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SMART DEVELOPMENT WORKS

KAYIN STATE CARDAMOM VALUE CHAIN ANALYSIS REPORT

March 2018

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Consortium of Dutch NGOs (CDN)

Funded by:

Livelihoods and Food Security Trust Fund

ACKNOWLEDGEMENTS

SNV expresses our sincere thanks to the farmers, village and township traders, transporters, regional traders/exporters and importers who accommodated the research team and provided their precious time during the meetings and interviews conducted. The study team would like to give credit to the different support organizations who shared their observations and experiences with us, including the Department of Forestry, Department of Agriculture, local Chamber of Commerce, UMFCCI, Control Union and members of Parliament. SNV would also like to acknowledge the valuable support provided by the CDN and partners' staff members who administered the surveys.

SNV would also like to thank the LIFT staff for providing support in the conduct of the study and participating in the validation workshop conducted and sharing their observations and comments on the report.

The team would like also to convey its sincere thanks to the private individuals who are not affiliated with the project but volunteered their time and knowledge about cardamom and shared their experiences.

ACKNOWLEDGEMENTS to the Donors

We thank the European Union and governments of Australia, Denmark, France, Ireland, Italy, Luxembourg, the Netherlands, New Zealand, Sweden, Switzerland, the United Kingdom, and the United States of America for their contribution to improving the livelihoods and food security of rural population in Myanmar. We would also like to thank the Mitsubishi Corporation, as a private sector donor.

DISCLAIMER

This document is supported with financial assistance from Australia, Denmark, the European Union, France, Ireland, Italy, Luxembourg, the Netherlands, New Zealand, Sweden, Switzerland, the United Kingdom, the United States of America, and the Mitsubishi Corporation. The views expressed herein are not to be taken to reflect the official opinion of any of the LIFT donors.

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ABBREVIATIONS

CDN	Consortium of Dutch NGOs
CF	Community Facilitator
CSO	Civil Society Organization
DOA	Department of Agriculture
DOF	Department of Forestry
IDP	Internally Displaced Person
LIFT	Livelihoods and Food Security Trust Fund
MFI	Micro-Finance Institution
MFVG	Myanmar Fruits and Vegetables Group
MSP	Multi-Stakeholder Platform
NGO	Non-Government Organization
NTFP	Non-Timber Forest Product
ODA	Overseas Development Assistance
SNV	Netherlands Development Organization
UMFCCI	Union of Myanmar Federation of Chamber of Commerce and Industry
VC	Value Chain
VCA	Value Chain Analysis

EXECUTIVE SUMMARY

This Cardamom Value Chain Analysis was conducted as part of the technical support of SNV Netherlands Development Organization (SNV) to the Consortium of Dutch NGOs (CDN) in the "Improving the Incomes and Nutrition Outcomes of Rural Poor in Northern Kayin State" project. The study analyzes the value chain of cardamom (*V. amomum*) production and trade originating in Thandaunggyi Township, Kayin State. It was undertaken from March to May 2017.

The cardamom value chain involves a considerable number of stakeholders: producers, several layers of traders and transporters, importers, and processors and distributors. These stakeholders play distinct roles including production, post-harvest processing, trading and transport, export and import, and finally processing and distribution. Several stakeholders play multiple roles. Generally, the cardamom produced in northern and eastern Kayin state is sold to local and district traders in the Thandaunggyi area and is consolidated by national-level traders in Taungoo. These national traders control the logistical and financial governance of the value chain and are the only actors that have access to market information from importers. The product is exported to China via Mandalay at the Shan State border. Chinese importers market Myanmar cardamom as a cooking spice in their domestic market. Cardamom from Myanmar is not usually used for Chinese traditional medicine – the larger and more profitable market – due to its poor quality.

The bulk of transactions take place at the village level. Producers sell their produce individually, averaging a gross margin of approximately 70 percent. Although this margin is high, producers earn very low incomes as the quantities produced are very small due to small land holdings. The gross margin of traders ranged from 11 to 15 percent, with margins increasing from local to national traders.

Opportunities to strengthen the VC include: widespread access to land that is conducive for production; a large market; a well-established trading network; and availability of technologies to improve production and processing. Constraints include: fragmented production and marketing leading to weak bargaining power for producers; high dependence on informal finance and pre-selling at low rates; low quality due to improper drying and post-harvest handling; unwillingness of traders to pay premium prices for good quality; lack of access to market information; excessive fees from red tape and informal charges.

There is a looming critical threat to the local cardamom industry. The Chinese government has expressed a desire to ban cardamom imports from Myanmar if quality cannot be improved. In fact, current cardamom exports to China are illegal because the product is not within the officially allowed import volume, nor does it pass Chinese quality standards. Interviewed buyers implied that the only reason that Myanmar cardamom is able to enter the Chinese market is that some custom officials in the border are bribed by Chinese traders. Because of the strong drive of the Chinese government to eliminate corruption, it is becoming more difficult for Chinese traders and buyers to import cardamom that does not meet government standards.

The overarching goal is for Myanmar cardamom to be well placed in the international market, meet relevant standards and enter the market legally. In order to do so, a phased intervention plan should be implemented. An initial phase should focus on quick wins for producers, such as piloting a quality improvement or product bulking in order to boost market penetration, developing market intelligence, and advocating for policy reform. Introduction of proper drying technology to minimize post-harvest losses and improve product quality should be an essential component of the first phase. The second intervention phase will be the introduction of alternative finance for producers and the establishment of an inclusive business model.

1. INTRODUCTION

“Improving the Incomes and Nutrition Outcomes of Rural Poor in Northern Kayin State” is implemented by the Consortium of Dutch NGOs (CDN), Cordaid, and World Concern, and is funded by the Livelihoods and Food Security Trust Fund (LIFT). The project’s high-level outcome is “improved economic status and nutritional outcomes of poor rural people in Myanmar with increased income and stable access to and utilization of food for vulnerable households". This outcome is broken down as follows:

1. Rural households (including IDP returnee households) have improved nutritional outcomes,
2. Smallholder farmers (including IDP returnees) achieve increased farm production and economic returns by an improved position in the value chain, and
3. Rural households (including IDP returnee households) are less vulnerable to shocks and stresses.

To achieve these outcomes, the project focuses on four of the LIFT Uplands Program Framework components:

1. Farm advisory services and producer groups,
2. Nutrition,
3. Social protection, and
4. Access to collective / public services.

Sustainable natural resource management and gender equality are cross-cutting issues within the intervention. Women are often underrepresented in civil society organizations (CSOs) and local decision-making processes, and the project actively aims to increase women’s participation.

Under Higher Level Outcome 2, “Smallholder farmers achieve increased farm production and economic returns by an improved position in the value chain”, Output 5 is “Farm advisory services and equipment and input suppliers deliver services appropriate for uplands contexts to smallholder farmers (including IDP returnees)”. Activities under this output include:

1. Training project and implementation partner staff on value chain development so that project staff, including 23 community facilitators, have increased knowledge on value chain development, potentially benefiting all project beneficiaries (5,000 HHs or 25,000 people);
2. Value chain analyses where knowledge gained during the analyses will be used directly to improve and fine-tune the value chain project component and LIFT and its partners, and other supporting agencies can use the knowledge gained from the studies to improve their future interventions in the area;
3. Stakeholder and validation workshops where planning on value chain interventions will benefit project staff, extension workers, direct beneficiaries and knowledge from the VC studies are shared and feedback obtained;
4. Planning supply of production and demand in business linkages targeting farmers (from core or non-core villages) to benefit from supply arrangements;
5. Integration of services, inputs and equipment in business relationships where services linkages established benefit farmers;

6. Build specific capacities of agribusiness and service providers where agribusinesses and service providers are directly benefiting from improved capacities;
7. Co-investments for improved cardamom and other supportive value chain production where farmers (from core or non-core villages) may be provided with small equipment. When proven to work, others will follow with their own investments. The involvement of financial institutions is sought to increase loans for similar investments. In the end, all producer group members (2,000 HHs) will increase their knowledge on certain equipment and possibly follow with their own investments.

Implementation of the above activities was sub-contracted by CDN to the Netherlands Development Organization (SNV). SNV has taken full responsibility for managing and implementing the various activities required, including reporting, and has worked in close collaboration with CDN for all of the above activities. Training of project and implementing partners staffs on value chain analysis (VCA) was conducted to develop their knowledge and capacity to effectively support and participate in the value chain study, from field data gathering to analysis. Project and implementing partners participated in the study in order to maximize the use of existing data and to speed up data gathering, analysis, and reporting.

1.1 Background

SNV is facilitating the implementation of multiple activities that will contribute to the achievement of Higher Level Outcome 2, "Smallholder farmers achieve increased farm production and economic returns by an improved position in the value chain", including VCAs for cardamom and other selected crops.

Cardamom is the common name for two species of the ginger family, *Elettaria cardamomum* (green cardamom) and *Villous amomum* (black cardamom). Both species pods are small, triangular in cross-section, and spindle shaped, with a thin papery outer shell and small black seeds. *E. cardamomum* pods are light green, while *V. amomum* pods are larger and dark brown[1]. In the project area, only black cardamom is grown. This report only addresses black cardamom, and refers to black cardamom only as cardamom throughout.

Cardamom was selected as a priority value chain for promotion due to its overwhelming popularity with beneficiaries - 86.2% of beneficiary farmers surveyed in the project baseline assessment listed it as one of their three most important crops[2]. Cardamom is the top on-farm income earner in the project area. There is potential for farmer-producers to capture more value from their production with appropriate value-adding interventions. A value chain analysis is necessary to determine the opportunities and constraints that affect the development of the value chain and identify the most viable and sustainable interventions that will benefit producers.

[1] The World Market for Cardamom, Market Survey #2 for the USAID/ACCESSO project. www.usaid-accesso.org; accesso@fintrac.org. November 2011.
[2] Baseline Report LIFT Economic and Nutritional Outcomes Project, Mekong Economics Myanmar, April 2017

1.2 Objectives

The objective of this analysis is to understand the dynamics of the cardamom value chain and determine potentials for development, including to:

- Analyze the functions and roles of value chain actors,
- Map the value chain to show relationships between actors,
- Identify existing marketing channels,
- Identify opportunities and constraints in the value chain,
- Determine promising areas for interventions and market-based solutions,
- Identify potential service providers and partners
- Facilitate the design of an appropriate intervention plan for commercially viable solutions

2. STUDY METHODOLOGY

2.1 Study Team and Methodology

SNV conducted the study under the guidance of Mr. Frank Tolentino. Saw Lawlah, the SNV Value Chain Advisor in Myanmar, was responsible for secondary and primary data gathering, including administering surveys and interviews. Key CDN staff were consulted during the data collection process.

Primary data was collected via surveys, key informant interviews and focus group discussions. Surveys were conducted by community facilitators (CFs), under the direction of SNV, after completing a four-day training on VCA methodology. CFs surveyed randomly selected cardamom producers from project villages. SNV developed the survey instrument, which focused on input supply, production, and trading. Key informant interviews and focus group discussions validated, triangulated, and supplemented survey data. Guide questions formulated by SNV were used in all individual interviews and focus groups.

Primary data collection was complemented by desk research, consisting of project reports and assessments, and a secondary data collection of reports, literature, and publications. Secondary data was validated by stakeholders such as traders, exporters, and support institutions including the Department of Agriculture, Department of Forestry, the Union of Myanmar Federation of Chamber of Commerce and Industry (UMFCCI) , research institutes and universities.

All data was validated by representatives of the Cardamom Multi-Stakeholder Platform (MSP) during the Myanmar Fruits and Vegetables Group[3] (MFVG) Product Exposition in December 2017 (see attachment A).

Figure 1: Producer interview by CFs

[3] A working group of the UMFCCI

2.2 Value Chain Analysis Framework

All primary & secondary data were organized and analyzed following a pre-defined value chain analysis framework.

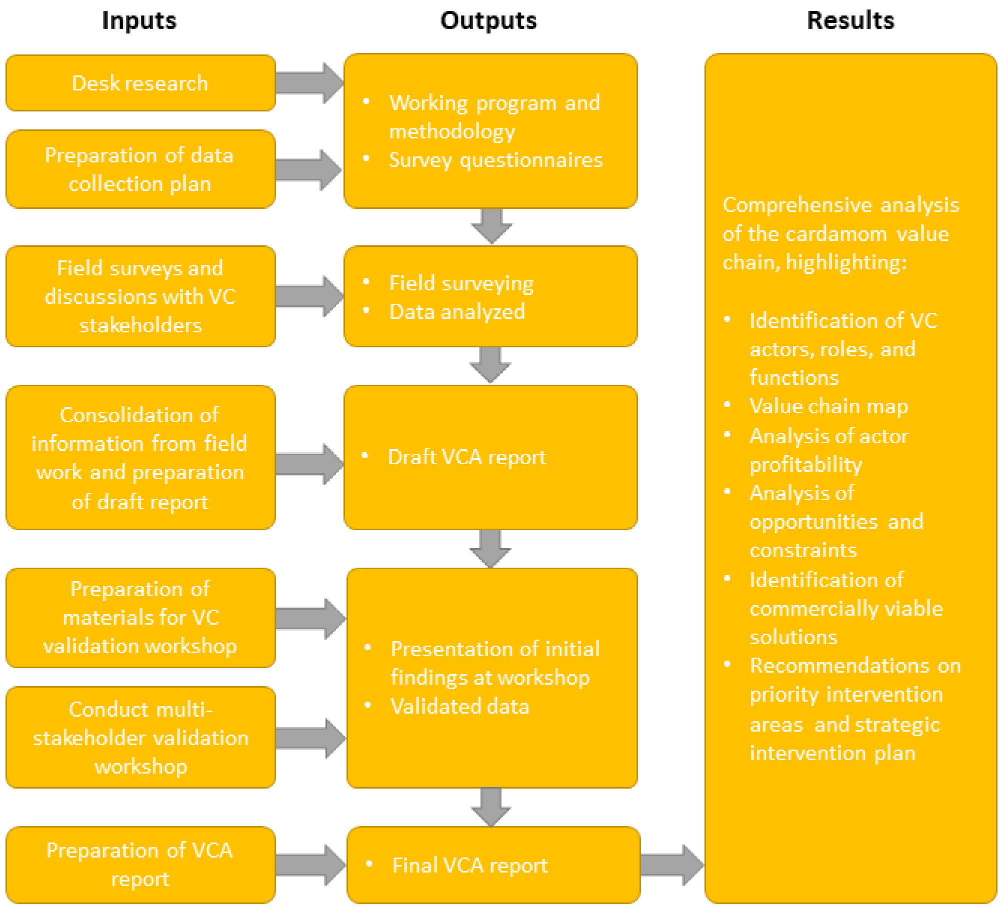

Figure 2: Value chain analysis framework

2.3 Study scope and limitations

This cardamom VCA was conducted primarily in Kayin state. It focused on production areas, local processing, and domestic trading. The study also covered areas outside of Kayin State to trace the flow of the commodity from the source to export markets in order to identify market channels. Stakeholders in regional trading hubs (Taungoo and Mandalay), traders and exporters at the Myanmar-China border, and government staff at the border customs office were interviewed.

Some stakeholders revealed sensitive information and requested not to be quoted or identified. Their contributions have been treated with caution and need further verification. Some interviewees were not open to providing financial information as they were worried that they may be charged additional levies and taxes or were afraid that their strategies would be adopted by competitors.

Due to time and resource constraints, the assessment of the final markets was limited to China. In-depth assessments of other cardamom markets such as Korea, Japan, Vietnam, India was not undertaken.

Access to the Chinese side of the VC was difficult to secure, and primary research began very shortly before the publication of this report. More detailed information remains to be obtained on Chinese VC actors and functions, and the Chinese market. An end market assessment by SNV will address these knowledge gaps.

3. FINDINGS

3.1 Value Chain Geography

Cardamom production areas in Kayin State are concentrated in Thandaunggyi township and areas of neighboring townships close to the Thai border. Thandaunggyi is the northernmost township in Kayin State. It is predominantly hilly and is densely forested. Elevation ranges from 200 meters (600 ft.) to 1,500 meters (4,500 ft.) above sea level.

Figure 3: Cardamom production hubs in Kayin State

The three sub-townships of Thandaunggyi Township that produce Cardamom - Leik Tho, Thandaunggyi, and Baw Ga Li - are the focus of this VCA. The production areas are in upland villages. Accessibility is mostly by trails, though some areas can be reached through a few sealed roads and a number of poorly maintained unsealed roads. The unsealed roads and trails are impassable for motor vehicles for much of the rainy season, and are impassable for cars without four wheel drive year-round.

Figure 4: Product flow to consolidation point in Taungoo

The main trading post is the city of Taungoo, in neighboring Bago state. Taungoo serves as a consolidation area for cardamom coming from the three sub-townships. From Taungoo, cardamom is exported to China via Mandalay or the Shan state border.

3.2 Value Chain Description

Production

The cardamom value chain in Kayin began in the 1980s, when people in Thandaunggyi started harvesting cardamom from the forest, where it grows naturally, and selling it in Taungoo. In the last two decades, demand grew. Some people increasingly supplemented their harvesting with enrichment plantings, and eventually began cultivating.

Today, production is a continuum, with some producers still functioning essentially as harvesters, doing little to nothing to improve their yields or quality, while others own large and profitable farms, investing heavily in labor. This report will refer to "producers" inclusively, from harvesters to larger agroforestery plot owners.

Whether harvesters or farmers, 78% of producers named cardamom their most important source of income[4]. There are about 5,400 producers involved in the production of cardamom in the study area. While the average land holding of producers surveyed is estimated at 12 acres, 43% own less than 5 acres and 27% own between 5-10 acres. Only 10% of producers

[4] Mekong Economics Myanmar, Baseline Report LIFT Economic and Nutritional Outcomes Project, April 2017

surveyed own more than 20 acres. These producers hired or are assisted by more than 37,000 farm workers in plantation establishment, maintenance and harvesting, including post-harvest handling. The total production area is estimated at 65,000 acres (average of 12 acres/ producers) with a production volume of 2,145,000 viss.

Cardamom production in Thandaunggyi is still rudimentary compared to neighboring countries, as it is a niche not well understood by those who do not grow it. Extension services to producers is almost nil. Production is generally organic as producers do not use chemicals or synthetic fertilizers, and drying is done on traditional wood and steel grate dryers.

Land size (acres)	Number of producers	Percentage of producers
0-5	57	43%
6-10	36	27%
11-15	14	10%
16-20	14	10%
21-25	3	2%
26-10	5	3%
36-40	2	1.50%
46-50	1	0.75%
56-60	1	0.75%
76-80	1	0.75%
86-90	1	0.75%

Table 1: Production area

Marketing and trading

There are several levels of traders in this VC, leading to multiple market channels and actor linkages. Farm gate sales are highly fragmented, as producers are not organized, and each individual producer sells their crop independently to local or regional traders, often facilitated by a village broker. These traders in turn sell the crop to regional or national traders in Taungoo. From there it moves onward to the Yunnan border, sometimes via Mandalay, with national traders/exporters. Many producers are financed by traders, who offer financing in exchange for pre-sales. These traders easily fix their seasonal buying price by arranging pre-sales.

A recent development is the entrance of Chinese traders in Myanmar. These traders buy directly from villagers and transport the product directly to China. They operate illegally, without business permits, and do not pay fees and charges. They thus offer higher farm-gate prices than local traders.

Most local transport services are paid for by the producers and traders themselves. They transport products from the villages to the township and from the township to the regional hub in Taungoo. Regional traders transport from Taungoo to the Chinese border. Some traders contract transporters to ship their cargo.

The market for Kayin's cardamom is either exclusively or nearly exclusively China. Chinese importers are located on the Myanmar-China border and do business with Burmese national traders/exporters. Cardamom from Myanmar is generally of poor quality, and is mostly or exclusively sold as a cooking spice. Higher quality cardamom from Laos and Vietnam is sold in China as an ingredient in traditional medicine. Previously, limited cardamom quantities are reported to have been exported from Taungoo to Korea, but this channel does not seem to be active.

Governance

Within Myanmar, logistics and financing are controlled by national traders. Chinese importers dictate prices, the basis of which is unknown to traders and producers.

Enabling Environment

The Departments of Forestry and Agriculture, Customs office, local and national government, and Chamber of Commerce provide support services such as licensing, collection of fees and charges, and policy support. There are no formal financing institutions currently. VC activities are financed by traders who provide advances to producers. Among traders at various levels, credits are usually provided or supplied by traders higher up. There are few traders that obtain financing from other informal sources such as relatives and friends.

VC Actor	Roles
Producers/Workers	Production • Establish and manage plantations • Collect and produce seedling • Weed plots annually • Harvest from September to November Post-harvest processing • Dry pods • Remove capsule tail • Packing and store pending sale to traders • Transport and sell dried cardamom to local traders
Local traders and brokers	• Collect cardamom from producers, store, transport, and sell to district level traders • Provide advances to producers
Regional traders	• Collect cardamom from local traders and producers • Store, sell, and transport to regional level traders • Pay trading and business taxes to the revenue office • Obtain transport documents from DOF via unofficial fees
National traders/Exporters	• Buy cardamom from local and district traders • Collect, store, dry, remove tail, grade and brand, transport, and sell to importers • Pay trading and revenue taxes, including forest charges, to DOF and customs offices
Transporters	• Pay shipment fees and “unofficial” fees • Obtain required transport documents
Importers	• Warehouse cardamom • Sell and deliver cardamom to processors

Processors	• Source cardamom from importers
Enabling Actor	**Roles**
Customs Office	• Check products and issue trading licenses • Collect revenue • Maintain transaction records
Department of Forestry	• Issue certificate of origin to traders • Collect forest charges from traders
UMFCCIs	• Promote and advocates for member businesses • Advocate for reformulation of policies • Counsel member businesses

Table 2: Actors and roles

3.3 Market Channels

The Kayin cardamom VC has four market channels, differentiated by their respective layers of brokers and traders. Channel one, the most common and longest channel, sees cardamom pass through three layers of traders before it reaches the border. The other channels are more direct. In Channel 2, producers bypass village brokers and agents and sell directly to local traders. In Channel 3, producers sell directly to regional traders bypassing local and district traders. Channel 4, the only one which involves Chinese traders purchasing, is the newest channel.

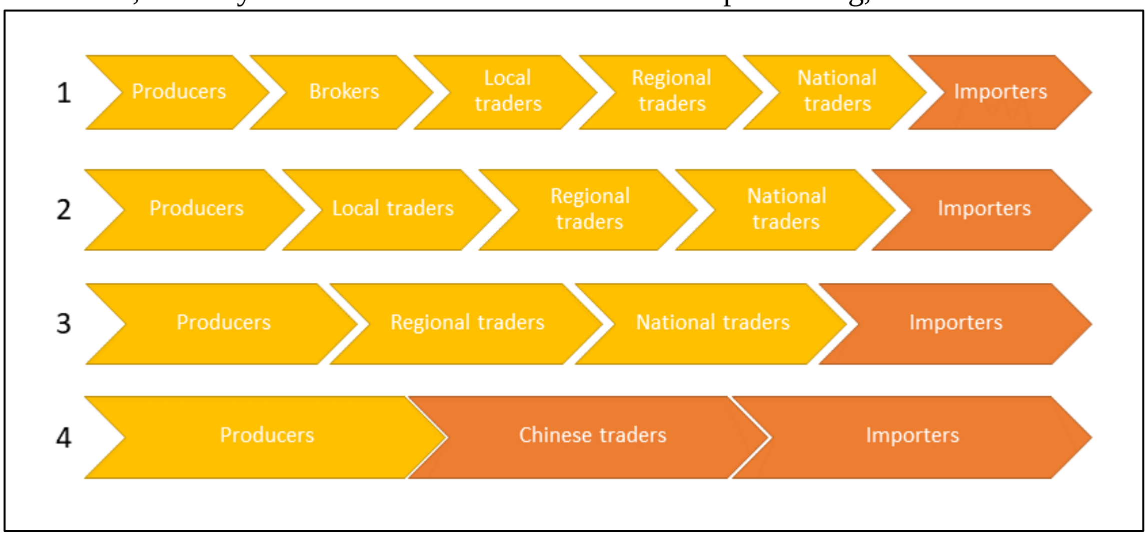

Figure 5: Market Channels

3.4 Profitability

Overall

Several constraints limit profitability throughout the VC. Access to price information from the village level to national traders is very limited. Even national traders are very dependent on prices set by Chinese importers. Prices fluctuate very rapidly during the harvesting season. There is no price structure that traders use as no product classification is being followed. Traders are not willing to pay extra for higher quality product hence producers get no incentive in improving product quality. Traders reported that the majority of producers sell poor quality products. The small quantities of high quality cardamom they buy must be bulked with lower-quality cardamom, thus driving the importers' purchase price down.

Producers

Producers earn the largest gross margins (calculated simply as revenue - cost of goods sold), due to low investments in production. Some producers reported visiting their plots only during harvest time. Due to small production areas, even with relatively high margins, most producers have low total seasonal earnings. Lack of market information, pre-selling, and high interest rates from informal financing all reduce producer profitability. Thieves, a persistent problem, erode profitability in two ways. First they directly reduce profit by stealing cardamom from fields before harvest. Second, they reduce product quality by incentivizing producers to harvest prematurely. Finally, rat infestation in fields, which occurs every few years, dramatically reduces yields and profit.

Traders

Among traders, national traders, who number between 50-100, reported the highest margin, about 15%. Local and regional traders, who operate locally and move smaller volumes, report 13% and 11% respectively. No data has been obtained about importers' margins. These self-reported margins were validated by representatives of the MSP.

Enabling Environment

High transport cost due to poor road infrastructure also lowers profit margins for both producers and traders, as do trade restrictions, onerous regulations, and heavy taxation.

Value Chain Activity	Actors	Number of Actors	Production or transaction volume (viss)*	Simplified gross margin (%)
Production and post-harvest	Producers	5416	2,145,000	72
	Farm workers	37,912		
Local trading	Local Traders	10 (Thandaunggyi)	3,895	13
Regional Trading	Regional Traders	15 (Thandaunggyi)	250,000	11
National Trading and Export	National traders/ exporters	50-100	590,000	15
Import	Importers	Unknown	No data yet	Unknown
Processing/ Distribution	Processors/ distributors		Needs further study	

Table 3: Volumes and profitability

Note: Total production/transaction volume does not equal total volume traded as some traders underreported their volume

3.5 Value Chain Map

The cardamom value chain map shows how each actor relates to one another as cardamom passes from production to the Chinese market. The VC in China is not well understood at present. Further research is ongoing.

Figure 6: Value Chain Map

3.6 SWOT Analysis

This section analyzes production, marketing and trading, and the enabling environment in terms of strengths, weaknesses, opportunities and threats. Existing factors are categorized as strengths and weaknesses, while potential future impacts are categorized as opportunities and threats.

Production and Post-Harvest Processing
Producers have ample strengths and opportunities to capitalize on to improve their revenue. The area is agronomically suitable for production, producers organize to strengthen their bargaining position and there could be room for a quality-based payment system.

The major on-farm constraints are low production and sub-standard post-harvest processing, which result in low-value cardamom. Most small producers prefer to minimize or altogether avoid production and post-harvest costs. These producers show little interest in expanding production areas or improving product quality, and are typically highly indebted to traders. Survey data suggests that there are plots that can produce higher yields when properly managed (maximum of 200 viss per acre) and that losses are possible to minimize with proper drying, but widespread producer adoption of improved and/or costly techniques is a challenge. Producers' lack of access to extension services contributes to their limited knowledge and disinterest in improving productivity and quality.

Other factors that affect productivity are pest and diseases, unorganized production, high cost of transport due to poor infrastructure, lack of market access or price information, and inability to negotiate for better prices.

Contribution to HH income	Number of producers	Percentage of producers
0-10%	25	18.66%
11-20%	6	4.48%
21-30%	10	7.46%
31-40%	13	9.70%
41-50%	37	27.61%
51-60%	7	5.22%
61-70%	4	2.99%
71-80%	20	14.93%
81-90%	9	6.72%
91-100%	3	2.24%

Table 4: Reported cardamom contribution to household income


Figure 7: Traditional bamboo and grate dryer

Marketing & trading

China is an accessible and growing market for cardamom, but it is possible that the Chinese government will prohibit the importation of cardamom from Myanmar in the near future if quality cannot meet their standards. This is the overwhelming threat facing the viability of the VC. Myanmar cardamom currently falls below Chinese quality standards and is imported there in excess of the officially allowed quota. Buyers implied that that Myanmar cardamom is only able to enter the Chinese market due to bribery of customs officials. Because of the strong drive of the Chinese government to eliminate corruption, it is becoming increasingly difficult for Chinese traders and buyers to bring in cardamom from Myanmar that does not meet government standards.

Policy and Enabling Environment

In spite of the recent passage of a law classifying cardamom as an agricultural crop, it is still regulated as a Non-Timber Forest Product (NTFP). This requires traders to get a permit from DOF to transport it. Traders are still required to get a permit to transport and must pay forest charges which vary from one region to another. Another issue raised by some traders during the study was the payment of a fixed facilitation fee to the DOF of 20 million kyat per year, regardless of trading volume. Transporters also singled out under the table payments at roadside checkpoints as a significant drain on their profitability.

The proliferation of Chinese traders buying cardamom directly from producers is undercutting local traders. The Chinese traders don’t have business permits and don’t pay taxes and fees. While this can result in better farm-gate prices, it is a disadvantage for local trading networks.

Table 5 summarizes strengths, weaknesses, opportunities, and threats in the VC.

<table>
<tr><th>Strengths and Opportunities</th><th>Weaknesses and Threats</th></tr>
<tr><td colspan="2">Production and Post-Harvest</td></tr>
<tr><td>Strengths
• Suitable production conditions
• Area available for production expansion
• Traders can provide advance to producers
• Product quality improvement possible

Opportunities
• Producers can be organized to increase bargaining capacity, consolidate production, and adopt VC improvement
• Appropriate technologies for production and processing from neighboring countries available and adoptable
• Potential economic benefits through improved production and processing technologies</td><td>Weaknesses
• Low producer interest in expanding production
• Low product quality
• Short shelf life due to improper drying and poor packaging
• Lack of extension services
• Thieves
• Pest infestation

Threats
• Low adoption of improved production and drying technologies</td></tr>
<tr><td colspan="2">Marketing and Trading</td></tr>
<tr><td>Strengths
• Traders at village, township and regional levels
• Producers have direct access to well-paying Chinese traders
• Traders have good access to warehousing and transport services
Opportunities
• Producers have shown interest in organizing themselves to increase their marketing position
• Services to organize producers are available from CSOs and NGOs</td><td>Weaknesses
• Lack of producer organization
• Producers and village and regional traders have limited market information and are price takers
• Majority of producers pre-sell at low rates
• No quality based product grading
• Unofficial charges levied on traders by DOF and Customs offices and at road checkpoints
• High transport cost due to poor infrastructure
• Dependence on a single export market, no domestic market
Threats
• Competition from other areas of Myanmar and neighboring countries
• Ban from China</td></tr>
<tr><td colspan="2">Enabling Environment</td></tr>
<tr><td>Opportunities
• Union and State-level parliaments willing to institute reform to improve the value chain</td><td>Weaknesses
• Cardamom classified as an NTFP, requiring transport permission and forest charges in each region from DOF</td></tr>
</table>

Table 5: SWOT Analysis

4. RECOMMENDATIONS

4.1 Proposed Solutions to Key Constraints

In Table 6, These solutions are market-based where ever possible. Potential service providers and partners are also identified including the constraints to the provision and use of the solutions. Project interventions to address the constraints are highlighted.

Constraint	Recommendation	Potential service providers and partners	Implementation constraints	Interventions to overcome constraints	Recommendation potential impact	Recommendation feasibility
Production and Post-harvest						
Low producer interest in expanding production	Identify producers with interest in expansion and provide capacity development	NGOs and CSOs	Lack of service providers on business planning and training	NGOs build internal and partner capacity	Unknown	High
Low product quality	Improve production and post-harvest practices	NGOs; DOA	Limited information on cardamom best practices available in Myanmar	Research and import neighboring countries' production practices	High	High
Short shelf life of improperly dried and stored cardamom	Increase access to better dryers and quality packaging	NGOs; DOA; Private sector; MSP	Producers reluctant to invest in improved technology or more labor-intensive practices	Educate producers on increased profitability from loss minimization	Medium	High
Lack of access to extension services	Train extension workers	NGOs; DOA; Private sector; MSP	Lack of extension knowledge; lack of resources	Research and import neighboring countries' production practices; Train DOA staff; work through CSOs	Medium	High

Thieves	Develop local system of purchase certification	Traders; MSP; NGOs	Lack of trader interest in compliance; lack of enforcement mechanisms	Build producer-trader relationships through MSP	High	Low
Pest infestation	Provide extension services on pest control measures	DOA; private sector; NGOs; MSP	Lack of extension capacity and availability	Train potential partners on pest control measures	High	Very low
Low adoption of improved production and drying technologies	Promote improved production, post-harvest, and storage technologies and best practices	DOA; Private sector and traders; NGOs; MSP	Producers reluctant to invest in improved technology or more labor-intensive practices	Educate producers on increased profitability from loss minimization and quality improvements	Medium-high	High
Marketing and Trading						
Lack of producer organization	Producers organize to sell in bulk	DOA; NGOs; MSP	Lack of producer interest without immediate impact on farm-gate prices; Potential of mixed quality from different producers	NGOs facilitate the organization and strengthening of producer groups	Medium	Medium
Producers and village and regional traders have limited market information and are price takers	Improve VC transparency by providing all stakeholders access to price information	UMFCCI; Ministry of Industry; Traders and exporters; MSP; NGOs	Costly and logistically difficult to gather and disseminate price information	Promote strong coordination between stakeholders (government, CSOs, NGOs, private companies)	High	Low
Majority of producers pre-sell at low rates	Facilitate access to affordable financing mechanisms	MFIs; local development banks	Producers not eligible for loans; Implementing financing in remote areas logistically challenging	Facilitate organization of producers for group loans; promote self-help financing	High	Medium

No quality-based product grading	Adopt market-driven product classification and standards	Ministry of Industry; UMFCCI; Traders; NGOs	Lack of knowledge of Chinese market demands, classifications, and standards	Conduct research on Chinese classification and standards; develop Myanmar standards consistent with market requirements	High	Medium
Unofficial charges / bribes levied on traders by DOF and Customs offices and at road checkpoints	Enlist government assistance to combat bribery	Parliament; concerned government departments	Politically sensitive issues difficult to tackle; changing practices takes time	Organize and strengthen MSP to advocate for reforms and enforcement	High	Low
Chinese traders undercutting domestic traders via tax and fee evasion	Curtail illegal trading	Tax Department; Department of Trade and Industry; Local government	Strict policing and monitoring	Organize and strengthen MSP to advocate for reforms and enforcement	Medium	Low
Dependence on a single export market, no domestic market	Explore alternative markets	UMFCCI; Ministry of Industry; Traders and exporters; CSOs and NGOs	Assessment of alternative markets is costly and time consuming	Mobilize UMFCCI, exporters and government industry department to conduct market assessments	Unknown	Low
Enabling Environment						
Cardamom classified as an NTFP, requiring transport permission and forest charges in each region	Reform and rationalize laws and policies	Parliament; DOF; Department of Trade and Industry; UMFCCI	Legal and policy changes are promulgated slowly	Organize and strengthen MSP to advocate for reforms and enforcement	Medium	High

Table 6: Constraints and Opportunities

4.2 Priority Interventions

With several interrelated weaknesses and threats constraining the VC, stand-alone solutions to specific constraints would not be effective; a more encompassing and integrated approach is necessary. Interventions should be packaged into a program that will address multiple interrelated constraints. Below are recommended priority interventions, that when implemented systematically, will unlock the potential of this VC. These interventions are market-driven to the greatest extent possible, in order to ensure post-project sustainability.

Development of a Multi-Stakeholder Platform

A project-based response to the identified constraints is a necessary starting point. However, project-driven interventions will not be sustainable over the long term. Once the project ends, interventions will most likely stop as well. To this end, organizing a civil society organization in the form of a multi-stakeholder platform composed of VC stakeholders with common interests is recommended. This includes producers, brokers, and traders, as well as political figures and government partners from DOA and DOF. The MSP will be a venue for these member stakeholders to discuss, prioritize, and act on VC issues and mobilize resource themselves after the project ends. The project should continuously capacitate the MSP during the project lifetime in organizational functioning, service delivery, resource mobilization, political advocacy, and strategic planning. By project phase-down, the MSP should be a self-governing and self-sustaining body that responds to member needs.

Quality improvement and product bulking to enhance market access

Inferior cardamom quality and individual selling by producers results in a poor bargaining position for the producers. Producer adoption of appropriate production and processing technologies is a precondition for increasing productivity and profitability. Selling in bulk will make transactions more efficient and give producers the opportunity to leverage a better price.

The project will pilot bulking and quality improvement by identifying producers interested in adopting quality improvements and product bulking. Technical support will be provided to enhance processing and achieving market-driven quality standards as well as assisting in product storage. Improved drying facilities can be introduced to the producers to ensure that cardamom is dried immediately after harvest at the desired moisture content and with good appearance. In order to encourage producers to adopt technologies, the project will should demonstrate the cost and benefits of process improvements.

Organizing and strengthening producer groups

The organization and strengthening of producer groups is the starting point of implementing village-level interventions aimed at a more sustainable cardamom value chain. Whenever fragmented marketing exists, the bargaining capacity of small-scale producers will remain weak. Product bulking, which can easily be done if producers are organized, is the solution to fragmentation. Organizing producers will help facilitate delivery of services such as trainings and technical assistance. When producers are organized, they can have a common voice in bargaining negotiate effectively with buyers. Implementation of actions or projects will become more efficient through a strong and capable producer group as well.

Promisingly, producers surveyed reported an interest in organizing themselves to increase their leverage in marketing. Organizing is a long-term process but facilitators can begin by working around common issues and concerns as an entry point. It is usually effective to start an organization once producers and traders clearly understand the benefits of organizing to achieve common goals. In this case, the preceding step of MSP formation can offer a platform to develop this knowledge. The assistance of NGOs in organizing and capacity building would be necessary until such time that the groups can function on their own. When producer groups have been formed, CFs can work on building their capacity in production, post-harvest, and farming as a business. The CFs should prioritize interventions are self-sustaining and commercially viable. To become truly sustainable and recognized as a constructive partner by both the private and the public sectors, the producer group should be formalized and obtain a legal status.

End market assessments and developing alternative markets
End market assessments for China and other alternative markets must be conducted and strategies to access these markets are formulated.. Relying only on the Chinese market is a high-risk strategy which is compounded by the lack of reliable information on that market. The UMFCCI, the Trade and Industry Department, and other business associations should be tapped to facilitate the assessment and to identify and establish market connections.

Policy reforms to support transparent and equitable cardamom business
This intervention aims at reforming policies to achieve more transparent governance of the VC and the development of a more equitable and business-friendly environment for stakeholders. Surveyed VC actors identified the following priority policies for reform: the need to classify cardamom as an agriculture product to reduce red tape in securing licenses and transport permits; payment of unnecessary facilitation fees during product transport; burdensome certifications and clearances from the customs office; and levelling the playing field among traders by ensuring that all of them operate legally with required business and operations permits and pay taxes. Promisingly, policy makers are aware of the issues and have signaled their interest in resolving them.

There are four stages envisioned:

1) Review and analysis of current laws and regulations on cardamom production and trade;
2) Preparation of a policy brief and position paper to advocate for policy changes and reforms;
3) Coordination with policy makers to revise and pass appropriate laws and regulations;
4) Monitor implementation and enforcement of enacted laws and regulations

The MSP will serve as a venue for policy review and advocacy for reform. The review stage will focus on obstructive policies that contribute to inefficiencies in the VC and to an unfavorable business environment. The MSP can serve as a platform for advocacy.

Access to finance for producers
The majority of producers pre-sell their cardamom and are dependent on traders for cash advances to finance their production and their households during the cardamom season. Producers are not able to negotiate for better prices as their harvest is already committed to

traders at a price that the traders dictate, and many of them cannot get out of the cycle of indebtedness to traders. Designing a financing scheme that is based on producer needs and capabilities offers an avenue to address this constraint. The financing scheme should consider financing producers' household expenses in addition to production costs in order to completely break away from financing through traders. It is assumed that when producers have a viable alternative to pre-selling, they will be able to look for traders from whom they can negotiate a better price for their harvest.

Inclusive Business Model for Cardamom Value Chain Development
To structurally improve the market position of producers, they need to be linked to other stakeholders downstream. An inclusive business model, in which producer groups and buyers work together to achieve a mutually beneficial business partnership is a potentially powerful way to achieve this integration. Potential buyers with the conviction that fair prices, improved product quality, and long-term relationships will strengthen their market position must be identified and cultivated. A mutually attractive price will have to be offered by the buyers to the participating producer groups in order to develop such a relationship and sustain their market position. The benefit to the buyers is that they will have a sustained supply of quality products. In return, producers will ensure that they will participate in the business undertaking by adopting appropriate technology and good agricultural practices, and ultimately delivering the required product volume according to the agreed timetable and quality specifications.

The inclusive business model will build trust and confidence between and among business partners and improve transparency in all transactions. The viability of the inclusive business model is predicated on successfully implementing other related interventions, such as organizing producers, facilitating access to finance for producers, and cultivating policy reforms to support transparent and equitable cardamom business.

4.3 Service Providers and Partners for Priority Interventions

Implementation of the above priority interventions requires support from multiple stakeholders. The project should initially assist producer groups, the MSP, and other VC stakeholders in obtaining the required services. Delivery of the services should be made commercially viable to ensure sustainability of the assistance. The following institutions and organizations are potential service providers and partners:

- UMFCCI
- Parliament and Local Government
- CSOs
- MFIs, Overseas Development Assistance (ODAs), and commercial and development banks
- NGOs
- Traders and exporters
- Certifying bodies
- Government line agencies
- Research & training institutions and universities

4.4 Intervention Plan

The recommended integrated VC interventions should be implemented in two phases. The first phase should focus on development of the MSP alongside the quick win intervention of quality improvement and product bulking to enhance market access. The quick win activities will include simple participatory business planning with producers to determine intervention viability, identifying interested producers, and designing a product quality improvement and consolidation plan. Support for installing drying facilities and product storage will be considered as part of the quality improvement option. Technical training and marketing assistance will also be provided as part of this intervention. Traders will be engaged to identify and contribute to quality improvements that would merit higher prices.

Simultaneous to MSP formation and quick win intervention implementation, policy advocacy and reform will be facilitated through the MSP and organizing and strengthening of producer groups will be undertaken.

The second intervention phase is facilitating access to finance for producers and the development of the inclusive business model.

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6. ANNEXES

6.1 Cardamom Baseline Data Questionnaire

1. Production level (farmers) = 500 farmers from 100 villages + 15 farmers from 3 villages (from 3 townships) outside of project area
   - How many farmers are involved in cardamom production?
   - How many people (family member___ and outsiders____) help in cardamom farming?
   - How much is the cost of planting one hectare or acre of cardamom
   - Who supplies the farming inputs?
   - What are the farming inputs required?
   - How much the inputs cost?
   - How much is the cost of land plantation maintenance, harvesting drying, transport and packaging?
   - How do you finance your plantation development and harvesting costs? What are your sources of financing?
   - What is the average land area allotted for cardamom production?
   - What is average yield per hectare or acre?
   - How do you maintain quality of cardamom?
   - Do you practice product sorting or grading?
   - Are there differences in the price depending on product grades?
   - What is the average price does the farmer gets per kilo or per vizz of dried cardamom
   - Whom or where does the farmer sell the cardamom product?
   - What are the payment terms; cash on delivery, advance payment, credit, etc.?
   - What is the total sales the farmer gets in one cropping season/cycle?
   - What percentage does income from cardamom contributes to household income?
   - What are the major constraints and opportunities in the production of cardamom?

2. Village Traders (all villages traders in all villages in project area and outside project area)
   - How many village traders are involved in cardamom trading in the village?
   - Are the traders organized?
   - On the average, how many people are employed by each trader?
   - How many days in the year the workers/employees are engaged by the trader?
   - What is the daily wage each worker is paid?
   - What facilities are used by the traders in their trading operations i.e. trucks, dryers, sorting machine, sieve, etc.?

- What outside support services do you need for your operations i.e. accounting services, business planning, etc.?
- How much capital have you put up for your trading business? How do you finance your trading operations? What are your sources of financing?
- What is the average volume of cardamom are traded per season/cycle or per year?
- Where do the traders get their supply of cardamom?
- What is the average buying price of cardamom from the suppliers/farmers?
- Who pays for the transport of cardamom from the source to the traders? Is the cardamom delivered by farmers to the traders or pick up by the traders from the farmers?
- How much is the costs of re-drying cardamom, cleaning and sorting, bagging, transport?
- What are the other costs that the traders are paying for as part of their operations?
- Where or to whom does the traders sell their products?
- What is the prevailing selling price of cardamom this season?
- How much were the selling price in the last five years?
- On the average, how much is the trader's profit per kilo of cardamom.
- What are the major constraints and opportunities in the village level trading cardamom?

3. Township Level Traders - 10% of existing traders in all townships and sub-townships covered by the project and 10% of traders in the 3 townships outside the project area)
    - How many township level traders are involved in cardamom trading in the township?
    - Are the township traders organized?
    - On the average, how many people are employed by each trader?
    - How many days in the year the workers/employees are engaged by the trader?
    - What is the daily wage each worker is paid?
    - How much capital have you put up for your trading business? How do you finance your trading operations? What are your sources of financing?
    - What facilities are used by the traders in their trading operations i.e. trucks, dryers, sorting machine, sieve, etc.?
    - What outside support services do you need for your operations i.e. accounting services, business planning, etc.?
    - What is the average volume of cardamom are traded per season/cycle or per year?
    - Where do the traders get their supply of cardamom?
    - What is the average buying price of cardamom from the suppliers/farmers?

- Who pays for the transport of cardamom from the source to the traders? Is the cardamom delivered by farmers or village trader to the township traders or pick up by the township traders?
- How much is the costs of re-drying cardamom, cleaning and sorting, bagging, transport?
- What are the other costs that the traders are paying for as part of their operations?
- Where or to whom does the traders sell their products?
- What is the prevailing selling price of cardamom this season?
- How much were the selling price in the last five years?
- On the average, what is the estimated profit per kilo from cardamom the township traders get?
- What are the major constraints and opportunities in the township level trading cardamom?

4. Regional Traders/Exporters (all traders in Taungoo)
    - How many regional traders are involved in cardamom trading in Kayin state or region?
    - Are the regional traders organized?
    - On the average, how many people are employed by each trader?
    - How many days in the year the workers/employees are engaged by the trader?
    - What is the daily wage each worker is paid?
    - How much capital have you put up for your trading business? How do you finance your trading operations? What are your sources of financing?
    - What facilities are used by the traders in their trading operations i.e. trucks, dryers, sorting machine, sieve, etc.?
    - What outside support services do you need for your operations i.e. accounting services, business planning, etc.?
    - What is the average volume of cardamom are traded per season/cycle or per year?
    - Where do the traders get their supply of cardamom?
    - What is the average buying price of cardamom from the suppliers/farmers?
    - Who pays for the transport of cardamom from the source to the traders? Is the cardamom delivered by farmers or village trader to the township traders or pick up by the township traders?
    - How much is the costs of re-drying cardamom, cleaning and sorting, bagging, transport?
    - What are the other costs that the traders are paying for as part of their operations?
    - Where or to whom does the traders sell their products?
    - What is the prevailing selling price of cardamom this season?
    - How much were the selling price in the last five years?

- On the average, what is the estimated profit per kilo from cardamom do the regional traders get?
- What are the major constraints and opportunities in the regional trading and exporting of cardamom?

5. Border Traders and Importers (sample of at least 10% of border traders (
   - How many border traders/importers are involved in cardamom trading in Kayin-China border?
   - Are the border traders/importers organized?
   - On the average, how many people are employed by each trader?
   - How many days in the year the workers/employees are engaged by the trader?
   - What is the daily wage each worker is paid?
   - How much capital have you put up for your trading business? How do you finance your trading operations? What are your sources of financing?
   - What facilities are used by the traders in their trading operations i.e. trucks, dryers, sorting machine, sieve, etc.?
   - What outside support services do you need for your operations i.e. accounting services, business planning, etc.?
   - What is the average volume of cardamom are traded per season/cycle or per year?
   - Where do the traders get their supply of cardamom?
   - What is the average buying price of cardamom from the suppliers/farmers?
   - Who pays for the transport of cardamom from the source to the traders? Is the cardamom delivered by farmers or village trader to the township traders or pick up by the township traders?
   - How much is the costs of re-drying cardamom, cleaning and sorting, bagging, transport?
   - What are the other costs that the traders are paying for as part of their operations?
   - Where or to whom does the traders sell their products?
   - Do your product differentiation and are the products sold in several types of markets i.e. spice market, medicine manufacturers as buyers, etc.?
   - What is the prevailing selling price of cardamom this season?
   - How much were the selling price in the last five years?
   - On the average, what is the estimated profit per kilo from cardamom do the border traders get?
   - What are the major constraints and opportunities in the border trading and importing of cardamom?

6. Transporters (100% of all transporters)
   - What specifically are your role in the cardamom value chain as transporter?

- What type of services do you provide and who are your clients from among the cardamom value chain actors?
- What facilities, equipment, machineries, etc. do you use for operations?
- How much is your investment in your transport business?
- How much is your operations costs in relation to cardamom transports?
- How much do you charge for your services?
- How much profit do you get on cardamom transport?
- Where are you located? What is your coverage area of operations?
- What are the major constraints and opportunities in your operations related to cardamom transport business?

7. Warehouse operators (100% of those using warehouse for cardamom)
    - What specifically are your role in the cardamom value chain as warehouse operator?
    - What type of services do you provide and who are your clients from among the cardamom value chain actors?
    - What facilities, equipment, machineries, etc. do you use for operations?
    - How much is your investment in your warehousing business?
    - How much is your operations costs in relation to cardamom transports?
    - How much do you charge for your services?
    - How much profit do you get on cardamom storage?
    - Where are you located? What is your coverage area of operations?
    - What are the major constraints and opportunities in your operations related to cardamom warehousing and storage business?

8. Department of Forest
    - What role do you perform in the cardamom value chain?
    - What type of services do you provide to your cardamom clients?
    - How much fees are charge to your clients?
    - What constraints do you see in delivering services to your cardamom clients?
    - What do you see about prospects of cardamom industry in the future?

9. Customs office (2 offices in Taungoo and one in 105 Miles)
    - What role do you perform in the cardamom value chain?
    - What type of services do you provide to your cardamom clients?
    - How much fees are charge to your clients?
    - What constraints do you see in delivering services to your cardamom clients?
    - What prospects do you see in the cardamom industry in the future?

10. Chamber of commerce and industry (one office)
    - What role do you perform in the cardamom value chain?
    - What type of services do you provide to your cardamom clients?
    - How much fees are charge to your clients?
    - What constraints do you see in delivering services to your cardamom clients?
    - What prospects do you see in the cardamom industry in the future?

11. Research Institutions and Universities
    - What role do you perform in the cardamom value chain?
    - What type of services do you provide to your cardamom clients?
    - How much fees are charge to your clients?
    - What constraints do you see in delivering services to your cardamom clients?
    - What prospects do you see in the cardamom industry in the future?

12. Department of Agriculture (one office)
    - What role do you perform in the cardamom value chain?
    - What type of services do you provide to your cardamom clients?
    - How much fees are charge to your clients?
    - What constraints do you see in delivering services to your cardamom clients?
    - What prospects do you see in the cardamom industry in the future?

13. Financing Institutions i.e. banks, cooperatives, micro-finance institutions, self-help groups?
    - What products and services (loans/credit, business support services, etc.) do you provide to the cardamom value chain businesses such as?
      a) inputs suppliers
      b) farmers/producers,
      c) traders (village, township, regional and border traders)
      d) warehousing
      e) Transporters
      f) exporters

    - What are your requirements from prospective clients to qualify and can avail your products and services? If you provide financial services, i.e. loans and credits, what are the terms and conditions?

    - What are the terms and conditions for other services, i.e. non-financial services?
      a) Technical assistance
      b) Business planning
      c) Consultancy services

d) Others

- How do you see the cardamom business going in the next few years?
- Based on your experiences dealing with cardamom producers, processors, traders, wholesalers, and exporter, what can you recommend improving cardamom-based related business?

14. Other actors i.e. police, civil society organizations, NGOs, parliament, local government
    - What role do you perform in the cardamom value chain?
    - What type of services do you provide to your cardamom clients?
    - How much fees are charge to your clients?
    - What constraints do you see in delivering services to your cardamom clients?
    - What prospects do you see in the cardamom industry in the future?

6.2 Baseline Assessment Guide

- Develop and administer baseline survey instruments and collect baseline information at each node of the value chain to enable the project to measure progress, outcomes and impact.
- Quantify the value chain actors and service providers, particularly producers, processors and traders.
- Quantify production volume, productivity, sales, added value, gross margins, actual benefits and income generated at various levels of the value chain.
- Generate data on infrastructure facilitating production and marketing.
- Calculate the contribution of the cardamom value chain to household income, job creation, and other social, economic and environmental impacts.
- Analyze power relations to understand forms and causes of exclusion at various levels of the value chain, including traders and farmers; landowner and tenant farmers, and farmers and seasonal labor.
- Estimate volume of trade at key market hubs and current value additions and product diversification possibilities; flow of market information; access to information, etc.
- Analyze access to finance, inputs, extension services and market, including distance.
- Analyze comparative advantage, constraints and opportunities at each level of the value chain, including loss in production and post-harvest, existing farming situation, harvesting and management technology, and varieties/breed.
- Generate relevant statistic on demographic and socio-economic fears of the targeted beneficiaries (gender disaggregated) related to the cardamom value chain in the project intervention areas.
- Disaggregate gender of the value chain actors and the extent of inclusion of socially and economically excluded groups in all steps of the value chain. Identify the needs

and interests of women and excluded groups at various levels and their access to services offered by public and private service providers.