 How were both primary and secondary beneficiaries captured?

4. *To what extent are current VC-RD interventions sustainable beyond the life of project?*

- Q4.1 To what extent is Winrock engaging and incentivizing market actors to take ownership and build sustainable relationships with smallholder farmers?
- Q4.2 How is VC-RD engaging or incorporating government, non-government, and private sector counterparts in long-term sustainability strategies for interventions?
- Q4.3 What internal and external threats exist that could impact the sustainability of key interventions beyond the life of project (e.g., buyer linkages, credit identification, etc.)?
- Q4.4 What interventions are at most risk of becoming unsustainable post-VC-RD and what action is Winrock taking to mitigate risks to sustainability (e.g., fluctuations in the world price of value chain outputs, etc.)?

5. *Given the lessons learned, what considerations should USAID/Burma take into account in future design of agriculture/economic growth activities?*

- Q5.1 How might USAID/Burma better structure its future interventions to address cross-market systematic constraints?
- Q5.2 What level of facilitation, “heavy to light-touch” is realistic in Burma’s agriculture sector?

ANNEX K: MINI CASE STUDIES BY VALUE CHAIN

Synthesis of the Five Mini Case Studies

Successes (EQ 1.1)

The sesame, melon, and coffee mini cases highlighted successes experienced by farmers as a result of the VC-RD interventions such as training and producer group organization. For sesame, the reduction in fertilizer cost and increased gross margin was demonstrated by a recipient of TOT training and the replication of such practices among neighboring farmers. For melon, the success of an innovative technology, in the form of a five-in-one machine developed by a farmer as a result of the TOT provided by VC-RD, was highlighted. The machine enabled the farmer to address shortages of labor and reduce production costs of up to 80,000 MMK per acre. For coffee, the increased yield as a result of GAP training was explained as well as the benefits of joining a women's coffee producer group. In soybean, the mini case demonstrated the facilitation to a bank loan through a group loan scheme involving a number of farmers.

These successes were in line with the findings from the KIIs and FGDs.

Challenges (EQ 1.2)

The mini cases also highlighted the challenges and gaps of VC-RD. The melon and soybean mini cases demonstrated some deficiencies of the multiplier and GAP training in terms of timing and location (for melon) and lack of adaptation to local conditions and failure of demo plots (for soybean). The melon mini case provides examples of a better approach to multiplier training in terms of timing, location, and format to improve farmer participation and uptake. The ginger mini case provided insights into issues faced by farmers as a result of communication gaps with VC-RD in terms of reserving ginger produce for prospective VC-RD buyers. The coffee mini case demonstrated that, despite the scale successes of dry-processed coffee, only a small proportion of the total coffee grown, 20 percent, goes for dry processing due to the risk of spoilage from rain with the majority of coffee being wet processed. These challenges were consistent with the findings from the KIIs and FGDs.

Mini Case I: Success Story by a Melon Farmer in Magyi Boke Village

"I am 37 years of age and a melon farmer from Magyi Boke village. I was always thinking of how to decrease production costs and increase yield and quality of produce for all farmers. I received a graduate diploma of agriculture in 2009. I received TOT and GAP awareness training by Winrock's VC-RD project through MFVP. I organized multiplier training at my village, but the number of attendees was quite limited. At that time, farmers were busy with their own farming activities. So, I thought that I could share information with those who did not join the multiplier training in an informal way because most of them usually sit at the tea shop in the evenings as they chat with each other while having tea.



Then, three days after the multiplier training, I organized the informal session at the tea shop with about 25-30 farmers. It was done from around 6pm until 9pm. I collected all the training materials provided by VC-RD trainer and the melon cluster extension officers. I used my laptop and showed the training materials, which cover land preparation, cultivation techniques, fertilizer application, pest and disease control, harvesting, and post-harvest handling. I even offered them tea and snack at my own cost.

In that way, I felt that it was effective since farmers were more engaged in that setting. I was able to fill their knowledge gaps so as to change some techniques and practices. I think this is one of the better ways to disseminate technical know-how among melon farmers since all the key information could be shared. I also noticed that some become more aware of the factors which affect

the yield and they were very interested to apply.

I have also tried to learn new things as much as I can to improve the quality and yield in my farm. I have



gradually increased my production area from 5 acres to 45 acres of melon, including 25 acres of my own and 20 acres of rented land, and face labor issues every year. Some of my farm laborers are from Yesagyo Township. Once I had a headache to meet my schedules in the field as there were few laborers available. During the TOT, the VC-RD staff showed a machine used by Thai farmers for preparation of land, placing plastic sheets, etc. He even suggested the trainees to order it, but it is quite costly (70 lakhs) and so nobody initiated it. Later, my friend from Pyin Oo Lwin showed me a machine used for strawberry that is more or less similar with what we were shown during training. Last year I created a machine for melon based on the structure and functions of those machines combined with my own idea. I bought raw materials like metal sheets from [the] industrial zone in Mandalay and then fixed all parts prepared at home. The total cost of this machine is 18 lakhs, which is about 25 percent of the cost of such machines available

in the market.

Photos: Machine and laying of mulching sheets (Source: ET)

This year, I did a pilot test on this machine and later improved some parts of it based on the results. Now, it can be used for doing five functions at the same time including land preparation, spacing, mulching, laying water pipe, and broadcasting fertilizers. I find it easier to overcome the shortage of labor since it requires less labor (only three people). In terms of time consumption, all these tasks can be completed in a half day as opposed to 3-4 days if relying solely on manual labor. The cost was decreased by 80,000 kyt per acre. I can share it with some farmers after finishing work for my farms.

However, smallholders may face financial constraints since this machine needs to be combined with a tractor.

I am also very eager to learn many things after receiving new knowledge and information from VC-RD project and 'I've even suggested *Sagaing regional board to collect some information on the acreage grown and volume of production. This would enable our melon farmers to have a better plan for production scheme and amount of sale not to flood the market during the peak growing seasons.*'"

Photos: Drip irrigation pipe laid by machine (Source: ET)

Mini Case 2: Success Story by a Sesame Farmer in Yin Tharsi East Village, Magway Region, Recipient of VC-RD TOT

“I am a farmer from Yin Tharsi (East) Village, in Magway region and I own 12 acres of land. I grow sesame during the warmer months and groundnuts during the winter.

I attended the training of trainers (TOT) conducted by SARA/Winrock. Here the trainers provided exposure and awareness to producing fertilizer using fish amino acid, instead of urea which is expensive. After the TOT session, I prepared fish amino acid and applied it for my sesame fields. I was able to reduce the amount of chemical fertilizer like urea since I could substitute this with fish amino acid. The preparation cost of the fish amino acid is much lower. It costs only 6,000 MMK and for this, there is sufficient to apply for 10-15 acres of sesame. By comparison the cost of urea fertilizer is 20,000 MMK for one bag, which is only enough for two acres of sesame. Before I harvested my sesame, farmers from the neighboring village of Hpalan Taw came and observed my sesame field and asked me the reason for the good appearance and growth of the sesame plants. I told them it was because of the new fertilizer, based on fish amino acid. After harvesting, I felt happy with the significant yield increase of sesame mentioned.

Due to the enthusiasm of neighboring farmers from Hpalan Taw village on the use of fish amino acid, I shared the preparation method to them. Afterwards, about 20 farmers prepared and used the fish amino acid solution in the groundnut, which is a winter crop. The yield of groundnut was increased from 40-50 baskets per acre up to 60-80 baskets per acre last year. Due to these good yield results and much lower costs, the farmers are now using the fish amino acid to replace urea, for sesame cultivation too.”



Sesame farm premises, Magway region, January 19, 2018 (Source: VC-RD Evaluation Team)

Mini Case 3: Success Story by a Coffee Farmer, Female Member of Amara Women's Coffee Producer Group in Ywangan, Recipient of VC-RD Multiplier and GAP Training

"I am a farmer with four acres of upland crops with beans, sesame, and maize, and I grow coffee on a further three acres of land. The coffee grown is mixed with avocado and jack fruit trees, which provide shade and extra income. This year I harvested 1,000 viss¹ of coffee berries. Last year we had rain and I could harvest just 600 viss of coffee berries. The coffee provides 50 percent of my income from the seven acres.

For a coffee farm, you need animals to provide fertilizer. I have one pig and a buffalo for plowing. I use the dung mixed with burned paddy husks and apply this twice a year. I have about 500 young coffee plants and 300 old plants. I replanted part of my plantation after the Winrock training. I found the seedlings, a local good variety, in another village.

I am one of the 35 members of the Amara women coffee producer group. The women come from six neighboring villages and three of those produce specialty dry-processed coffee. The women's group processes its coffee as a group at the Amayar plant and then can sell our coffee through Amayar Company to international clients. Of the income generated from each farmer, 10 percent goes to the women's group, the rest is for the individual members who contribute their coffee beans. The members of the coffee producer group must supply all berries to the group, for three years.

Because of the risk of sudden rain and because we often need cash income, we as members reserve 20 percent of our coffee grown for dry processing and the balance, 80 percent of coffee, is wet processed. It is mostly the women who participate in the meetings, but if it is in the town hall the husbands come. To me it doesn't matter if Amara is a women's group or not.

I am happy about the results of the coffee activities. I also received training in GAP on: natural fertilizer, pruning, and plant spacing, and I now apply these practices. Before VC-RD, I did the de-pulping of coffee by hand and dried the beans on the ground. After receiving the VC-RD training in 2016, I could increase my coffee production by 250 viss. Now, with the Winrock project I provide fresh berries to the Amara women's group and get more income as I am also a shareholder of Amara. The extra income I use for investment in education for my children, for planting new and more coffee plants, and on social welfare. I still need training on the use of pesticides because the treatment does not work sufficiently."



Mini Case 4: Challenge Story by a Ginger Farmer, Female Member of Ginger Producer Group in Aubang, Kalaw Township, Recipient of VC-RD GAP Training

In Chaw Sue village, the ET met a group of producers who grow organic ginger. An elderly female producer wanted to share her experience about VC-RD.

“We grow ginger as a cash crop for family income and grow paddy for our own rice consumption. We grow chili on an intercropping basis.

In a meeting with Winrock staff, I learned about the potential of an increase in getting better ginger prices, if we would follow the advice on good agricultural practices. During this meeting, Winrock staff collected information about the potential volume of ginger which interested individual farmers could supply.



During the data collection, Winrock staff explained that the production figures the farmers provide will be used as the potential sales volume for a potential buyer whom they are searching for. However, the farmer at that time thought that it was an agreement about the quantity of ginger which she should sell.

Winrock mentioned that we should sell the ginger to another buyer if the farmers cannot wait for the potential buyer, introduced by Winrock, to come. In reality, the potential buyer introduced by Winrock never came. Some farmers already sold their ginger to the local market.



But for me, I want to keep my promise and have set aside my ginger so that I can provide it to Winrock when they find a buyer. I have some livelihood difficulty and want to sell my produced ginger to the market, because I need cash soon. At the same time, I feel guilty, if I cannot provide the promised volume of ginger to Winrock when the potential buyer would come to my farm.

It is a dilemma for me to decide. I ask Winrock to send the potential buyer as soon as possible so I can keep my promise to follow the ‘agreement’ with Winrock.”

Mini Case 5: Challenge Story of Soybean by Two Female Producers in Phaung Daw Villages, Lawksawk, Recipients of VC-RD GAP Training

The ET interviewed the two female producers, neighbors, both members of a training group in Phaung Daw villages, where five of the nine villages participate in the VC-RD program. Both women sell their soybean to a processor in Yangon, together with people from another village. They receive a better price for their soybean.

Female Producer 1: “I am married and have two boys, one aged 7 and one aged 9. The elder will start school this year.

I have two acres of maize in the upland and five acres of soybean/paddy of irrigated lowland. I work with my husband at the farm. We only have two pigs and no cow or buffalo. For plowing we have a hand tractor, which we rent out to other farmers. We receive some income from renting the tractor, but not much. My husband attended the VC-RD GAP training. However, we keep following our traditional practices as we believe the traditional system is better. Last year our soy yield was 1,000 viss.



With help from Winrock we received a loan from the micro finance institute Proximity of 250,000 MMK at 2.5 percent per month interest, compared to the interest we pay to private lenders of over 5 percent per month. It is a 9-month loan, which you have to pay back in February. It is a group loan: four other farmers are your guarantors. Once one farmer has paid back the loan, then another farmer in the group takes the loan. I used the loan for seed and fertilizer for maize. I choose maize and not soybean, because of the beneficial cropping calendar of maize. Because when you plant soybean, in January, you just harvested the paddy and use this to eat. Maize you plant in May/June when it rains. I started already with a profit from mango and will invest in planting two acres more of mango.”

Female Producer 2: “I am married with a son who is 14 years old and a daughter who is 7 years old.

I have four acres of maize in the upland and three acres of soybean/paddy and sunflower on irrigated land.

We have two cows and one pig with piglets. The cows are used only for short distance transport. For plowing we hire a hand tractor, which costs 3,500 MMK for one hour of hire. From the pig, we are able sell the piglets.

My husband works as a daily laborer with a trader and earns 5,000 MMK per day. His income is used for our day-to-day livelihood and the farm income is used for saving. We need no loans to invest in agriculture.

I attended the VC-RD GAP training, but did not apply the knowledge. The trainer suggested too many steps including too many times of plowing, irrigation, spacing, weeding, etc. Normally, we just plow and broadcast the seed. The proposed changes are too costly. The demo plot failed so we did not see the benefit. Winrock started the demo plot too late and with a too low moisture content in the soil. The machines for weeding were not adapted to the soil conditions and did not work.”