Cocoa Value Chain Analysis
A Case Study of
Ben Tre & Tien Giang Provinces in Vietnam

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ABSTRACT

Cocoa for export is a young industry in Vietnam with only a decade of focused investment coming from the public and private sectors as well as external aids. While the country’s total production is still small, Vietnam has been recognized as an emerging producer of well-fermented beans in the region. The industry’s potential, however, is not yet maximized since high-value creation activities from cocoa (i.e. processing cocoa into chocolate and other end-products) are still underinvested, and local farmers benefit very little compared to overseas cocoa manufacturers.

This study uses value chain analysis to show that cocoa processing is feasible at a small scale in Vietnam and can create significantly more value than exporting raw beans. In researching ways for cocoa farmers to increase income, the study found that (1) the number of middlemen can hardly be reduced due to governmental regulation, (2) UTZ Certified program helps promote good cocoa cultivation techniques, and (3) clear criteria for mature cocoa pods would potentially increase fermentation quality and thus the producer price.

Key words: cocoa, value chain analysis, chocolate, environment, Vietnam, farmers, agriculture.
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<th>ACRONYMS</th>
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<td>FIEs</td>
<td>Foreign-invested enterprises</td>
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<td>HELVETAS</td>
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<tr>
<td>Kg</td>
<td>Kilogram</td>
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<td>MARD</td>
<td>Ministry of Agricultural and Rural Development</td>
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<td>MT</td>
<td>Metric ton</td>
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<tr>
<td>NLU</td>
<td>Nong Lam University (Ho Chi Minh City’s Agricultural University)</td>
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<tr>
<td>SUCCESS</td>
<td>Sustainable Cocoa Enterprise Solutions for Smallholders</td>
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<td>USAID</td>
<td>U.S. Agency for International Development</td>
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<tr>
<td>UTZ</td>
<td>UTZ Certification program for coffee, cocoa and tea</td>
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<td>VND</td>
<td>Vietnam Dong (National currency in Vietnam)</td>
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CHAPTER 1

INTRODUCTION - VIETNAMESE COCOA INDUSTRY

Cocoa beans after being fermented are dried in the sun.
1.1 Introduction

Cocoa is a young and growing industry in Vietnam with less than a decade of focused investment, attracting significant attention and support from various stakeholders including multinational exporters, NGOs, the local government, and international donors. Like most agricultural produce in Vietnam, cocoa is exported as raw material and in this case as key ingredient in the confectionery and chocolate industries. Cocoa processing activities, while generating greater income than raw exports, are still underdeveloped among Vietnamese locals. This means that only a very small portion of value of the final product in the cocoa value chain stays within the local economy of Vietnam and benefits cocoa producers.

As a newcomer in the global cocoa industry, Vietnam yields a small annual bean production of 4000 metric tons (MT), which is expected to grow up to 35,000 MT in the next decade (cargill.com; Nguyen 2013). The beans from Vietnam have been recognized as being of well-fermented quality thanks to the early attention to planning and development from public and private sectors (vietnamnews.vn). Learning the problems within the coffee industry, Vietnam has been cautious not to push cocoa production excessively without tending to bean quality and the well-being of human health and the environment (Pham, Luong, Nguyen, Valenghi, and Lam 2008). This is because for many commercial crops including coffee, the majority of Vietnamese farmers are used to applying a high level of chemical herbicides and fertilizers to increase production, which eventually leads to poor quality, low productivity and oversupply (Ibid).

While cocoa farmers have some awareness of product quality and environmental protection, such factors come second to profits and market prospects. As individual
smallholders, farmers are particularly vulnerable to the rise and fall of market pricing. Thus it appears that any approach to build a sustainable cocoa industry must soundly address the matter of financial security for farmers. In fact, pursuing UTZ Certified—an international certification for cocoa—has been a popular approach in Vietnam. By promoting UTZ, the goals are to enhance cocoa quality, productivity and producer price through teaching farmers effective agricultural practices that respect human beings and the environment.

Given the unrealized potential and challenges faced by the emerging cocoa industry, this study will use value chain analysis to examine the kind of chain that retains more value from cocoa within Vietnam, and identify ways to help local farmers improve their income from cocoa.

Before diving into any meaningful analysis, it is important to first understand the bigger picture of the world’s cocoa. Let us examine the cocoa industry Vietnam in relation to the global context beginning with the industry’s history, market trends and movements, to existing challenges.

1.2 Vietnamese cocoa industry in the global context

1.2.1 History of Development

Cocoa has been widely cultivated around the world for centuries and is believed to have originated in South America as early as 1500-400 BC (worldagroforestry.org). After being introduced to Spain in the 16th century, cocoa was brought to Africa and Asia by the Europeans during the colonial period starting in the 19th century; this explains why most of the world’s cocoa production today comes from these regions (Ibid).
this colonial era that cocoa was first introduced, yet unsuccessfully, to Vietnam by the French (marou.com). Later in the 1990s, the leading food and candy manufacturer Mars Incorporated and the World Cocoa Foundation encouraged Vietnam to consider growing cocoa to export (Pham et al. 2008).

Within the past decade, the local cocoa industry has grown in earnest and toward sustainability from the start. The first crop came into being with the help of the U.S. Agency for International Development (USAID) and its Sustainable Cocoa Enterprise Solutions for Smallholders (SUCCESS) Alliance program in 2004 (acdivoca.org). Thus far Vietnam has developed three major cocoa farming areas of which the largest is the Mekong Delta (10,000 ha), where cocoa is principally intercropped with coconuts rather than monocropped as it is in big cocoa exporting countries (i.e. Côte d’Ivoire, Ghana, Ecuador and Indonesia).

The next external support comes from HELVETAS, the Swiss Association for International Cooperation in 2009. HELVETAS currently runs the Eco-cocoa project in Ben Tre and Tien Giang provinces in the Mekong Delta to promote sustainable development with a focus on the UTZ Certified program for sustainable farming of agricultural products. In Vietnam, Cargill, the biggest cocoa trader in the world, has been the main bean buyer and supporter of the cocoa industry (together with ED&F Man and Armajaro Group in the past). Most recently, Belgium joint venture Puratos Grand-Place has become the second company to shake hands with Mars to collect beans on a larger scale in Vietnam (Nieburg 2013). Since Cargill cofounded the Cocoa Program with UTZ Certified organization, the company has been active in facilitating the adoption of UTZ in
Vietnam. The UTZ premium differs for every country and is prescribed at $125/MT of dry beans from Vietnam in the international market (Nguyen, 2013).

In collaboration with the NGOs and private sectors, the Vietnamese government plays an important role in directing the strategic development of the cocoa industry. In 2007, the Ministry of Agriculture and Rural Development (MARD) called for the establishment of the first Cocoa Coordinating Board (thesuccessalliance.org). Two years later, MARD approved a cocoa development program through 2015 with a vision to 2020 at the national level (qtd. in Pham et al. 2013). Regarding technical research, Nong Lam (Agriculture) University (NLU) has partnered with international organizations in various research and development projects on cocoa seedlings and farming techniques since 1990s. As can be seen, a sustainable development requires the cooperation of various sectors and market players in the value chain to create a favorable political, legal, and economic environment.

1.2.2 Production and market fluctuation

On the global scale, the total cocoa production was estimated to be 3,967,000 MT in 2012-2013 (icco.org). The majority of cocoa beans in the world are exported through giant multinational affiliate exporters such as Cargill (600,000 tons), ADM (560,000 tons) and Barry Callebaut (538,000 tons) (Cocoa Barometer 2012). The majority of the world’s cocoa today comes from Africa (71.2%), followed by the homeland of cocoa—the Americas (15.3%)—and Asia/Oceana (13.5%) (icco.org). Two big players in the value chain Côte d’Ivoire and Ghana combined produce 58% of all traded cocoa, showing just how much the global production is concentrated in West Africa. However, the political instability in these areas since 1999 has worried buyers such as multinational
exporter Cargill, and encouraged them to reach out to new markets (Do 2013). This is one of the factors why Vietnam, though an emerging cocoa supplier, has drawn significant attention from cocoa traders and chocolate manufacturers in the world, especially in the face of an anticipated cocoa deficit in the years to come (Nieburg 2013).

In Vietnam, the production of cocoa is over 4000 MT, 46% of which is estimated to be UTZ Certified according to Thiet Nguyen, Representative of UTZ Certified in Vietnam (2013). The adoption rate of the UTZ certification is quite high and will keep growing in 2013-2014. Two provinces in the Mekong Delta, Ben Tre and Tien Giang, contribute a significant portion of all UTZ certified beans and of roughly a quarter of the national bean production according to Mong Nguyen, Head of Cargill’s buying station in the Mekong Delta (2013). Cargill currently occupies a 70% market share of cocoa beans.

The price of cocoa beans in Vietnam is in sync with the price movements of the international market, which was characterized by wide fluctuations from 2002-2003 to 2011-2012 (icco.org). Vietnam’s market mechanism, similar to that of the third largest cocoa supplier Indonesia, allows farmers to receive a higher percentage of the prevailing market price compared to those in West Africa (USAID 2005). In 2011, the prices of cocoa beans reached record highs in 30 years at $3,730/MT due to a ban on export in the world’s biggest cocoa producer, Côte d’Ivoire, during this country’s political turmoil. Vietnamese farmers enthusiastically responded to this rise in price with increased production. When prices fell below $2,500 afterward, farmers suffered the most impact. Cocoa processors and chocolate makers, however, are not significantly influenced by the market instability since they do not incur a high cost of cocoa in the manufacturing
process. According to one company, the cost of cocoa is only 7% or less of the price of a chocolate bar (Cocoa Barometer 2012).

1.2.3 Chocolate consumption

The chocolate industry is highly relevant to Vietnam as the country exports dry fermented beans to serve as key ingredients in chocolate-making. Fermented beans are different from non-fermented beans, which are chiefly produced in Indonesia to manufacture cocoa powder. Overall, the global chocolate market has been growing by 2 to 3 percent each year despite the fact that cocoa supplies failed to meet demand in 10 out of the past 20 years (Almeida, Monnier, and Mieu 2013). The annual growth rate was remarkable at 8% during the period of 2002-2011 with the industry’s value doubling from $52 billion to $102 billion (icco.org). Notice that the concern is raised about shortage in cocoa production rather than the cost of cocoa beans. This again suggests that unlike cocoa bean producers, players in the chocolate industry are rarely affected by the price volatility of cocoa.

Worldwide, the chocolate confectionery industry is dominated by Western European and North American regions with the U.S. being the biggest consumer (icco.org). In Asia, Japan and China are two big consuming countries in the region (Ibid). While it appears that hundreds of popular chocolate companies split the market share, there are actually only a handful of key manufacturers in the global cocoa value chain such as Mars, Nestlé, Mondelēz International and Hershey (Cocoa Barometer 2012).

In Vietnam, the consumption of chocolate is low but growing thanks to consumers’ rising income and influences from Western culture (Euromonitor.com). This is consistent with the trend in Asian/Oceanic area where cocoa consumption has
increased at an impressive rate of 50% (188,000 tons) from 2002/2003 to 2010/2011 (icco.org). Leading players in chocolate manufacturing in Vietnam are dominantly foreign enterprises including Belcholat and Puratos Grand-Place, both of which are Belgian ventures and cater chocolate to both domestic and foreign markets. One small French start-up chocolate company that has garnered initial success in exporting single-origin chocolate from Vietnam to the world is Marou, Faiseurs de Chocolat. The bean-to-bar business model of Marou will be analyzed in Chapter 3 to provide a great illustration of how much value from cocoa beans could be retained within a producing country like Vietnam.

The fact that Vietnamese cocoa and chocolate processed by Puratos Grand-Place and Marou recently won international awards from Salon Du Chocolat and the Academy of Chocolate respectively suggests that Vietnam will continue to be a new and exciting playing field in the cocoa world.

1.2.4 Challenges

In terms of mainstream cocoa for export, Vietnam encounters two major challenges: inconsistent quality and low production. Let us first address quality inconsistency. Thanks to intensive investment from multi-stakeholders in the cocoa value chain, Vietnam has gained a regional reputation for well-fermented beans but this does not mean that the quality is consistently high (“Cocoa quality”). Since the flavor content in cocoa beans is constrained by the soil condition in Vietnam, farmers need to pay more attention to the fermentation process to reduce the acidity level and increase the
fermentation rate of evenly brown beans, said Mars Inc.’s Cocoa Sustainability Research Manager Smilja Lambert (Ibid).

The second issue concerns low production of cocoa beans. While MARD expected the production to reach 26,000 MT in 2015, the production of 4,000MT in 2012-2013 indicated that Vietnam has to work much harder to achieve the target (“ASEAN cocoa leads the way”). Two factors that make up production are productivity (average yield) and the size of farming areas. In Vietnam, the causes of low production have to do with both low productivity and small cocoa farming areas. A preliminary study done in Ben Tre and Tien Giang has shown that the average yield in both provinces (.25 MT/ha) is much lower than the figure reported by MARD (0.7 MT/ha) (Dang 2013). Cocoa in Vietnam is mostly intercropped as an additional source of income to farmers so in many cases cocoa trees have not received appropriate care and attention. The steep fall in price in 2012-2013 has also led to a reduction in cocoa farming areas. As farmers are discouraged by the gloomy market prospects, some stop taking care of the cocoa fields and some even fell cocoa trees to run after other more profitable crops.

In Vietnam, cocoa farmers have gained a certain awareness of protecting the living environment and producing quality products. However, these are secondary to their financial needs and have not been instilled in their daily farming practices, which typically involve excessive use of chemical substances. The quality of the ecosystem and the well-being of human life are also variables that need to be taken into account in an equation of sustainable development. Technical assistance will not be effective if farmers themselves do not apply it in reality. The challenge is how to correctly incentivize farmers to practice what they are taught.
Unlike in West Africa, child labor is not a burning concern in the cocoa industry of Vietnam. Local children are sent to school and many famers in this study express a desire to have their children attend colleges and pursue some career other than farming in the future.

While most Vietnamese cocoa is exported, the dollar value it brings back is small compared to making and selling chocolate and end-products from cocoa. The question is when high value creation activities in Vietnam will receive the attention they deserve in order to enrich the local economy and leverage Vietnamese agricultural products in the international market. If exported cocoa beans contribute over $10 million to the national GDP, this figure would have been eight- to twelve-fold after beans were processed into chocolate locally (assuming that the cost of cocoa is 7% of the price of a chocolate bar). This is not to mention that cocoa provides ingredients for other industries such as confectionery and cosmetics. Terms of mainstream cocoa for export, Vietnam encounters two major challenges: *inconsistent quality* and *low production*. Let us first address quality inconsistency. Thanks to intensive investment from multi-stakeholders in the cocoa value chain, Vietnam has gained a regional reputation for well-fermented beans but this does not mean that the quality is consistently high (‘Cocoa quality’). Since the flavor content in cocoa beans is constrained by the soil condition in Vietnam, farmers need to pay more attention to the fermentation process to reduce the acidity level and increase the fermentation rate of evenly brown beans, said Mars Inc.’s Cocoa Sustainability Research Manager Smilja Lambert (Ibid).

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1.3 Research questions

Given what we know about the young cocoa industry in Vietnam, the questions at hand are what kind of value chain structure retains more value of cocoa within the country, and what are possible ways to improve the existing chains to benefit cocoa producers more. This paper strives to answer those questions through a case study of cocoa in Ben Tre and Tien Giang provinces of Vietnam, where HELVETAS is running its Eco-cocoa project with a focus on the UTZ certification program.

The empirical research has two objectives:

(i) To understand the structure of cocoa value chains in the Mekong Delta, especially the one that retains more value of the final cocoa products within Vietnam;

(ii) To identify ways to improve the existing value chains so that farmers and fermenters can increase their income.
To achieve these goals, this study has conducted more than 30 interviews with chocolate companies, trading enterprises, local project officers, and most importantly local cocoa farmers. The structural approach of the study can be organized into three parts as follows.

Firstly, Chapter 2- Value Chain Frameworks introduces readers to the concept of value chain by reviewing existing literature of two value chain models. The first framework is popularized by Harvard Economist Michael Porter and has been widely applied in the business world. The second is designed by Making markets work better for the poor (M4P), a poverty alleviation approach that maps out value chains from the standpoint of disadvantaged producers.

Based on these frameworks, value chains of the Vietnamese cocoa industry will be constructed in Chapter 3- Framework Application. This part can be broken into three subsections. The first illustrates the value chain of a French start-up chocolate company, Marou, Faiseurs de Chocolat, through the lens of Michael Porter’s framework used for businesses. The second utilizes the M4P’s model to map out the value chain of cocoa for export in Ben Tre and Tien Giang from the local farmers’ perspectives. Lastly, the third subsection compares Marou’s chain and the local chain to identify which one helps Vietnam obtain a larger portion of the total value created from cocoa. Not surprisingly, the result confirms that manufacturing activities generate and retain a significantly greater amount of added value in the producing country than bean fermentation and cocoa planting alone. Taken together, Framework Application fulfills the first research objective.
Given the chains that have been mapped, the last chapter (Chapter 4) of this study is dedicated to *Value Chain Improvement* - analyzing possible ways to make the local value chain work in favor of peasant producers. The study finds that cocoa beans in the chain of Ben Tre and Tien Giang are collected by Vietnamese intermediary enterprises and resold to multinational exporters without being added any significant value. Taking this into account, *Value Chain Improvement* outlines three hypotheses to help improve the value chains so that farmers and fermenters could gain a larger portion of the value of final products:

- **(1)** Reduce the number of middlemen while encouraging local companies to become producers of processed products from cocoa;
- **(2)** Improve bean quality by providing technical training to farmers and pursuing an international certification scheme for cocoa;
- **(3)** Identify bottlenecks in bean fermentation to help producers cut cost and become more productive.

In order to construct the value chains of Vietnamese cocoa and to test the validity of these hypotheses, this study relied on field-trip interviews with various players along the cocoa value chain in Ho Chi Minh City and in Ben Tre and Tien Giang. A total of two foreign chocolate manufacturers, three Vietnamese trading enterprises, two Eco-cocoa project officers and 21 farmers (including 8 fermenters) were interviewed. All of the farmers and local trading companies are participants in the Eco-cocoa project sponsored by HELVETAS. The two foreign companies are Marou, Faiseurs de Chocolat and a business that would like to remain anonymous. To provide only the most relevant
information in each section, detailed research methodology will be presented at the beginning of Chapter 4- Value Chain Improvement.

The journey to obtain real-life data and gain a first-hand understanding of Vietnam’s cocoa value chain is certainly not easy. Readers may ask why a senior college student in the U.S. would go as far as travelling to the rural areas of Vietnam to study cocoa beans. If that is the case, I would like to offer a brief answer in the Research Motivation below, which would give my work more meaning and readers some reasons to explore the findings of this study.

1.4 Research Motivation

As an international student from Vietnam, my plan is to go back and help strengthen the local economy after gaining a few years of work experience overseas. With that goal in mind, I decided to do my Senior Individualized Project in Vietnam to keep myself in tune with the current economic situation. Inspired by my internship with an export and fair-trade organization in Ecuador, I was excited to learn about cocoa bean exportation in Vietnam and the UTZ certification for cocoa through a project done by HELVETAS Swiss Intercooperation. While much has been written about Vietnamese rice and coffee, little academic research has been done for cocoa since this is a young industry with only a decade of development. My primary interest was how cocoa beans could contribute to the local economy and a better livelihood for peasant cocoa producers.

Motivated to explore an emerging industry and learn about a new certification scheme, I contacted HELVETAS Vietnam with a proposal to craft my own summer
internship to study the value chains of cocoa with their support in terms of information and connection to players in the value chain. The organization was generous and supportive enough to allow me to conduct my independent research within their network. I got access to HELVETAS’ documents and had the opportunity to participate in a field trip to Ben Tre and Tien Giang with the project manager. Most importantly, I got introduced to HELVETAS’ local project partners in the Eco-cocoa project so that I could contact and interview farmers, fermenters and local companies in my 10- day field trip in August, 2013. It would have been really difficult to approach players in the cocoa value chains without the references from HELVETAS. As a result of these references, most participants in this research are part of the Eco-cocoa project that focuses on UTZ certification although this study as a whole does not limit itself to the value chains of UTZ certified cocoa. After all, most fermenters and trading companies being interviewed participate in both UTZ certified and regular cocoa value chains.

The timeline of my research project in Vietnam can be broken into two parts: the first comprises of library research and survey design, and the second my field trip to Tien Giang and Ben Tre provinces. From June 15, 2013 to August 6, 2013, I spent time perusing documents about Vietnamese cocoa beans and taught myself value chain analysis in the branch office of HELVETAS in Ho Chi Minh City. I designed two questionaires for farmers and bean fermenters in order to map out the cocoa value chains and identify possible ways to improve them so that more value could be created to benefit cocoa producers.

During this time, I was lucky to get an informational interview with leading cocoa expert Dr. Phuoc Pham of NLU, who advised me on cocoa processing techniques and
issues that I should emphasize in my surveys and interview questions. I also accompanied the Eco-cocoa project manager in a two-day field trip to Ben Tre and Tien Giang to better understand the situation. Thanks to a friend’s connection, I learned about a French chocolate startup in Ho Chi Minh City called Marou, Faiseur de Chocolat, and got an interview with the cofounder Vincent Mourou. Well beyond my expectation, Marou’s value chain turned out to be a great comparison with the value chain of Ben Tre and Tien Giang in terms of the total value created from cocoa that can be retained within Vietnam.

In order to indentify ways to improve the local value chain, I prepared survey questions and started my field trip in Tien Giang and Ben Tre – the second part of my research project – on August 17, 2013. The survey formats used were based on what I found in the Economic Analysis of cocoa-coconut integrated system (2013) written at the request of HELVETAS by Dr. Ha Thanh Dang, Economics professor of NLU. I first arrived in Tien Giang and interviewed a total of 3 fermenters and 8 farmers. I left Tien Giang for Ben Tre on August 22 and got in touched with other 5 fermenters and 5 farmers. The questionnaire for fermenters aims at identifying variation in fermenting practices that may lead to inconsistent quality cocoa beans. The questionnaire for farmers aimed at understanding their perception of the UTZ certification.

I also had the opportunities to meet with Cho Gao Cooperative’s Manager in Tien Giang and the Head of Cargill’s buying station in the Mekong Delta area. Interesting information from different stakeholders’ viewpoints has helped me see the big picture of the cocoa industry while drawing attention to noteworthy details.

My field trip officially ended in August 26, 2013. Throughout the journey of my research in Vietnam, I have received significant information support from HELVETAS
and their local project partners. I was grateful that many farmers and fermenters welcome and gave me helpful information as well as references to reach out to other players in the value chain. (Several invited me to stay for a meal and wish me luck with my graduation thesis). That being said, the sample of my surveys was chosen based on a combination of random and convenient selection because of limitations that will be explained in greater detail at the beginning of Chapter 4- Value Chain Improvement.

This paper is the result of my theoretical and field-trip research from June 2013 until March 2014. I hope it will contribute to the pool of knowledge about the young Vietnamese cocoa industry from the standpoints of various stakeholders including cocoa farmers.
CHAPTER 2

VALUE CHAIN FRAMEWORKS

*Cocoa beans inside cocoa pods (en.wikipedia.org)*
2.1 Introduction

Chapter 2 - *Value Chain Frameworks* introduces readers to the general concept of value chain and two value chain models: one centers on businesses and the other peasant producers. By definition, a value chain is a sequence of activities required to turn a product or service from its primitive form into a finished version that delivers value to customers (M4P 2008).

There are two ways to conceive a value chain, in a narrow or in a broad sense (Ibid). In the narrow sense, a value chain is the set of activities performed by a specific firm to deliver a certain valuable product or service to targeted customers. Marou, Faiseurs de Chocolat, for example, buy beans directly from farmers, craft chocolate bars locally, design special handmade packaging, and then market them to foreign or local retailers.

In the broad sense, a value chain includes major activities happening in a specific industry that involves a series of players. Consider the cocoa industry, the value chain starts from farmers through traders, processors, manufacturers and distributors before reaching final consumers. Marou is only one player in the value chain of the cocoa industry.

Between the two frameworks presented next, the one by Harvard Economist Michael Porter focuses more on the narrow sense – a firm’s context. The other, *Making Markets Work Better for the Poor*, emphasizes the broad sense of a value chain in an industry context and identifies a pro-poor entry point to help agricultural producers increase income.
2.2 Michael Porter’s Value Chain

The concept of value chains is first initiated and popularized by Harvard economist Michael Porter in 1985 (Magretta 2012). The foundation for this framework is based on his study of competitive advantages.

Having a competitive advantage is not about beating competitors but creating superior values to customers (Ibid). According to Joan Magretta (2012: 64) in Understanding Michael Porter, “if you have a real competitive advantage, it means that compared with rivals, you operate at a lower cost, command a premium price, or both.” The cost advantage can be achieved by finding ways to lower operating costs and/or use capital more efficiently. For example, a chocolate business can arrange its production line in a U shape with one office in the middle so that activities can flow smoothly in a small area. In commanding a higher price, the key is to deliver a product or service that is of distinctive value to customers. Think of consumers who value healthy food, they are much more willing to buy and pay a premium price for organic vegetables.

Porter argues that the sources of competitive advantages cannot be found by looking at a company as a whole, but rather by carefully examining the sequence of activities within that business. What is special about a value chain is that it lays out a coherent range of connected activities performed by a company, from procurement and design to marketing, sales and after-sales support (Ibid). By rigorously analyzing the components making up this chain, managers are capable of identifying important activities from which competitive advantages arise. In the application section of this framework, we will better understand how Marou, a start-up chocolate maker in Vietnam,
is able to reduce cost through direct purchase of input and command premium prices through elegant product design and a promise for quality.

The Porter’s value chain as described above is highly applicable at a firm’s level, which focuses on the sequence of activities executed by one specific enterprise in order to deliver a valuable product or service to consumers. This chain is not isolated on its own (in the narrow sense) but is part of the larger value systems (in the broad sense) at the industry level. In other words, a company’s activities are a subset of all activities happening in the industry to create value to final consumers. For example, the value chain of a chocolate maker as part of the chocolate industry’s value system is preceded by the chains of bean suppliers (farmers, cocoa processors) and followed by the chains of chocolate buyers (hotels, distributors, or retailers).

It is worth pointing out that Porter’s value chain analysis is an extremely powerful tool at the managerial level. The value chain helps leaders of companies identify competitive advantages hidden in a myriad of activities so that they can make corresponding decisions to leverage such advantages to drive profits. Given the high applicability for businesses, Porter’s framework will be applied to understand the early success of Marou, Faiseurs de Chocolat. In order to simultaneously encompass farmers’ viewpoints in this framework, Marou’s value chain will be mapped out in the broad sense of the industry rather than the narrow sense of a firm.

What Porter’s framework does not cover, however, is a value chain that guides farmers, rather than firms and organizations to maximize profits. After all it is typical that farmers gain the lowest margin from the food and confectionary industry despite their labor and major contribution of key input. The tool book for value chain analysis
practitioners Making value chains work better for the poor (2008) fills in this gap with step by step instruction of how to map out a chain that helps outline opportunities for the poor to grow.

2.3 Making value chain work better for the poor

Making markets work for the poor (M4P) is an approach to alleviate poverty supported by organizations such as the UK Department for International Development, SIDA and Swedish Development Center in recent years (enterprise-development.org). The idea is to find ways to change the market systems so that the poor becomes an active player who has more bargaining power and the capacity to improve their living conditions as a result (Ibid). A publication like Making value chains work better for the poor (2008) is designed to help evaluate value chains from the perspective of farmers and poor producers.

M4P value chain analysis approach has two major goals. The first is to increase the total quantity and value of the products the poor sell. This means to increase the absolute income—the more goods sold, the more profits gained. The second is to enlarge the share of the value of final products that the poor occupy compared to other players in the chain. In other word, the goal is to increase the margin per product for producers so that their relative income is enhanced in relation to other players. Figure 2.1 provides a visual understanding of these concepts.
In applying this approach, it should be noted that one company may feed into several different value chains, especially those that position in the middle of the value system. A cocoa processor in the upstream direction may both supply cocoa liquor for the chocolate industry and cocoa butter for the cosmetics industry. In the downstream direction, this same company may import both unfermented cocoa beans from Indonesia to be used as fillers and higher quality fermented beans from Ghana, or Ecuador. Which chain will be the topic of analysis depends on the research question being asked. If the focus is on agricultural producers like the one in this paper, the chain moves ahead toward processors, buyers and customers and go backward to input suppliers (i.e. seedlings) (Ibid). In the case of farmers in Ben Tre and Tien Giang, most seedlings were given for free in 2004 or subsidized when farmers first plant cocoa. Thus the application part of this framework will focus on the chains starting with farmers (rather than input suppliers) and moving upstream to traders, multinational exporters and chocolate manufacturers.

While there is no one right way to conduct a value chain analysis, there are four aspects that should be noted in building an agricultural value chain. These are network of players, profit distribution, value chain upgrading, and the role of governance (Ibid).
The first and most basic level requires the mapping of all players participating in the chain from the conception to the completion of a product. The map illustrates the characteristics of players, the flows of goods and services as well as product destinations and volumes (qtd. in M4P, 2008). In this study, such elements are collected through data of the Eco-cocoa project and interviews with stakeholders along the value chain from farmers and local trading companies to chocolate enterprises and a multinational exporter.

The second level concerns how profits are distributed along the chain and what the relative margin looks like for each player, especially the poor (Ibid). Value chain practitioners will be able to assess which steps in the chain add the most value to the final product and where profit margin concentrates. Due to the limitation of the field study in Ben Tre and Tien Giang provinces, the author of this paper only extracted the cost of production to derive the profit margin for cocoa bean fermenters but not for other players. The analysis at this level will be based on the amount of value added to cocoa by each player rather than the size of profits.

At the third level, the focus is on possible ways to improve the value chain. Upgrading means anything from quality improvement, product diversification to innovation in product design (Ibid). By adding more value to the products, farmers in turn can command a higher price for what they sell. In the case of Ben Tre and Tien Giang, three ways are proposed to upgrade within the value chains: reduce the number of middlemen, enhance bean quality through certification and training programs, and identify bottlenecks in the fermentation process to improve efficiency.
The last level draws attention to the role of governance. Governance in a value chain analysis refers to the structure of relationships and modes of collaboration among existing players (Ibid). The purpose of such a structure is to facilitate orderly and efficient interactions among value chain actors. Governance takes place when chain participants make efforts to comply with standards set by other participants in terms of delivery time, product description and volumes just to name a few (Ibid). For example, cocoa farmers need to consistently dry beans to the right level of moisture before handling them to buyers to avoid mold during storage. Issues related to governance typically arise when some actors accidentally or deliberately fail to meet the standards set by others. Vietnamese cocoa farmers, driven by short-term profits and local customs of doing business, may fail to comply with regulations and standards in the international playfield.

Now that we have been equipped with the knowledge of two popular approaches to value chain analysis, we will enter Chapter 3 - Framework Application to start building the value chains for Vietnam’s Mekong Delta area.
Cocoa pods have different colors depending on cultivars.
3.1 Introduction

Chapter 3 is dedicated to accomplishing the first objective of my research paper: to understand the structure of cocoa value chains in the Mekong Delta, especially the one that retains more value of the final cocoa products within Vietnam. In order to acquire this knowledge, we will map out different value chains and put them side by side to compare. Resources used in value chain mapping activity come from primary data collected through interviews with value chain players and secondary data from documents about the Eco-cocoa Project.

Most importantly, we will apply the frameworks reviewed in Chapter 2 to construct the value chains of Marou and of local provinces, Ben Tre and Tien Giang. More specifically, the Porter’s value chain model will be used to build the value chain of Marou, Faiseurs de Chocolat, a chocolate startup based in Vietnam. The M4P’s model will be used to map the value chain of cocoa from the viewpoint of farmers in Ben Tre and Tien Giang. The two value chain structures will then be compared regarding the amount of value created that remains within the producing country of Vietnam.

Economic common sense will tell us that manufacturing activity generates more value per unit than exporting raw agricultural products. This is indeed consistent with the finding of this research. For one kilogram of dry fermented cocoa beans from Vietnam, Marou turned it into chocolate bars that are worth 8 to 12 times the value of those beans in the export market. What matters is that the added value is retained within the local economy (since a portion of Marou’s production is sold in the domestic market) rather than being occupied by foreign manufacturers overseas.
To set the background for value-chain mapping activity, this paragraph will briefly introduce major steps and players involved in the production of cocoa beans in Vietnam. Farmers first plant cocoa trees, which produce pods year round after two to three years. Cocoa pods are sold to fermenters, most of whom are cocoa farmers that were trained in the SUCCESS program in 2004. The fermenting process, which takes about 20 days, turns every 10-12 kg of fresh pods into a kilogram of dry beans. All beans in Vietnam are fermented and used as input in chocolate manufacturing. In the Mekong Delta, the majority of dried beans are sold to local trading companies in Ben Tre or the cooperative in Tien Giang. These intermediary players supply beans to multinational affiliate exporters like Cargill and Armajaro (now Ecom).

### 3.2 Value chain of Marou, Faiseurs de Chocolat

Marou, Faiseurs de Chocolat was started in 2011 by two French owners—Vincent Mourou and Samuel Maruta—who have lived and worked in Vietnam for several years before founding Marou. Their business model is bean-to-bar and artisanal chocolate, meaning the company controls the chocolate-making process from raw beans to finished tablets made in small batches. Their products are five single origin dark chocolate bars sourced from five provinces in Vietnam including Ben Tre and Tien Giang. A Marou chocolate bar’s retail price is $4-5 in the local market and $9-12 in the U.S. The company now exports to more than 18 countries.

In this section, I will first map out the value chain for Marou by incorporating theories with the data results I collected and analyzed during my field trip and market research. Then I will discuss in detail how I was able to compute the value of cocoa throughout Marou’s value chain.
3.2.1 Value Chain based on the Porter’s framework

The value chain of Marou will be constructed in the broad sense based on the Porter’s value system framework. There are four steps to use the Porter’s model, as outlined by Joan Margaretta (2012). The first two steps map out the industry’s value chain and compare the value chain of Marou with that of the industry. This allows us to understand the position of Marou in the bigger value system that lets it pay fermenters a better price. The last two steps analyze Marou’s price and cost advantages in the company’s initial success since 2011.

In the **first step**, we begin by mapping out the cocoa industry’s value chain, which is illustrated in *Figure 3.1*. From smallholders, cocoa beans are sold to traders and then grinders, who processes beans into cocoa liquor (cocoa mass in liquid form), which is an input for both the confectionary and food industries. Final products from these industries are distributed via retailers to reach end-consumers at the end of the value chain. This is a simplified model given that there are several middlemen and distributors along the supply chain of a commodity like cocoa beans.

*Figure 3.1- The cocoa industry’s value chain.*
Source: Cocoa Barometer 2012
In the Mekong Delta in particular, fermenters are independent players after farmers (smallholders) in the value chain. Local trading companies collect dry beans from fermenters and sell to major cocoa exporters and grinders such as Cargill and Armajaro (now Ecom), who turn cocoa beans into cocoa liquor in their large-scale manufacturing facilities outside of Vietnam (Ibid). The current cocoa production of Vietnam is still small, only a third of the quantity needed to run a Cargill’s factory (Nguyen, 2013). Taken together, the cocoa value chain in the chocolate industry in the case of Vietnam should look like the first chain in *Figure 3.2* below.

**Figure 3.2 – A comparison between the industry’s value chain and Marou’s value chain.**

The **second step** in the Porter’s framework is to compare the company’s value chain to that of the industry (Margaretta 2012). The second chain in *Figure 3.2* above illustrates Marou’s value chain. Unlike big chocolate manufacturers (i.e. Mars Incorporated, Nestlé, and Ferrero), Marou operates on a small scale that allows it to source beans locally instead of buying them from multinational exporters and grinders. Marou consumes only 2 to 2.5 tons of dry beans, which they purchase directly from cocoa farms without going through traders, and produces 10,000 chocolate bars on a...
monthly basis. The production size is very small if compared to Ferrero, which buys an average of 10,000 MT of beans every month (Cocoa Barometer, 2012).

Evaluating the two value chains, we can see that Marou’s positioning is closer to cocoa producers so it can save transaction cost and more importantly control the high quality of its input. Big chocolate and confectionery enterprises minimize the impact of transaction cost via the economies of scale, which means they may not gain huge unit margins of the final products but benefit from low unit costs and large quantity sold. On the other hand, Marou incurs a greater unit cost and sells only a small amount of chocolate but it also enjoys a higher unit margin of the final specialty grade chocolate. Put differently, big enterprises have a greater absolute net income compared to Marou while Marou has a larger relative income per product.

In Marou’s positioning, the company pays fermenters a higher price since they select a small amount of only high-quality cocoa beans. A fermenter in Tien Giang said that Marou paid VND10,000 (47 US cents) more than the market price for every kilogram of dry beans. If one kilogram costs VND49,000 ($2.3) this week, Marou could pay up to VND59,000 ($2.8), which means a 20% difference in price. The benefit to fermenters, however, has not been considerable because the volume of transaction is small. Marou’s monthly bean procurement is 2 to 2.5 tons from 5 provinces while one single fermenter can produce up to a ton of dry beans in a month during the harvest season. There is a possibility that if fermenters enjoy a sustainable higher price for a sizable quantity, they would in turn be able to pay cocoa farmers better to encourage high quality fresh pods. Yet as of now, better payment from Marou has not trickled down to farmers.
The main contribution of a manufacturing business like Marou is to add significantly much more value to cocoa beans by processing them into consumable chocolate versus simply exporting raw beans. According to the world’s market price in September 2013, a ton of dry bean costs $2,600, meaning that each kilogram is worth $2.60 once it is exported from Vietnam. This same kilogram of dry beans, if bought by Marou, can produce twelve 100gram dark chocolate bars valuing $51.48 in the local retail market. Suppose that retailers take a 60%-40% discount from the suggested retail price, this leaves Marou with $20.59-$30.86 in revenue. A simple calculation shows that the income generated from one kilogram of dry beans for cocoa fermenters ($2.60) is about a twelfth to an eighth of that of a chocolate maker like Marou ($20.59- 30.86). Turning raw materials into final products in this particular case makes the value of dry cocoa beans increase at least eightfold at the level of chocolate producers and nearly 20 times at the level of retailers! What matters is that these added values are retained within and contributed to the GDP of the producing country. Figure 3.3 summarizes the value of cocoa beans throughout Marou’s value chain. Readers interested in the origin of these data please read the next section 3.2.2- Compute the value of cocoa in Marou’s value chain.

**Figure 3.3 – The value of cocoa beans throughout Marou’s value chain.**

<table>
<thead>
<tr>
<th>Farmers</th>
<th>Fermenters</th>
<th>Marou</th>
<th>Local retailer</th>
</tr>
</thead>
<tbody>
<tr>
<td>VND42.9</td>
<td>VND54.6</td>
<td>VND432 - 648</td>
<td>VND1,081</td>
</tr>
<tr>
<td>$2.043</td>
<td>$2.60</td>
<td>$20.59 - 30.86</td>
<td>$51.48</td>
</tr>
</tbody>
</table>

$1000
In the **third step**, the analysis focuses on **price drivers**, activities that have great potential for differentiation (Magretta 2012). In the US, a 3.5oz (100gram) chocolate bar by Marou is priced from $9 while a Lindt bar is $4 and a Dove bar (by Mars) $2.19 (Kmart.com). *Marou achieves this great advantage in price by differentiating its procurement method and product design.*

In terms of input procurement, not many owners of small-sized chocolate businesses could visit their supplying farms and spend hours selecting high quality beans on a regular basis like Marou. Two French owners visit local fermenters in person and open each bag of dry beans to test the quality. (In Tien Giang, they now buy from the local cooperative). In my interview with Vincent Mourou at the company’s factory on the outskirts of Ho Chi Minh City, he enthusiastically showed me how to assess the level of acidity, moisture and fermentation rate of cocoa beans through sensory test. Marou looks for “interesting” cocoa flavors, which vary from one province to another due to different climate and soil conditions just like in the world of wine. Quality and flavors can be ruined if fermenters take shortcuts in the process, Mourou noted.

That Marou meticulously **hand-sorts their input supply** from different regions and turns them into distinct products based on their origins conveys a sense of reliability and a promise for quality to customers. Some top chocolate professionals in the world buy dry beans from Marou because they know “we go [to the farms] ourselves, we select […] and they have the guarantee for quality,” said Mourou. Consumers, who have a taste for high-quality chocolate, are also more willing to pay a premium price for fine chocolate, knowing that it is made in a highly controlled process from scratch (bean-to-bar). Bean-to-bar chocolate in general is more expensive (and has a higher margin) than mass-
produced chocolate. This is not to mention that Marou is the first and only bean-to-bar chocolate maker from Vietnam, a factor that inherently differentiates itself from other brands and appeals to those seeking an exotic taste of chocolate.

Distinctive hand-made packaging is the second price driver that cannot be undermined. Marou’s Tien Giang 70% chocolate bar recently won the gold award for Best Packaging from the Academy of Chocolate (Academyofchocolate.org.uk). Marou’s packaging harmonizes a mixture of modernity and tradition with lattice patterns of cocoa pods and “heavenly looking” clouds covered in vintage gold color (Lovelypackage.com). Local artisans are also commissioned to hand-print packaging papers using the traditional silk printing techniques. The finished packaging with the company’s embossed logo is then used to hand wrap each chocolate bar. Similar to fine dining, presentation plays an important role in delighting customers, who are willing to pay a premium price. Marou further differentiates itself by having their packages hand-made, which is highly valued in Western countries. One potential buyer of Marou chocolate even said that if the chocolate tastes as good as it looks, they will place an order.

In sum, a sound investment in differentiation activities (sourcing and packaging) that seem to cost more in turn earn Marou great price advantages.

Finally, the last step is to identify cost drivers. Two aspects worth highlighting are low transaction cost and resourcefulness in lowering fixed cost. Though this aspect cannot be seen with clarity in Marou’s value chain in Figure 3.2, Marou does not appear to target big distributors, to whom they will lose more profit margins because there is a chain of retailers after them. On Marou’s website, consumers can find a list of retail locations in each country that Marou products are present. Marou seems to sell directly to
retailers that offers high end chocolate, minimizing the number of intermediaries in the upstream direction of the value chain. The list of Marou’s chocolate retailers in Vietnam and 19 countries it exports to can be easily found on the company’s website.

To achieve efficiency in cost reduction, two founders of the company exhaust their resourcefulness. The company’s roasting machine is an old, rusty yet working engine shipped from France. The winnowing machine (to separate cocoa nibs and shell) is a design they learned from the Agriculture University in Ho Chi Minh City. When replacement of auto parts was needed for the old car they bought for procurement purposes, they asked to bring back unused parts in case of future use. Mourou took pride in the two co-founders’ resourcefulness, which plays an important role in every investment decision. It appears that being consistently resourceful has helped Marou reduce fixed cost and is likely to help the company operate on low cost in the future.

*Marou as a young chocolate startup has garnered initial success thanks to their ability to create price and cost advantages through differentiation in procurement, design, distribution, and operations. The company produces unadulterated chocolate, whose value is 8 to 12 times the value of the original cocoa beans it uses as input. More importantly, the value created from manufacturing activities stays within Vietnam and contributes to the national GDP rather than “being lost” overseas. Subsequently, local cocoa producers are more likely to enjoy a higher payment from Marou, which pays for quality and does not buy from intermediary traders.*
3.2.2 Calculate the Value of Cocoa in Marou’s Value Chain

This subsection will help readers understand the origin of the results presented in Figure 3.3 - *The value of cocoa beans throughout Marou’s value chain*. Along the cocoa value chain of this company, there are four main players for whom we need to calculate the value of cocoa they create. They are farmers, fermenters, Marou, and local retailers. For the sake of simplicity, we will not take into account foreign buyers of Marou chocolate in this calculation.

**Figure 3.4 – Detailing the value of cocoa throughout Marou’s value chain.**

<table>
<thead>
<tr>
<th>Farmers (11kg of fresh pods)</th>
<th>Fermenters (1kg of beans)</th>
<th>Marou (1.28kg of chocolate, 12 bars)</th>
<th>Local retailer (12 bars)</th>
</tr>
</thead>
<tbody>
<tr>
<td>VND42.9</td>
<td>VND54.6</td>
<td>VND432 - 648</td>
<td>VND1,081 x1000</td>
</tr>
<tr>
<td>$2.043</td>
<td>$2.60</td>
<td>$20.59 - $30.86</td>
<td>$51.48</td>
</tr>
</tbody>
</table>

Since cocoa traded in the international market must be dry beans, we will start by finding the value of one kilogram of dry beans at the level of fermenters. From there we will move downstream to farmers and then upstream to Marou and local retailers to determine the amount of value creation. The global price of dry cocoa beans per metric ton is updated on a daily basis, whose records can be found on the ICCO’s website. As of September, 2013, one MT of dry beans cost $2,600. This means that Vietnamese fermenters received $2.60 per kilogram of dry beans. This amount is an overestimation given the transaction cost along the value chain - fermenters must have received an amount less than $2.60 for every kilogram sold. Marou, however, pays a higher price so this figure should be a reasonable estimation.
Since every 11kg of fresh cocoa pods produce 1kg of dry beans, the next step is to determine how much 11kg of pods are worth. From interviews with farmers, it was noted that 1kg of fresh pods cost around VND3,900 (UTZ premium included). Then eleven kg of fresh pods cost VND42,900 ($2.043), which is also the value of cocoa created by farmers.

Next we will move upstream to find the value of 1kg of dry beans after it is processed into chocolate by Marou. The visit to Marou’s factory provided information to calculate the number of chocolate bars that can be made from 1kg of dry beans. Because one batch of 76% dark chocolate weighs 20.6kg in total and contains 14.3kg of cocoa beans, it follows that 1kg of cocoa beans makes 1.282kg of 76% chocolate. If each Marou chocolate bar weighs 100 grams, the amount of chocolate produced can create 12.82 bars but we will use 12 bars as a conservative estimation.

While we do not know how much Marou sells its chocolate to local retailers, we can work backward from the known suggested retail prices. Visits to local retailers of Marou’s chocolate in Ho Chi Minh City show that the average price per bar is $4.29 (VND90,000) which means $51.48 for 12 bars. In the local currency, the value of cocoa for local retailers is VND1,081,080.

Given the above information, we can compute the value of cocoa occupied by Marou if we know a reasonable discount rate at which manufacturers typically sell to retailers. The online community and Nuvonium, a marketing and design firm, indicate that producers generally sell to retailers at a 40-60% discount from the suggested retail price (thechocolatelifecom; Levins 2013). This means that if the retail price of a chocolate bar is $4.29, manufacturers will it between $1.72 (at 60% discount) and $2.57
(at 40% discount). According to this assumption, Marou will make from $20.59 to 30.86 in revenue (not profits) for every 12 chocolate bars they sell.

Taken as a whole, the value of cocoa along the chain is $2.043 for farmers, $2.60 for fermenters, $20.59-30.86 for Marou and $51.48 for local retailers. As can be seen, the value added by chocolate manufacturer ($17.99-28.26) is 32-50 times the value added by fermenter ($0.557). It looks like retailers add even more value to cocoa ($20.62-30.89) but that is because we tried to underestimate rather than overestimate Marou’s revenue. In reality, there may be other players such as distributors between manufacturers and retailers so local retailers alone do not add that much value to cocoa.

My hope is that you have understood how the value generated from one kilogram of dry cocoa beans was computed in my model. This is the result of both data collection and market research in order to arrive at the best estimates possible. In the next section, we will construct the value chain of mainstream cocoa for exports in Ben Tre and Tien Giang provinces to compare it with that of Marou.

Marou’s chocolate bar

Chocolate liquor in the making
3.3 The value chain for Ben Tre and Tien Giang

In the second part of Framework Application, we will apply the M4P’s approach to map out the value chain of UTZ certified cocoa beans under the Eco-cocoa project in Ben Tre and Tien Giang provinces. Recall that there are four important aspects in constructing a value chain in the agriculture sector: network of players, value distribution, value chain upgrading, and the role of governance (M4P 2008). This section will address the first two aspects, assessing the sequence of players and their characteristics, along with the volume of transaction and value added throughout the chain. Since value chain upgrading is critical in trying to make the market system work in favor of smallholders, the third aspect will be addressed in Chapter 4 in an attempt to answer the second objective of this study (how to improve value chains). Governance factor (the fourth aspect) is highlighted in Appendix I, which draws a comparison between two local value chains of Ben Tre and Tien Giang regarding their efficiency in facilitating the adoption of UTZ certification and the growth of the cocoa industry in general.

Characteristics of players and core processes. The flow of cocoa beans in Ben Tre and Tien Giang starts from farmers through fermenters to local trading enterprises and ends at multinational exporters. Figure 3.5 visually illustrates the sequence of players in the Eco-cocoa Project of HELVETAS in particular. The core processes include cocoa planting and pod harvesting by farmers, followed by bean fermentation by fermenters and cocoa collecting by Vietnamese trading enterprises before dried fermented beans are sold to exporters. There are about 2000 farmers (including fermenters) participating in the Eco-cocoa project, which focuses on the adoption of UTZ certification (hevetas.org.vn). More information on the UTZ certification can be found in Chapter 4, section 4.5 of this
study. UTZ farmers are organized into 101 clubs, each of which is headed by a fermenter, who is also a cocoa farmer himself/herself. These fermenters were members in the SUCCESS project in 2004 and have gained a thorough understanding of the fermentation techniques (Pham et al. 2008).

**Figure 3.5 – The cocoa value chain in Ben Tre and Tien Giang.**

Fermenters sell dried fermented beans to local trading companies in Ben Tre and Cho Gao Cooperative in Tien Giang. Fermenters in Tien Giang process beans for the Cooperative based on a fixed commission rate while Ben Tre fermenters sell beans to the trading companies based on the current market price. In both provinces, UTZ farmers receive cell-phone text messages announcing the weekly market rates. Within the scope of HELVETAS project, there are a total of four Vietnamese companies that collect UTZ certified beans in Ben Tre. Two of them act as bean collectors for Cargill, who then exports or uses Vietnamese beans in their processing plants overseas. The third company buys fresh pods directly from farmers to ferment in large quantity before selling beans to Cargill. The last one does not sell to Cargill given that it has its own manufacturing facilities for final products.

Cargill is the sole buyer and exporter of UTZ certified beans in Vietnam. The UTZ certification awards a premium of $125 per MT for Vietnamese dry beans in the global market (Nguyen 2013). This premium is paid toward farmers as an incentive for them to comply with the certification’s Code of Conduct, which promotes good farming practices to increase productivity while respecting people and the environment. Cargill is
one of the major supporters of the UTZ certification (together with Mars Inc. and others), providing training programs to farmers in various regions such as West Africa and Vietnam. By 2015, Cargill’s goal is to have 25% of their cocoa stock purchased from certified sources (Cocoa Barometer 2012). In Vietnam, Cargill buys 70% of all traded dried fermented beans (both UTZ and non UTZ certified) (Nguyen 2013).

Another big multinational exporter of cocoa beans known to farmers was Armajaro Holdings Ltd, which only traded regular fermented dry beans in Vietnam. However, this London-based business just sold their commodity trading unit to Switzerland-based Ecom Agroindustrial Corp in November, 2013. With this deal, Ecom has also become the world’s third largest cocoa trader, only behind Cargill and ADM (Almeida 2013). Armajaro and Ecom are relevant in the value chain of UTZ certified cocoa beans because most fermenters and trading companies being interviewed buy and sell UTZ and non-UTZ certified cocoa at the same time.

It can be seen that the power dynamic is not balanced among players in the value chain. At one end are thousands of smallholders who make little impact on the market’s movements and at the other are two of the biggest multinational cocoa traders who can significantly influence the playing field. When the processing capacity of Vietnam is still limited, farmers will have to depend on these two buyers to consume more than 90% of their produce. Farmers as price takers and small suppliers of raw input have few opportunities to increase their relative income. Interestingly enough, there is also a subtle power imbalance between cocoa farmers and fermenters. While fermenters can store dry beans up to a year in wait for better prices, farmers must sell cocoa pods within a couple of days after harvest and can hardly negotiate.
Volume of transaction. In terms of production, it is estimated that the UTZ project by HELVETAS will be contributing 613.3 MT of UTZ certified dry beans, accounting for 19.26% of the total UTZ production in 2013-2014 (Nguyen, Hoa 2013; Nguyen, Thiet 2013). As a kilogram of dry beans is made from 11kg of fresh pods, this means 2,000 farmers in the program will produce 6,744.1 MT of fresh cocoa pods on more than 1,017 ha of land (Nguyen, Thiet 2013). Based on these statistics, the average yield per ha of UTZ cocoa will be more than 600kg of dried beans, which is 100kg lower than the national average yield calculated by researchers and policy makers (qtd. in Dang 2013). In a sample study of 54 (UTZ and non-UTZ) cocoa farmers and fermenters in Ben Tre and Tien Giang, Dr. Dang reported an average yield of only more than 260kg/ha and 220kg/ha in each respective province in 2013. Compared to these two figures, the average yield of UTZ cocoa in 2013-2014 is still much higher. There are a couple of possible explanations: UTZ yield may exceed regular yield and is expected to improve significantly in this year’s crop; or the sample study may not be representative enough of the cocoa producer population. Whatever the reason may be, it is noteworthy that quantitative data related to cocoa are not consistent across various sources, which may have to do with variation in research methodology and the flow of information in the value chain.

Figure 3.6 illustrates the relative size of the Eco-cocoa project compared to the national UTZ program and the national cocoa industry in terms of production, number of participants and harvestable area. As can be seen, the contribution of the Eco-cocoa project in Ben Tre and Tien Giang to the national UTZ production is considerable in terms of participants (53.75%) and harvestable area (27.35%) but the production is less
than 20%. This is because cocoa is only intercropped with coconut in Ben Tre and Tien Giang while it is monocropped in other areas, especially in the highland. On the same farming area, the total production is smaller if cocoa is a supplementary crop than if it is the main crop.

**Figure 3.6 - UTZ and regular cocoa production 2013-2014.**
*Source: Nguyen, Hoa 2013 and Nguyen, Thiet 2013*

<table>
<thead>
<tr>
<th>National Production</th>
<th>UTZ-HELVETAS</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt; 4,000 MT</td>
<td>• &gt; 4,000 MT</td>
</tr>
<tr>
<td>25,000 farmers</td>
<td>• 3,183 MT</td>
</tr>
<tr>
<td>10,000 ha</td>
<td>• 3,721 farmers</td>
</tr>
<tr>
<td></td>
<td>• 2,839 ha</td>
</tr>
<tr>
<td>613.1 MT</td>
<td>• 613.1 MT</td>
</tr>
<tr>
<td>2,000 farmers</td>
<td>• 2,000 farmers</td>
</tr>
<tr>
<td>1,017.52 ha</td>
<td>• 1,017.52 ha</td>
</tr>
</tbody>
</table>

Within the national cocoa industry, UTZ certified cocoa makes up 46% in terms of production as of August, 2013 according to Thiet Nguyen, the representative of UTZ in Vietnam. The certification is gaining popularity in Vietnam for various reasons that can be explored further in Chapter 4, section 4.5. In 2013-2014, UTZ production is expected to account for more than 50% of the country’s cocoa production (Nguyen 2013).

**Value added.** We will now examine the value of cocoa in each core processes corresponding to different players in the chain. This will be used to compare against Marou’s chain in section 3.4 in this chapter.
In terms of added value, this paper uses data collected in August of 2013 (ICCO.org). The first row in Figure 3.7 is the price for regular cocoa. Each kilogram of fresh pods is sold at VND3,700 ($.176) so 11 kg of fresh pods cost roughly $1.938 (VND40,500). As fermenters sell a kg of dry beans at $2.285 (VND48,000), his cost of labor or income per kg is $.347 (VND7,500), which is the difference between the price of dry beans and the cost of input. It is not known how much local enterprises sell their beans to Cargill but it must be a value greater than $2.285. Because the average world market price per ton is $2,484 in August of 2013, this means Cargill can sell a kilogram of dry beans for $2.484.

The second row in Figure 3.7 shows prices with the UTZ premium. Vietnamese UTZ farmers receive a premium of VND200-300 per kg of fresh pod. Suppose an average farmer in Ben Tre and Tien Giang produces 3 tons of fresh pods per year, the received premium is between VND600,000- 900,000 ($28.6- 42.9), which is a very small portion of the average annual household income of VND32.04 million ($1,526) (Dang 2013). In fact, most farmers interviewed in this study reported their annual production to be over 2 tons and a few over 6 tons. The UTZ premium of $125 per MT of dry beans in the international market does not make a huge economic impact for farmers with small

<table>
<thead>
<tr>
<th>Source: The International Cocoa Organization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farmers</td>
</tr>
<tr>
<td>$1.938</td>
</tr>
<tr>
<td>$2.043</td>
</tr>
</tbody>
</table>
production. This study found that the period in which Vietnamese farmers took great care of cocoa was when the market price reached the record highs in 2011. A kilogram of fresh pods back then cost more than VND5,000 ($0.238) compared to VND3,700 ($0.176) in August 2013.

In the *Economic Analysis of cocoa-coconut integrated system* in Ben Tre and Tien Giang by Dr. Dang, it was reported that farmers earn a net profit margin of 11.3% and fermenter 3.4% (when the market price was VND55,000 for every kilogram of dry fermented beans). This profit margin calculation already took into account the cost of input, labor and tools. The unit margin for farmer, however, must have decreased when the price fell in 2012 while the cost of input (i.e. fertilizer and labor) remained constant. In this study, we were able to derive the net profit margin for fermenter, taking into account the cost of labor and input. The fixed cost of fermentation boxes and drying platforms was ignored because many fermenters built tools themselves or were given such tools as participants in the Eco-cocoa Project.

*Table 3.1* summarizes the data needed to calculate the profit margin for fermenters. The result shows that the profit margin for cocoa bean fermenters in Ben Tre and Tien Giang is 5.83%, which is higher than the respective result (3.4%) in Dr. Dang’s report. Nevertheless, this margin is still nowhere to be compared with the margin that a bean-to-bar chocolate company can make. To take an example, an artisanal chocolate company in the U.S. such as Cowgirl Chocolate has as high a margin as 58%-72% if sold directly to retailers (yourbussinessazcentral.com).
Table 3.1 – Profit margin for fermenters in Ben Tre and Tien Giang.

<table>
<thead>
<tr>
<th>Cost of 1kg of fresh pod</th>
<th>3,700 VND</th>
<th>0.176 $</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quantity of fresh pod (kg)</td>
<td>11</td>
<td>11</td>
</tr>
<tr>
<td><strong>Cost of input/1kg of dry beans</strong></td>
<td><strong>40,700</strong></td>
<td><strong>1.938</strong></td>
</tr>
<tr>
<td>Ferment a 500kg batch of fresh pods (hours)</td>
<td>13.64</td>
<td>13.64</td>
</tr>
<tr>
<td>Quantity of dry fermented beans produced (kg)</td>
<td>45.45</td>
<td>45.45</td>
</tr>
<tr>
<td>Cost of labor per day (8 hours)</td>
<td>120,000</td>
<td>5.714</td>
</tr>
<tr>
<td><strong>Cost of labor/1kg of dry beans</strong></td>
<td><strong>4,501</strong></td>
<td><strong>0.214</strong></td>
</tr>
<tr>
<td><strong>Total cost (labor + input)</strong></td>
<td><strong>45,201</strong></td>
<td><strong>2.152</strong></td>
</tr>
<tr>
<td>Price of 1 kg of dry beans</td>
<td>48,000</td>
<td>2.285</td>
</tr>
<tr>
<td>Net profit (price – total cost)</td>
<td>2,799</td>
<td>0.133</td>
</tr>
<tr>
<td><strong>Profit margin (net profit/ price)</strong></td>
<td><strong>5.83%</strong></td>
<td><strong>5.83%</strong></td>
</tr>
</tbody>
</table>

While we do not know the profit margin for intermediary traders, it is safe to assume that the figure is small since beans are simply collected and resold without being added any value. The primary source of profit comes from the large volume traded by traders. Notice that when prices fall, fermenters suffer from a reduction in absolute income but they are less financially affected than farmers since their cost of input also falls. In the face of market turmoil, cocoa production may decrease as farmers feel discouraged to take care of cocoa trees or even get rid of the whole cocoa fields.

To sum up, the value of cocoa from farmers to multinational exporters increases by small incremental amounts. This is because cocoa is only processed through simple steps and has not been turned into final consumable products. Farmers appear to earn a higher profit margin than fermenters but they are also more vulnerable to fluctuation in market prices. The UTZ premium does not add a considerable amount of additional income because smallholders do not produce a large quantity of cocoa. The premium was also not appealing enough for some farmers to keep planting cocoa when prices fell too
low. (The situation got worse when prices of coconut also fell and other agricultural crops appear to be more profitable).

3.4 **Compare the value chain of Marou with that of Ben Tre & Tien Giang**

The value chain mapping activities in the previous sections have implicitly compared the value chain of Marou with that of Ben Tre and Tien Giang with regards to the amount of added value. This section will take what have been mapped out to deliver a coherent comparison of the two value chains regarding the amount of value created and retained within the local economy. *Figure 3.8* illustrates the market value of cocoa beans throughout Marou’s chain (orange) and Ben Tre’s and Tien Giang’s chain (blue).

Figure 3.8 - Value chain comparison.

<table>
<thead>
<tr>
<th></th>
<th>Farmers</th>
<th>Fermenters</th>
<th>Traders</th>
<th>Cargill &amp; Others</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>11 kg of fresh pods</td>
<td>1 kg of dry beans</td>
<td>1 kg of dry beans</td>
<td>1 kg of dry beans</td>
</tr>
<tr>
<td><strong>UTZ</strong></td>
<td>$2.043</td>
<td>$2.39</td>
<td>$2.60</td>
<td>$2.609</td>
</tr>
<tr>
<td></td>
<td>+$0.347</td>
<td></td>
<td>+$28.26</td>
<td>+$31.21</td>
</tr>
<tr>
<td></td>
<td>+$0.557</td>
<td>$2.60</td>
<td>$20.59-30.86</td>
<td>$51.48</td>
</tr>
</tbody>
</table>

Since Marou pays farmers a higher price for high-quality beans, it is clear that the value added by fermenters in Marou’s chain is higher than that in the local chain ($0.557 versus $0.347). The payment difference is only VND4,400 ($0.21) per kilogram of dry beans but it is almost equal to the labor cost per kilogram of dry beans at VND4,501 as seen in *Table 3.1* and to 9.2% of the prevailing market price of VND48,000. The limitation is that this improved payment has not benefited cocoa farmers given that
Marou only buys a very small amount of cocoa beans from fermenters. It is a different matter whether fermenters can in turn pay farmers a higher price. That Marou can purchase high quality beans by paying a better price reflects fermenters’ responsiveness to price and their capacity to produce good work.

As can be seen from Figure 3.8, Marou adds much more value to cocoa by processing raw beans into fine dark chocolate (above $20 versus $2.39). From fermenters to Marou only, the value added to one kilogram of dry beans to make chocolate ranges between $17.99 and $28.26, which is seven to ten times the value of that original kilogram of dry beans at Marou’s price ($2.60). This added value comes from a sequence of manufacturing activities such as roasting, grinding/winnowing, conching, tempering and packaging, followed by sales and marketing activities. Employment is also created for more than 10 people working for Marou. Cargill, too, creates jobs for local citizens but they are second to Marou in terms of the amount of value created per kilogram of cocoa before export—$2.609 (with UTZ premium versus) $20.59. If Marou’s chocolate is consumed locally, the total value created and retained within the local economy is even higher at $51.48 per kilogram.

Let us attempt to put these figures in the language of GDP. The current cocoa production of 4000MT contributes $10.4 million to the GDP of Vietnam at $2,600/MT. If a quarter of the national production (1000MT) was made into chocolate for export at the rate of $20.59/kg, the chocolate industry alone would already double the contribution of cocoa to the national GDP with $20.6 million in value. An economy like the one in Vietnam is not poor because its people produce agriculture; it is poor if that is all what
they produce. This is the idea I borrowed from Tim McCollum, co-founder of Madécasse, a bean-to-bar chocolate company in Madagascar, Africa (npr.org).

On a unit basis, the value of cocoa that is retained within Vietnam is much higher in the case of a manufacturing business like Marou than in an international commodity supply chain. Cargill, however, dominates Marou when it comes to absolute income creation since the company purchases a larger quantity of cocoa beans (roughly 2,700 MT) than Marou (less than 24 MT) a year. Cargill has a greater overall impact on the well-being of Vietnamese cocoa farmers due to its large-scale buying power and its commitment to promote sustainable farming practices through UTZ certification. From the viewpoint of farmers, who depend on transaction volume and a secure market outlet, Cargill value’s chain is a better option. From the economic viewpoint, Marou’s value chain creates more value per unit for the local economy.

The case of Marou is a vivid example of a rather successful start-up, whose capital requirement and business model may be feasible for Vietnamese small businesses. At least when more Vietnamese entrepreneurs are able to seize a bigger portion of the value of final products from cocoa, more farmers will benefit. While the size of capital for Marou is unknown, we can safely assume that it is much smaller than that of Pham Minh, a Ben Tre company that processes 130 tons of UTZ cocoa beans into a wide range of final products from confectionery to cosmetics. So if local entrepreneurs have capital, the question is why there have been few local chocolate companies garnering the same kind of success that Marou has. Readers interested in this question should explore Chapter 4, section 4.4.2- Why are few local companies chocolate makers?
To sum up the value chain comparison, it is important to recognize the tremendous potential value of cocoa once it is made into final consumable products. The Marou’s cocoa value chain helps retain a significant larger portion of the value of final products within Vietnam compared to that of Ben Tre- Tien Giang. While much effort can be invested in increasing the quality of Vietnamese cocoa, the value of cocoa beans for export is only an eighth or a twelfth of the value of those same beans if made into chocolate according to this case study. Thus a sound investment to leverage Vietnamese cocoa beans should combine both sustainable agricultural practices with advanced manufacturing activities.
CHAPTER 4

VALUE CHAIN IMPROVEMENT

A cocoa farmer in Tien Giang
4.1 Introduction

Based on the value chains that have been mapped, an attempt will be made in this chapter to analyze three possible ways to improve the local value chain in favor of peasant producers.

In the chain of cocoa beans for export in Ben Tre and Tien Giang, dry beans are collected by intermediary local enterprises before being sold to multinational exporters without receiving any added value. To address this situation, the first upgrading method targets direct procurement of cocoa. Farmers will be able to receive better payment if there are fewer middlemen standing between them and major cocoa exporters or manufacturers. This means we should reduce the number of middlemen and/or encourage local trading enterprises to become producers of final products made from cocoa.

Secondly, we could attempt to command a higher price for Vietnamese cocoa beans, which means delivering products of greater value to buyers, according to Michael Porter’s idea of price advantage. In the case of cocoa beans, greater value comes from better quality, which makes pursuing a certification scheme such as UTZ a desirable option on a large scale. The UTZ certification focuses on training farmers good agricultural practices to improve bean quality and promote transparency in the cocoa supply chain. The reward for farmers is the premium awarded for UTZ certified beans in the international market. This method strives to increase farmers’ relative income (by paying premium for quality product) and farmers’ absolute income (by helping farmers increase yield via training).

Beside price increase, another source of advantage for farmers may come from cost reduction. The third upgrading strategy tries to identify potential bottlenecks in bean
processing to cut cost and improve efficiency. Since fermentation plays an important part in forming cocoa flavors, which convince buyers to pay premium price, this study will examine the fermentation process in detail to find opportunities for improvement.

To sum up, this chapter outlines three hypotheses to help improve the value chains so that farmers and fermenters could gain a larger portion of the value of final products:

(1) Reduce the number of middlemen while encouraging local trading enterprises to become producers of processed products from cocoa;

(2) Improve bean quality and thus producer price through training farmers and pursuing UTZ certification for cocoa;

(3) Identify bottlenecks in bean fermentation to help producers cut cost and improve efficiency.

In order to examine the validity of these hypotheses, I conducted an interview-based summer research in Ben Tre and Tien Giang provinces with various players in the cocoa value chain. The research methodology and the result discussion will be presented in the next sections.

4.2 Research methodology

4.2.1 Participants

Thirteen farmers and 8 fermenters from the HEVELTAS’s Eco-cocoa project in Ben Tre and Tien Giang were interviewed. There were 5 fermenters and 5 farmers from Ben Tre, and 3 fermenters and 8 farmers from Tien Giang. In one particular case, a man and his sister live separately but take care of the same cocoa field so they were
considered one player. This makes the number of mutually exclusive players who are farmers in Tien Giang seven. The Eco-cocoa project has two sub-projects, the bigger of which is UTZ certification and the smaller Organic certification. Most participants in this study are in the UTZ certification project with the exception of two fermenters and three farmers in Tien Giang, who were in the Organic project that ended in the middle of 2013. The majority of farmer interviewees are males, with only three females in the whole sample.

Farmer and fermenter participants in the study were chosen based on locations that I could visit within a ten-day field-trip. The first destination was Go Cong Tay District in Tien Giang since a cocoa club’s monthly meeting in the area coincided with the time I could start my field trip (August 17, 2013). I decided to attend such a meeting to have an idea about major concerns voiced by cocoa farmers. From the list of farmers in the Eco-cocoa project, three to four names were selected in each location I planned to visit. After interviewing one person, I asked him/her to introduce me to another farmer/fermenter that I had on the list. Half of the times I ended up interviewing different participants, who were recommended by the newly interviewed. I anticipated this to happen since farmers/fermenters might not be at home when I was around or they live too far away and I could not get a (bike) ride. When recommendations were made, I inquired about the farmers’ yield levels to make sure they are not recommended for being exemplary cocoa club members. In the end, I interviewed 9 people I originally wanted to interview and 11 by reference.

A total of six communes were included this study. The three communes in Tien Giang are Thanh Nhut and Vinh Huu (in Go Cong Tay District), and Hoa Dinh (Cho Gao
District). The other three in Ben Tre are An Phuoc (Chau Thanh District), Luong Hoa (Giong Trom District), and Tan Thach (Chau Thanh District).

Regarding intermediary traders, I got the opportunities to interview three local companies: Pham Minh (with a staff member), Lam Tung (with the owner), and Phu Binh (with the two owners, husband and wife). Two Phu Binh’s interviewees are considered one player. The Manager of Cho Gao Cooperative, Mr. Do Binh also gave an interview for the study.

The next players in the value chains are chocolate makers, who are Marou, Faiseur de Chocolat and another company that would like to remain anonymous. Other players in the value chain that I also approached included the head of Cargill’s buying station in the Mekong Delta Mr. Mong Nguyen, the local Helvetas’ project officer Mr. Khuong Ly Van, and Mr. Vo Van Sang a staff member of the Department of Technology (HELVETAS’ project partner in Tien Giang). The table below summarizes the number of players that were interviewed.

<table>
<thead>
<tr>
<th>Players in the value chain</th>
<th>Ben Tre</th>
<th>Tien Giang</th>
<th>Others</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farmers</td>
<td>5</td>
<td>7</td>
<td>0</td>
</tr>
<tr>
<td>Fermenters</td>
<td>5</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Local companies in BT/Cooperative in TG</td>
<td>3</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Chocolate companies</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Multinational exporter (Cargill)</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Project officers</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>14</strong></td>
<td><strong>12</strong></td>
<td><strong>3</strong></td>
</tr>
<tr>
<td><strong>Total number of players interviewed</strong></td>
<td></td>
<td></td>
<td><strong>29</strong></td>
</tr>
</tbody>
</table>
4.2.2 Questionnaires

Two different questionnaires, one for farmers and one for fermenters, were prepared in advance of the field trip. Each includes a technical part and a qualitative part. The interviewer, myself, wrote down each participant’s response in an empty questionnaire and audio-taped the answers to the qualitative questions. Fermenters were asked about their step-by-step fermentation process in order to detect possible bottlenecks that could be modified to improve efficiency and cut cost. Farmers were asked about their cultivation techniques and perception of the UTZ certification and the cocoa industry in general. Both groups were asked to give recommendation for the Eco-cocoa program.

Items on the questionnaires were based on the survey formats used by Dr. Dang of NLU in his report written at the request of HELVETAS, *Economic Analysis of cocoa-coconut integrated system* in Ben Tre and Tien Giang (2013). I modified them for this particular study with the helped of Dr. Phuoc Pham of NLU, the leading cocoa expert in Vietnam. The survey formats can be found in the Appendix 2 and 3.

The independent field trip in Ben Tre and Tien Giang lasted 10 days from August 17 to August 26, 2013. All farmers and fermenters are guaranteed anonymity so that they could feel comfortable sharing their thoughts about the Eco-cocoa project and their true farming practices, be it different from the UTZ Code of Conduct. Nevertheless, I detected the hesitation of a few farmers and fermenters in answering my questions. In the case of the brother and sister in Tien Giang, the woman frequently made long pauses and looked at her brother for his opinions, indicating that she did not feel comfortable being interviewed. The qualitative part of her answer is thus omitted from the analysis.
Flexible questions were prepared for all the rest of the players. The overall purpose was to understand the governance structure among different players, their production (if any), their roles in the value chain, and their perception of the UTZ certification. These interviews were audio-taped with the exception of the ones with participants from Lam Tung Company and Cargill (due to background noise) and two Eco-cocoa project officers (due to technical difficulties).

4.2.3 Study limitations

Given the challenges in collecting real-life data independently in the rural area of Vietnam, I would like to acknowledge the following limitations of the study. The sample size of 20 farmers and fermenters is not big enough to represent the whole population of cocoa producers in Ben Tre and Tien Giang. The selection method of participants is not entirely random due to constraints in scheduling and transportation.

The quantitative data collected from farmers and fermenters regarding their annual yield, annual revenue and production cost may not fully reflect reality since some interviewees did not keep detailed records of their production or did not remember correctly their use of fertilizer and herbicides. While this fact was noted, their answers were recorded without any modification. The results presented in the following sections are based on these data.

4.3 Characteristics of cocoa producers in the Mekong Delta

Characteristics of producers largely determine the outcome of the final products in any businesses including those in the agricultural sector. They help explain why certain
value chain upgrading methods may or may not work. It is thus important that we understand prominent cultural and behavioral characteristics of cocoa producers in the Mekong Delta before being able to examine possible ways to improve the local cocoa value chain.

Interviews with 12 farmers and 8 fermenters in Ben Tre and Tien Giang reveal interesting traits and customs of cocoa producers that help shed light on the inconsistent quality of cocoa beans. Farmers and fermenters in the study highly value social relationships over principles. This observation fits within the collectivistic culture of Vietnam according to the Hofstede’s cultural dimensions theory. In societies characterized by collectivism, a group’s cohesion is placed above individual needs and loyalty to the group tends to override rules and regulations (Geert-hofstede.com). Fifty percent of fermenters in this study said they knowingly bought substandard cocoa pods so as to not upset farmers, who are their neighbors and club members. The cocoa club, whose meeting I attended at the beginning of my field trip, ends each meeting with a meal (and wine) as a bonding activity for group members. This emphasis on relationships means that farmers feel the need to give up on certain quality standards to maintain group harmony.

In general, local farmers welcome new ideas and are capable of learning them quickly. Most farmers and fermenters interviewed do not think that planting or processing cocoa is in anyway difficult since they have been trained in the programs organized by SUCCESS ALLIANCE and HELVETAS. Even Smilja Lambert, Cocoa Sustainability Research Manager of Mars Inc., highlighted those traits: “The cocoa farmers in Vietnam are some of the best I’ve ever encountered in my life. They are
diligent, hardworking, and open to new ideas, and as a result of adopting these methods [Mars’ training methods], the quality of Vietnamese cocoa has been quite high from the beginning.” (Lambert).

While the farmers/fermenters learn new techniques quickly, they tend to overlook details, deviate from standard practices, and lose patience with tasks that are repetitive but necessary to ensure product quality. During the field trip, I did not expect to learn that several farmers and fermenters find keeping detailed written records of cocoa transactions and the use of fertilizers and herbicides one of the most difficult requirements to get UTZ certified. Keeping records has never existed in the customs and habits of local farmers and it is a tedious job given that cocoa pods are harvested every one or two weeks. While this does not directly affect quality, failure to follow standard farming practices does. Despite knowing proper fermentation techniques, fermenters still choose to take shortcuts, according to Vincent Mourou (2013). One fermenter and cocoa club leader in Tien Giang further commented that farmers were lazy and simply wanted financial support. It thus appears that hard work is praised in the culture but it is not required. Something laid back and enjoyable is generally preferred, which is why farmers and fermenters make exceptions for themselves and violate farming principles at their convenience. This idea is compatible with a low uncertainty avoidance society in Hofstede’s model, where people think rules and regulations should be changed when appropriate (Geert-hofstede.com).

From my observation, Mekong Delta’s farmers are friendly and enjoy living in the present. They think of immediate profits rather than long-term investment. This short-term mentality is manifested through the fact that they eagerly plant a crop that is
profitable and quickly decide to cut it down a few years later when supply exceeds demand such as in the case of lemon and coconut. According to one Ben Tre fermenter, people here are “quick to plant, quick to fell”—some went as far as replanting a garden of longan after having cut it down not too long ago. In 2013, Ben Tre farmers (regular farmers included) cut down 15% of the total farming area of cocoa when the market price fell too low during April-June (only VND3000 per kg of fresh pods) (A report from Ben Tre, 2013). This event was accompanied by a rise in the prices of longan and particularly green skin pomelo grapefruit, which was VND60,000/kg (Ibid). It is fair to acknowledge that some other kinds of trees may be more profitable given the differences in soil nutrients. Future cost-benefit analysis between cocoa and other crops would give better insights to both farmers and local authorities when it comes to crop planning.

Cocoa felling may cause instability in input supply for processors and chocolate making companies. The unpredictability of resources and the insufficient quantity cocoa beans could potentially discourage companies and firms to invest in manufacturing facilities in the region. On the other hand, the absence of the buyers’ promise to buy all agricultural produce may discourage farmers to plant cocoa. A secured outlet of cocoa pods and beans was mentioned as one of the reasons for farmers to participate in the Eco-cocoa project.

In a society where social relationship and personal interaction is held in high regards, the kind of value chain governance structure is not purely based on a written mutual agreement but on how close one is to one another. In addition, a tendency to modify regulations and a short-term focus will challenge any standardization process like a certification program of UTZ. Players in the value chain, especially development
project officers, should be aware of these characteristics in order to interact efficiently with each other.

We will now bring what we have observed about farmers in the Mekong Delta in the context of value chain upgrading. This cultural and behavioral knowledge will give insights into the applicability of certain upgrading methods. The next section will address the first research hypothesis, which targets direct procurement of cocoa so that farmers will not lose as much profit to intermediary players.

4.4  **Hypothesis 1: Reduce the number of intermediary players**

As we recall from the value chain of Ben Tre and Tien Giang, local intermediary traders of cocoa beans contribute the least value to the final products. Traders neither have to spend years to plan cocoa trees nor go through the process of fermenting high quality cocoa beans. The risks of diseases and price fluctuation incurred by traders are minimal as they can buy at a lower price if the price they sell to foreign exporters drops. In theory, reducing the number of these middlemen would increase the likelihood that farmers get better payment but this is not an option under the market regulation in Vietnam.

4.4.1  **Market regulation**

From the beginning of 2007, companies and corporations with foreign owned capital are not allowed to make direct transactions with farmers, and are required to purchase goods from local licensed businesses, according to Circular No. 09/2007/TT-BTM issued by the Ministry of Industry and Trade. Vietnamese farmers and fermenters were not registered to export so they could no longer sell directly to foreign companies.
after this law took effect. This favorable condition might have triggered the establishment of two companies in Ben Tre in the following year—Lam Tung and Phu Binh. According to Mong Nguyen, Cargill started purchasing cocoa beans from local enterprises in Ben Tre and the cooperative in Tien Giang in 2007 in compliance with this regulation (2013).

Most recently, Circular No. 08/2013/TT-BCT issued in April, 22nd 2013 (to replace the old circular) details that foreign-invested enterprises (FIEs) “are not entitled to organize the network of goods purchase in Vietnam for export.” (Ministry of Industry and Trade 2013). This circular helps secure the trading role of Phu Binh, Lam Tung and Huong Viet since big multinational exporters like Cargill and Ecom (formerly Armajaro) cannot organize their own network of procurement. Belgium joint venture Puratos Grand-Place and French chocolate company Marou are different cases given that they have their own manufacturing facilities in Vietnam. As far as this research goes, both have bought from and are currently working directly with farmers to a certain extent.

In order to help farmers improve income, local trading companies could in theory export directly to international cocoa manufactures. However, this is not a viable option due to the lack of access to the global distribution channels and the inability to ship in large quantities of Vietnamese small companies. The overwhelming pressure to compete with large-scale multinational buyers was also observed among Indonesian local exporters, who started to sell to these traders instead of exporting themselves (USAID 2005).

While this study argues that fewer intermediary players would benefit cocoa producers and give them a higher income, the circular clearly suggests that some layer of
middlemen is necessary. It is therefore important for us to understand the reasons behind both sides of the arguments.

**Supporting arguments** say that the circular was born in an effort to prevent FDI enterprises from manipulating the market to the extent that local enterprises could not compete (socongthuong.thaibinh.gov.vn). Several segments in the agricultural sector are being dominated by foreign players. For example, FIEs occupy 60% and 70% of the market share of coffee (in Central Highlands) and of animal food production respectively, according to MARD (tuoitrenews.vn). The same situation could be said for the young cocoa industry in which Cargill purchases 70% of the national production.

The chief concern being raised is that some FIEs, without investing in the local farming areas, are able to purchase a large amount of agricultural produce by simply paying farmers a higher price. Though farmers benefit from higher payment, this is unfair to domestic enterprises, which invest efforts and financial resources in farmers but lose the production to foreign companies (Tuoitrenews.com). The fact that Cho Gao Cooperative failed to collect the full amount of beans in 2012, according to the Cooperative’s Manager, indicates that some farmers do turn their back to local enterprises that invest in them and sell to others. An interview with a farmer in Tien Giang also revealed that some fermenters, despite benefiting from the Cooperative, selectively sold high-quality beans to external buyers and lower-grade beans to the Cooperative.

In direct relation to this study, we cannot deny the role of local traders in Ben Tre. They have effectively put the UTZ certification in place to help farmers improve yield and bean quality, and taking care of their living environment.
Taken together, the ban is supposed to help protect local companies from fierce competition against foreign players, who have the capacity to dominate the local market but may not invest in its development. It means that intermediary cocoa traders should not be eliminated in the value chain although from the standpoint of farmers the ban may not be favorable.

Opposing arguments point out that the circular will deter foreign investors from investing in Vietnam. The portion of Vietnam’s total FDI occupied by the agricultural sector already got smaller and smaller each year, from 8% of in 2001 to 5.37% in 2007 and less than 1% during the 2009-2011 period (Trung and Hang 2013). In the past year, only US$87.8 million out of the total of US$13 billion in FDI was invested in agriculture – a too small portion (Ibid). Considering that 19.1% of the country’s GDP comes from Agriculture, this tiny fraction of investment does not match with the potential (ciaworldfactbook.com). In such a scenario, circular 08/2013 would further discourage investment and hinder the growth of the sector.

Besides, there are about 30 FIEs participating in the Public-Private Partnership program with MARD to help build infrastructures and support sustainable development of various industries in the agricultural sector (Tuoitrenews.com). In light of this circular, such FIEs will not benefit from their own investment and may leave Vietnam. If there are foreign investors who want to make easy profits without cultivating the farming area, there are also local companies driven by this same incentive. This circular may backfire and give local enterprises monopoly power and prevent farmers from getting paid at the market prices.
From the farmers’ perspective, the circular is less likely to help them receive the market price. Such a ban on direct purchase will give room for more local middlemen to complicate the value chain while cocoa processing facilities are still underinvested in Vietnam. One possible solution can be learned from Indonesia, where only FIEs that have invested in the farming area may have the right to directly purchase from farmers. In this model, the resource management is still under control while the market competitiveness will not be reduced to monopoly. Ideally we would want more local companies transition from trading to manufacturing roles in order to truly leverage the value of cocoa received by farmers. This brings us to the next section to examine why few Vietnamese companies are chocolate makers.

4.4.2 Why are there few local chocolate makers?

As we have seen from the value chain of Marou, Faiseurs de Chocolat, processing activities has the most potential for value creation. Vietnamese trading companies would be able to increase both their income and the farmers’ income if they were producers of processed products made from cocoa. Putting capital issue aside, why have few Vietnamese companies managed to achieve Marou’s initial success? This study proposes three possible explanations that address differences in vision, skills and knowledge, and work culture between foreign and local businesses.

Let us start our discussion with vision. In explaining why most great brands do not come from Asia, Joseph Baladi (2011) suggests *Myopic CEO Leadership* as one of the key reasons. He wrote about a mentality in which “The CEO is driven almost exclusively by profits and not passion. He will take shortcuts and consider himself clever...
for doing so.” (Ibid: 15). This same observation could be used to describe cocoa farmers and fermenters in the Mekong Delta, who have a tendency to quicken a process at the expense of quality. The kind of profit-driven mindset appears to be shared across different levels of management from farmers and fermenters in a household setting to top managers at big companies. Being profit-driven is not a bad thing per se. But it hinders the development of a business when business values and product quality are compromised. In my interview with Vincent Mourou, I asked him about a Vietnamese cocoa manufacturer that he happened to have inside knowledge of. His comment was that the company was driven by quick return and kept overlooking opportunities instead of really making an effort to do something good and quality. He added that people need to have a set of values and stick to it. For local Vietnamese, this means they need to resist the temptation to modify their standards whenever convenient.

Another aspect of myopic vision is the lack of attention to branding by the vast majority of Asian businesses (Ibid). Executive leaders may perceive branding the wrong way, for example, as tangible representations such as logo and name promoted mainly through media (Ibid). They fail to see that what constitutes branding comes from within and is instilled in the company’s culture and values. The core of branding – and this should sound familiar after Chapter 3- Framework Application - is differentiation and competitive advantage. Rarely any Vietnamese cocoa manufacturers have made themselves stand out by being different from competitors. For Belgium venture Puratos Grand-Place, one source of differentiation comes from building a separated downstream supply chain following its own Cocoa Trace standards to support farmers and ensure
quality. For local trading companies that simply collect and resell beans, the ideas of branding and differentiation may not have been put on the table yet.

Secondly, knowledge gap and language barrier is an obstacle for Vietnamese small businesses to enter the international supply chain and find buyers for manufactured products. If one does not speak and understand English well, one is blocked from the market information and unable to communicate with foreign buyers. This is likely the case of local trading companies in Ben Tre. More importantly, we need to acknowledge that cocoa and chocolate is not in the Vietnamese culture. Local businesses will have a harder time exploring the landscape of the market and understanding the needs of dominantly foreign customers. To succeed in the cocoa industry, one must either be knowledgeable about the global market to penetrate it or be able to create a demand for cocoa and chocolate in the local market. Both paths are challenging in their own ways.

Judging from the interests of international buyers in Vietnamese cocoa beans, there are currently more opportunities to commerce cocoa and chocolate outside of Vietnam. The challenge is whether Vietnamese businesses can penetrate the market or not. As we know the global supply chain is dominated by a handful of multinational grinders and manufacturers, if one does not know how to craft his own niche in the market, it is pointless trying to compete with those giant players. Indeed, if one can build his distinctive position, one will not be in the same race with big players. For example, Marou is by no means a competitor of Cargill in terms of cocoa bean trading but their reputation of high quality cocoa has brought them bean buyers and chocolate buyers from around the world. While Puratos Grand-Place and Marou both make chocolate, they are
not in a direct competition because one caters to businesses and the other end-consumers respectively.

Crafting a sustainable market position requires strategic thinking and creativity in the workplace, which are fostered differently in Asian and Western business cultures. This brings us to the third difference between local and foreign enterprises: work culture in relation to innovation and invention. Joseph Baladi (2011) observed that most Asian companies are family-run, whose work culture is by default rather than by design. In such an environment, employees are not encouraged to question and create changes, which is a big disadvantage for any business because innovation opens doors to differentiation and sustainable profitability (Ibid). I interviewed Mourou with the assumption that the two cofounders have a lot of experience in the cocoa industry when they decided to make chocolate. Besides, there must be some kind of secret recipe or ingredients from hired chocolate connoisseurs. It turned out that they have a lot of experience in the home kitchen and neither have been a chef or baker before. They started with an interest in cocoa and decided to learn about it with the help of a Swiss expert. The two spent 7 months experimenting various ways to make chocolate in the kitchen before Marou was founded. It is about passion and innovation, said Mourou. Not everyone is willing to commit to 7 months of unemployment and persistent experiments like these two cofounders. Experimenting also means that there will be failures, which are generally not well embraced in Vietnamese culture. Overall this creates a tendency to devise ways to make a return as soon as possible instead of investing in the long run.

Certainly there are local companies that invest a significant amount of time and effort in cocoa manufacturing. However, these few companies generally target industrial
manufacturing rather than experimenting with small production first. This is not a wrong way to start a business but it does require a higher level of capital and can be challenging to achieve both quality and volume at the conception of the business. In terms of innovation, local entrepreneurs could have thought outside of the mainstream to build a bean-to-bar model like Marou. Of course merely copying a business model will not work since differentiation must come from internal characteristics of a company, which have been analyzed at length for Marou in Chapter 2. The example simply serves to illustrate that there are ways to innovate and take advantage of opportunities in the market.

In a nutshell, a long-term vision and a work culture that stimulates innovation play critical roles in helping businesses excel in high value creation activities such as processing cocoa beans into final products. For Vietnamese entrepreneurs entering the cocoa industry for the first time, there is also a learning curve in terms of market insights and language barrier to overcome. All factors combined, cocoa bean trading, whose profits are almost immediate, is an easier and more appealing option for the majority of local businesses. It takes much more effort, risks, and knowledge about the end markets of cocoa to engage in processing activities. For local companies that already have manufacturing function, there appears to be a dire need for more innovation and experimentation to create greater value out of cocoa beans and achieve high profitability.

4.5 Hypothesis 2: Increase value added- Enhance bean quality

One method in value chain upgrading is to increase the value added to agricultural produce in each stage. What this means for Vietnamese farmers is finding ways to improve the quality of cocoa so that they could receive a higher market price for what
they sell. Since most cocoa beans in Vietnam are exported, pursuing an international certification for cocoa looks like a large-scale option that achieves both quality improvement and price enhancement. In Vietnam, UTZ certification has been widely promoted by NGOs, Cargill, UTZ Vietnam, and the local government. This section is devoted to understanding the UTZ certification and the perception of cocoa players with regard to the impact of UTZ Certified.

4.5.1 The pursuit of a certification- UTZ Certified

Given the social, economic and environmental issues in the cocoa industry, there has been an increase in cocoa production under various certification schemes, among which are the big four Fair Trade, Rainforest Alliance, Organic, and UTZ Certified (Cocoa Barometer 2012). In Vietnam, the UTZ certification has been widely promoted for cocoa, certifying more than half of the total expected production in Vietnam in 2013-2014 (Nguyen 2013). UTZ Certified was launched in 2002 for sustainable coffee, which turned out to be such a great success that it has been expanded to cocoa and palm oil. Since the Cocoa Program was founded in 2007, UTZ Certified has been working with major players such as Cargill, Nestlé, and later Mars Inc. to promote sustainability in mainstream cocoa production (Utzcertified.org). In 2009, HELVETAS Swiss Intercooperation was among the first to facilitate the adoption of UTZ in Vietnam.

UTZ Certified has a Code of Conduct that focuses on three areas—good agricultural & business practices, social criteria and environmental criteria (Ibid). Compared to Fair Trade, UTZ does not require buyers to offer pre-financing to producers or sets a minimum price to protect producers from the market fluctuation. UTZ focuses less on equitable trading relationship for smallholders and more on good agricultural
practices to produce high-quality goods. Compared to Rainforest Alliance, UTZ Certified is not as strict in terms of environmental standards to the extent that it becomes the point of criticism (coffeehabitat.com). Finally compared to Organic, UTZ Certified cares about changing farming practices but allows producers to use herbicides, pesticides and chemical fertilizers listed in its Code of Conduct.

What UTZ Certified seems to push hard is *traceability*, which ensures transparency in the supply chain from the first agricultural producers to UTZ Certified buyers (traders and grinders) all over the world (utzcertified.org). To this end, UTZ Certified has a web-based traceability system connecting global buyers and suppliers (via tracking numbers) and a chain of custody requirements (Ibid). Important custody criteria include recordkeeping of transactions and separation of UTZ products from regular ones, combined with an internal control system that administers the flow of products as seen in the case of cocoa in Ben Tre and Tien Giang. Like other certifications, UTZ Certified requires annual independent auditing from a third party to ensure producers’ compliance with the Code of Conduct. Another prominent aspect of UTZ Certified is that it provides technical training to farmers with advice from UTZ Certified trained agronomists. Under the Eco-cocoa project by HELVETAS, Vietnamese farmers receive significant informational and technical support that helps them improve their productivity and awareness of environmental protection (Dang 2013).

UTZ awards a premium that varies in different countries. The average weighted premium is $151 per MT (of dry beans), which is lower than that of Fair Trade ($200) (confectionerynews.com). In Vietnam, farmers receive between $9.5 and $14.3 for every
MT of fresh pods sold. If an average farmer produces 3 tons of pods per year, the premium is from $28.5 to $42.9.

According to UTZ Vietnam representative Thiet Nguyen (2013), the national production of UTZ certified cocoa beans next year will be 3,183 MT from an area of 2,839 ha managed by 3,721 smallholders. This means a 26% increase in cocoa farming area and 29.9% in the number of participants compared to 2012-2013. No official data has been published about the expected production of cocoa beans from Vietnam in 2013-2014 but the portion of UTZ certified is said to be over 50% compared to 46% as of August, 2013 (Nguyen, 2013). The development of the UTZ Certification program facilitated by HELVETAS and its project partners is growing in Ben Tre and decreasing in Tien Giang for various reasons that can be attributed to governance factors. (See Appendix 1 for more details).

On the global scale, UTZ has achieved significant growth in volume from 5% in 2011-2012 to 14% (an equivalence of 534,614 MT) of the global production just a year later (Nieburg 2014). The quantity of all traded UTZ cocoa currently stays at 20% and is expected to grow up to 50% within the next 10 years. As can be seen, the certification adoption rate is growing quite fast, which could be explained by two main factors. First, the target of the UTZ Certified cocoa program is mainstream production so it cooperates with and is backed by biggest cocoa grinders and traders in the world to realize its mission. Second, the Code of Conduct is less strict compared to standards set by other certifications while focusing on raising productivity, all of which makes it financially sound and feasible to implement the program for both buyers and sellers.
In Vietnam, the adoption rate of UTZ Certified is quite high given that it only entered the country in 2009. The Vietnamese government has taken careful steps from the beginning to develop cocoa in the quality direction while essentially allowing a free market mechanism in the industry. Given its strength in technical training and productivity focus, UTZ appears to be a good fit to teach farmers the needed skills to manage this new crop efficiently. In addition, the farmers in this study themselves do not consider UTZ’s requirement difficult to adjust to. Some criteria that stand out to the farmers are recordkeeping, appropriate usage of fertilizer and herbicides, and building a flush toilet (if they do not have one yet).

To continue with the perceived impact of UTZ Certified, perhaps no one would be in a better position to speak about the various aspects of the certification than the UTZ farmers themselves. As the overall research goal is to improve the value chain from the farmers’ perspective, this study makes the point to have their voices heard, which will be presented next.

4.5.2 Perception of UTZ certification from cocoa producers

Table 4.2 below is the summary of the perspective of UTZ certification from eight fermenters, who are also cocoa farmers themselves, and 12 farmers in the Eco-cocoa project in Ben Tre and Tien Giang.
Table 4.2 - Perception of UTZ certification from cocoa producers

<table>
<thead>
<tr>
<th>The reasons to join UTZ</th>
<th>Fermenters</th>
<th>Farmers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Assured consumption of all cocoa produced.</td>
<td>• Potential high prices for high quality (especially organic beans for organic farmers).</td>
</tr>
<tr>
<td></td>
<td>• Compatible with the “New Village” campaign in Ben Tre (clean environment).</td>
<td>• Technical training and helpful documents to increase quality and productivity.</td>
</tr>
<tr>
<td></td>
<td>• Better and informed pricing.</td>
<td>• Assured consumption.</td>
</tr>
<tr>
<td></td>
<td>• Detailed instruction and technical training.</td>
<td>• Clean production with some level of connections among players.</td>
</tr>
<tr>
<td></td>
<td>• Higher quality of Vietnamese cocoa in the world.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Compete to buy cocoa pods.</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>The perceived benefits of UTZ</th>
<th>Fermenters</th>
<th>Farmers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Clean and healthy environment.</td>
<td>• Clean and healthy environment, protection of the living environment, and clean garden.</td>
</tr>
<tr>
<td></td>
<td>• Controlled use of herbicides. (6)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Get training on cultivation techniques and updated about market information.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Daily pricing notifications.</td>
<td>• Additional income (compatible with coconuts).</td>
</tr>
<tr>
<td></td>
<td>• Realized that it is not good to hire children.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>The challenges in UTZ</th>
<th>Fermenters</th>
<th>Farmers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Nothing too difficult. (4) Regular pruning makes a difference. Fermentation techniques are not hard.</td>
<td>• Deep fall in prices.</td>
</tr>
<tr>
<td></td>
<td>• Deep fall in prices.</td>
<td>• Too much recordkeeping.</td>
</tr>
<tr>
<td></td>
<td>• Farmers being unsatisfied with the amount of premium (3)</td>
<td>• Organic farmers: organic fertilizer alone is not sufficient for cocoa.</td>
</tr>
<tr>
<td></td>
<td>• Farmers not taking care of cocoa fields (or felling trees in Giong Trom, Ben Tre) (4)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Too much recordkeeping (3)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• More moldy beans in the rain season.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Recommendation/ Desire</th>
<th>Fermenters</th>
<th>Farmers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Be persistent and make the program sustainable: be in touch with farmers regularly and utilize media to send messages.</td>
<td>• Intervene to improve the market prices somehow.</td>
</tr>
<tr>
<td></td>
<td>• Tie the cocoa pod buying network to the local government to manage and invest efficiently to avoid competition to buy.</td>
<td>• Fertilizer subsidy.</td>
</tr>
<tr>
<td></td>
<td>• Government create more opportunities for coconut, on which cocoa depend.</td>
<td>• No, hardly anything can be done.</td>
</tr>
<tr>
<td></td>
<td>• Focus on productivity revolution and educate farmers about the true concept of quality and sustainability.</td>
<td>• Keep having support from the project.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Raise the aware of the whole group about the importance of the ecosystem, which is new to the traditional customs of most farmers.</td>
</tr>
</tbody>
</table>
4.6 Hypothesis 3: Identify bottlenecks to cut cost and improve efficiency

In an effort to improve the value chain thus far, we have (1) considered adding value to cocoa beans through certification and (2) examined the possibility of reducing the number of middlemen so that farmers can receive a higher income. The third way is to zoom in a particular process to detect steps that are not efficient (either costly or time-consuming) so that we could improve upon. According Lambert of Mars Inc., the flavor of Vietnamese cocoa is not very high so fermentation and drying play an important role in yielding the best cocoa flavor (vietnamnews.vn). While Vietnam fermented beans are highly considered in the region, there is still room to improve especially when it comes to consistency, a point that Mourou and Dr. Pham share. As a result, this section will examine detailed practices of fermenters to find out key success factors in high quality fermentation.

4.6.1 General best practices in fermenting cocoa beans

According to international standards, merchantable cocoa must be

(a) Fermented, thoroughly dry, free from smoky beans, free from abnormal or foreign odours and free from any evidence of adulteration. (b) Reasonably uniform in size, reasonably free from broken beans, fragments and pieces of shell, and be virtually free from foreign matter”. (qtd. in ICCO 2008: 1)

In order to produce such quality of cocoa beans, every step from harvesting cocoa pods to fermenting and drying beans must be well taken care of. Fermentation is an important process to develop desirable cocoa flavors for chocolate-making. General best known practices in processing cocoa, which continue to undergo modification each year, are outlined as follow. The full version of these practices can be found in “Cocoa
Cocoa Pod Harvesting

In order to be used in fermentation, cocoa pods must be harvested when they are ripe. Local fermenters interviewed, however, do not reach a consensus over an ideal level of ripeness. In general, green cocoa pods contain undernourished beans that are not good for fermenting. Overripe cocoa pods, on the other hand, are subject to fungal diseases and bean germination, which bring down the quality of cocoa. Pods eaten by squirrels, mice and rats can neither be used. Cocoa pods should be harvested regularly, usually every week during the seasons, in order to achieve the right level of ripeness.

Storage of fresh pods (7-9 days)

The shell of cocoa pods contains nutrients that continue to turn the pods ripe for days after harvest. It is recommended to store fresh cocoa pods from 7 to 9 days in a cool and dry area (to avoid disease infection) so that enough moisture will escape from the pods to allow for quality fermentation. Study has shown that pod storage for seven days helps speed up both the fermentation process and the rise in temperature of the beans. A rapid increase in temperature often indicates high-quality beans after fermentation is finished. In addition, stored pods produce a higher percentage of brown beans in dried cocoa compared to fresh pods. This is an incentive for farmers to store pods because the market pays a higher price for evenly brown beans. The dilemma is that fungi thrive in the rain season from April to October. Fermenters are faced with the trade-off between
storing pods and having more infected pods or breaking pods early and lowering bean quality.

**Cocoa pod splitting/breaking** (8 hours – 500 kg of fresh pods)

The next step is to break pods open, which is the most time-consuming and labor-intensive step in processing raw cocoa beans. In theory, a blunt object (i.e. a piece of wood) should be used to split pods to avoid cutting/damaging the beans inside. In reality, most local fermenters use some form of knife because this is faster and broken pieces of pods’ shell will not be mixed with the beans. After pods are broken, beans will be extracted by hands. Placental materials and defected beans (black, flat or germinated ones) should all be removed.

**Juice pressing** (30-40 minutes – 500kg of fresh pods)

To expedite the moisture loss of cocoa, pressing wet beans to eliminate their juice (sweating) is proposed as an alternative to storing pods. Wet beans are filled up in a plastic cylinder with perforated bottom and a pressing plate on top, which is pushed down by hand-spinning the screw. This method only takes half an hour to press wet beans from 500kg of fresh pods. The juice can be used to make cocoa liquor or cooking sauce. More studies need to be done on the impact of juice pressing on the quality of cocoa beans compared to pod storing.

**Bean fermentation** (5-6 days)

The most common way to ferment beans in Ben Tre and Tien Giang are in wooden boxes covered with jute bags and banana leaves. The bean temperature inside the box must reach anywhere between 45º C and 50º C for a fermentation to be successful.
According to Dr. Pham at the University of Agriculture, it is common practice that beans are turned the first time after the first 24 hours and the second after the next 48 hours to allow new air to penetrate and increase the rate of fermentation. This practice is not universal and fermenters may choose to mix beans in the box at different times depending on the weather.

Another source from Australian Aid recommends spreading wet beans in the sun for two hours before fermenting to increase the temperature of the beans and speed up the rate of fermentation. The whole fermenting period lasts from 5-6 days.

"**Drying** (6-9 days)
Sun drying is the most economical and ideal method to yield high-quality cocoa beans. The slow drying process allows acids to evaporate and the flavor of cocoa to be fully formed. The challenge is that sun drying more than 9 days in the rainy season could cause moldy beans. Beans are spread on a platform a meter above the ground and must be turned frequently in the first days (every 1-2 hours) to avoid clumps and in the next days (every 3-4 hours) for beans to dry evenly and have a desirable brown shade. Beans should be spread in thick layers the first days (conducive to acid evaporation) and thinner layers later (conducive to reducing moisture level down to 7.5%). Throughout the process, waste materials (i.e. placenta, pieces of shell) and bad beans should be filtered.

### 4.6.2 Consistency in fermentation procedure (Interview with fermenters)
Fermentation plays an important role in the formation of cocoa flavor and in producing high quality beans. Inconsistencies in fermentation procedure thus may have a
bad impact on not only the quality of dry fermented beans but also the price level paid to fermenters.

Interviews with 8 fermenters show that farmers understand the core processes of a good fermentation but their practices somewhat vary from one to another, which is not unexpected since fermentation techniques are modified over time. It is noteworthy that fermenters know how to do things right but several choose to do them differently at their convenience. Some of the issues identified include using green pods, not moving beans frequently while drying, and not filtering out bad beans and foreign materials. When asked if they buy green pods from farmers, only one fermenter declared he would refuse to do so, three indicated they buy green pods and store them until the next batch, and one said he uses green pods anyway.

Regarding moving beans while drying, fermenters all agree that bean moving on the first days are important to separate clumps. More than half of the fermenters do it 3-4 times on the first days and 2-3 times on later days, which is less frequently than recommended. One fermenter thinks the second day is more important than the first, and recommended moving beans up to ten times that day but he also said 2-3 times are just fine. Phrases like “do it if time is available” (“nếu có thời gian thì làm”), “if busy” (“nếu bận”), and “just fine” (“cũng được”) appeared occasionally in the interviews, suggesting that fermenters have a tendency to make exceptions and deviate from the standard practices.

During the field trip, I collected/bought six samples of beans from six out of eight fermenters, with a cover story that my friends in the city had not seen cocoa beans before and wanted “proof” of my research in Ben Tre and Tien Giang. I was primarily curious
about the quality of cocoa beans in fermenters’ daily practices. Four out of six samples I found contain at least more than 15% of flat beans, clumps and foreign matters. Owners of those four samples include fermenters that sell high quality beans to Marou, which shows that fermenters improve their practices when an appropriate amount of economic reward is awarded. The flaw in this test is that some fermenters separate beans according to grades and good grades were not available in large quantity during August when production is at the lowest level. I did not specifically asked for the best bean quality either. The table below sum up the variation in real-life practices compared to the standards in fermentation procedures.

Table 4.3 - Steps in bean fermentation.

<table>
<thead>
<tr>
<th>Steps</th>
<th>Guideline</th>
<th>Variation in practices</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pod harvesting</td>
<td>Moderately ripe</td>
<td>Range from 30% to 75%. All agree that pods continue to ripe during storage.</td>
</tr>
<tr>
<td>Pod storage</td>
<td>7-9 days</td>
<td>6-9 days</td>
</tr>
<tr>
<td></td>
<td>Fewer days if juice is squeezed</td>
<td>2-5 days if juice is squeezed</td>
</tr>
<tr>
<td>Pod breaking</td>
<td>6 hours</td>
<td>Most take 8 hours (2 people- 4 hours)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>One take 6 hours (3 people- 2 hours)</td>
</tr>
<tr>
<td>Wet bean treatment</td>
<td>Sundry for 3 hours or leave beans in a perforated basket overnight</td>
<td>Only 2 fermenters do this</td>
</tr>
<tr>
<td>Ferment in the box</td>
<td>5 nights- 6 days</td>
<td>Most do 4-5 days.</td>
</tr>
<tr>
<td></td>
<td>4 nights- 5days if juice is squeezed</td>
<td>Two fermenters do 5-6 days.</td>
</tr>
<tr>
<td>Bean tuning during fermentation</td>
<td>1st turn after 48 hours</td>
<td>Six fermenters turn beans after 24 and 72 hours.</td>
</tr>
<tr>
<td></td>
<td>2nd turn after 96 hours</td>
<td></td>
</tr>
<tr>
<td>Bean drying/moving</td>
<td>First 2 days-thick layer- move beans every 1-2hours</td>
<td>Most fermenters move beans 3-4 times/day in the first days and 2-3 times/day after that.</td>
</tr>
<tr>
<td></td>
<td>Next 4 days-thin layer-move beans 3-4 times/day</td>
<td></td>
</tr>
</tbody>
</table>
When asked about the key success factors in good fermentation, a couple mentioned storing pods and moving beans during sun-drying. In particular, six out of eight mentioned the ripeness level (in percentage) of fresh pods but they do not share a common idea of what that percentage should be. One fermenter said the ripeness level between 25-55% is acceptable and should not exceed 75%. Another said that pods should be harvested at 50% maturity, which will increase to 70-80% after storing. Interestingly enough, the one who believes the appropriate level of ripeness should be between 40-80% is also the one who admitted fermenting green pods anyway. Two bean suppliers of Marou specifically mentioned they had to choose pods with the same ripeness level in order to meet the buyer’s high quality specifications. Thus it looks like maturity is an important factor in producing evenly brown and well-fermented beans.

It turns out that the problem of harvesting green pods is not something new. In an interview with Vietnam News in 2010, Dr. Pham noted that farmers had been collecting immature cocoa pods because of rats, theft and convenience in harvesting (vietnamnews.vn). It is true that a few fermenters and farmers in Tien Giang were frustrated at squirrels eating ripe fruits. Interviewed fermenters also reported farmers selling a small portion of green and infected pods mixed with good ones. Several said that the quality was better when the prices were high as farmers feel animated to take care of their cocoa fields.

The vague description of ripe fruits can be attributed to the fact that there are eight different cultivars being grown, whose pods manifest differently when they are ready for harvest. It is thus important that farmers fully understand different cultivars in
their field to collect pods at the desirable level of ripeness. The idea of percentages is arbitrary and hard to estimate in the case of fruit maturity. An alternative and clear criteria description is therefore needed. Training sessions should deliberately remind farmers of harvesting pods at the right time depending on particular cultivars.

A challenge is that farmers may not have a strong motivation to pay attention to ripeness level since they are not directly hurt by poor quality fermentation. At the same time, several fermenters still accept green pods to be on good terms with farmers. One suggestion is to have premium award based on the fruit level of maturity rather than general guaranteed premium.
Chapter 5

CONCLUSION

Cocoa pods on cocoa tree
The landscape of the cocoa industry in Vietnam is filled with opportunities to develop both high-quality cocoa beans for export and processed products from cocoa. While cocoa has only become a commercial crop for about ten years, the support of both the public and private sectors combined with external funding has created favorable conditions for the industry to gradually grow in both production size and quality.

The majority of the current cocoa bean production, which is over 4000 MT as of 2013, is exported through multinational affiliate exporters such as Cargill, Incorporated, and Armajaro Holdings Ltd. (whose commodity trading arm was recently sold to Ecom Agroindustrial Corp.). A small portion of cocoa is processed locally by mostly foreign enterprises to produce chocolate for export as well as domestic consumption. In the Pacific region, Vietnam is known as an emerging cocoa supplier, whose total production is still small compared to the world’s third largest cocoa producer Indonesia. Yet Vietnam has already acquired some reputation for producing well-fermented beans, which are key input in the chocolate industry, while Indonesian beans are mostly non-fermented and used in making cocoa powder.

After a decade, the cocoa industry has reached over 10,000 ha in farming areas and engaged nearly 25,000 smallholders (Nguyen 2013). These farmers collectively do not have the bargaining power and suffer greatly from the price fluctuation of cocoa beans in the international market. For many farmers, cocoa only provide an additional income to their families. At any given moment, there can be other more profitable crops to replace cocoa when the market prices fall too low in an extended period of time. This has led to the phenomenon in which a portion of farmers got rid of their cocoa plots to plant different crops around April-June of 2013. Farmers are also used to applying
agrochemicals and fertilizers to commercial crops excessively, which has raised a concern about sustainability development in cocoa production and quality.

Given the above context, there are two main challenges faced by the Vietnamese cocoa industry. The **first challenge** stems from the fact that cocoa is dominantly exported as raw materials rather than processed products from Vietnam. This means that only a small portion of the value of final products from cocoa is created within the local economy. Even when manufacturing activities take place locally, they are more likely to be facilitated successfully by foreign players rather than Vietnamese enterprises (i.e. Puratos Grand-Place, Belcholat, and Marou, Faiseurs de Chocolat). The **second challenge** is that the quality of fermented beans from Vietnam is not consistently high, which has to do with farmers’ commitment to cocoa since all cocoa beans in Vietnam are produced by smallholders. It appears that this commitment can only be guaranteed once farmers feel financially secured by their investment in the cocoa plots and then strictly comply with the recommended best practices in planting and fermenting cocoa.

This study was specifically conducted with cocoa farmers, local companies, and cocoa development project officers in the Mekong Delta of Vietnam to investigate these problems. Most participants were part of the Eco-cocoa Project carried out by HELVETAS Swiss Association for International Development in Ben Tre and Tien Giang provinces.

To address the **first challenge**, a value chain analysis approach was utilized in the study to determine the kind of business model or activity that currently retains the most value from cocoa within Vietnam. **The major finding was that producing chocolate based on Marou’s bean-to-bar business model helps increase the value of cocoa by 8 to 12**
times at the manufacturing level, and almost 20 times at the retail level compared to merely exporting raw beans via international traders. Similar to the industry’s context, most cocoa beans in the Mekong Delta flow from farmers to local trading companies before simply being resold to multinational exporters. The case of Marou was chosen because it is a small startup that is unlikely to require a huge amount of capital. Thus their initial success proved that a small business can create big value if it is done right with appropriate differentiation strategies and an untiring commitment to quality (please refer to Chapter 3- Section 3.2 for more details). This is an important message to send to Vietnamese companies and governmental leaders so that sound investment in cocoa processing activities could be made to make the most out of the industry’s potential.

Regarding the second challenge – inconsistency in bean quality tied to farmers’ lack of commitment to cocoa, this study discusses three ways that address the matter of financial security for farmers. The three proposed solutions strive to help farmers increase their income from cocoa relative to other players in the value chain. The first solution - reducing the number of intermediary players to increase income for farmers- does not work well in Vietnam because foreign-invested exporters are not allowed to buy directly from farmers but only from licensed local trading companies. As the international supply chain is dominated by a few big international traders, it is extremely difficult for local companies (with limited supply) to compete and export beans themselves. Local manufacturing activity, again, is a possibility that is still underinvested.

The second solution seeks to improve bean quality and thus the producer price through training farmers and pursuing an international certification for cocoa. The study
found that *UTZ Certification is a popular certification program for cocoa in Vietnam and is perceived by farmers as positive in teaching them how to cultivate and process cocoa better*. However, the financial gain from being UTZ certified, in terms of UTZ premium alone, is not particularly attractive to farmers given the small farm size each smallholder has. The premium is not enough to battle the wide fluctuation in prices observed in the global market.

The third proposed solution examined bottlenecks in bean fermentation to help producers cut cost and improve efficiency. Through first-hand interviews with cocoa fermenters in Ben Tre and Tien Giang provinces, the study confirmed that the *fermentation practices vary across cocoa fermenters and thus contributing to the inconsistency in quality*. After investigating the step-by-step fermenting procedures, it is suggested that *clear criteria and description of ripe cocoa pods be established in order to improve the quality of fermented beans and thus the price of cocoa beans*. To encourage farmers to harvest only ripe pods, a premium could be awarded based on the amount of evenly mature pods that is conducive to high-quality fermentation. Here, it is important to note that Vietnamese farmers culturally value relationships over principles and have a tendency to modify rules and regulations. This causes difficulty in convincing farmers to strictly adhere to procedures and standard practices that produce high-quality products. Cultural sensitivity should not be undermined in cocoa project development and should be examined in greater depth by future studies.

In conclusion, the young cocoa industry in Vietnam has achieved certain success and is growing in both production size and quality thanks to the investment and participation of multi-stakeholders from international exporters (i.e. Cargill, and
Armajaro) and foreign government agency and NGOs (i.e. USAID and HELVTAS) to cocoa manufacturers (i.e. Mars, Purato Grand-Place) and the Vietnamese government. In order to truly leverage this emerging industry, Vietnam needs to push investment in cocoa processing activities rather than sole exportation of raw agricultural produce. Cocoa farmers would subsequently enjoy a higher level of income, which is an incentive for them to invest in and comply with value chain upgrading methods to enhance bean quality while taking responsibilities to preserve their living environment.
APPENDIX

Appendix 1 - Why is Ben Tre’s value chain more efficient?

It is interesting that the UTZ certification is better adopted in Ben Tre than in Tien Giang even though it was first initiated in Tien Giang. We will look at the governance aspect of the value chain in each province in an attempt to understand this dynamic.

The value chain in Ben Tre. In Ben Tre, there are about 1700 households divided into 76 clubs that participate in the Eco-cocoa project. Compared to the previous year, the total number of households has been increasing though some farmers decided to leave the program. Cocoa clubs work directly with one of the four local private companies under a contractual agreement, which specifies the estimated amount of dried beans that will be sold to the company in a year. Each company provides technical support to and only buys UTZ beans from the clubs that sign contracts with them.

All four companies are family businesses with the oldest being Pham Minh Company (born in 1995) while the rest three are relatively young (established in 2008-2009). Phu Binh is the only company that buys fresh pods directly from farmers and ferment in large quantity using the company’s own facilities. The advantage of this method is that Phu Binh can control the quality of its dry cocoa beans. Pham Minh is the only company that has its own factory to process cocoa beans into final products such as cocoa powder, cocoa butter (used in cosmetics) and chocolate. The rest three companies resell beans to Cargill. Lam Tung Company for example sold 66.9 tons of UTZ beans and more than 200 tons of regular beans to Cargill in 2012 (Bui 2013). In the same year,
Cargill bought roughly 1000 tons of cocoa beans from Ben Tre and Tien Giang combined, accounting for a quarter of the total national cocoa production (Nguyen 2013).

**Figure a. Cocoa value chain of Ben Tre**

In the Eco-cocoa project in Ben Tre, HELVETAS partners with the Provincial Extension Center to facilitate the adoption of UTZ certification among cocoa farmers. Both sides work to provide technical, financial and organizational support to farmers, fermenters and local companies. In terms of *technical support*, the program organizes training-of-trainer workshops for companies’ members and club leaders so that they in turn can teach individual cocoa farmers about cultivation techniques and UTZ regulations. *Financial support* is in the form of training courses, agricultural tools and input as well as subsidy of the UTZ certification fees. Ninety percent of the financial resources for the Eco-cocoa project come from HELVETAS and 10% from the local project partner. *Figure a* above summarizes the structure of the cocoa value chain in Ben Tre.
Organizational support is the key to establishing the internal control system (ICS) required for UTZ certification. The Extension Center itself has its network at all levels from province to district and commune to help facilitate and reinforce the project implementation. Each company has their own ICS team that work with club leaders and visit farmers in person to help solidify cultivation techniques and ensure compliance with the certification. Club leaders themselves belong to the ICS system—they receive a small amount of stipend if members of their clubs got certified successfully. The efficiency of the ICS system contributes significantly to the success of the Eco-cocoa project. This will be an important aspect when it comes to comparing the value chain of Ben Tre to that of Tien Giang.

The value chain in Tien Giang. The value chain in Tien Giang used to have about 401 UTZ certified farmers, divided into 24 clubs. The current number is 300 with a tendency to decrease. These farmers are members of Cho Gao Cooperative, which collects beans and sell to Cargill. The benefits of being part of the cooperative include getting subsidy for fertilizer and herbicides, and having a reliable buyer.

In Tien Giang, HELVETAS partners with the Department of Science and Technology to facilitate both Organic and UTZ certifications. The Organic program, however, came to an end in the middle of 2013. Similar to Ben Tre, the project officers in Tien Giang provide technical training, financial support (in various forms) and organizational support to farmers and the Cooperative. The ICS system in Tien Giang is not as rigorous as that in Ben Tre. The Department of Science and Technology does not have their network extended to the local levels to track progress efficiently. Fermenters
are part of the ISC system but employees at the Cooperative are not. Figure b summarizes the structure of the value chain in Tien Giang.

**Figure b: Cocoa value chain of Tien Giang.**

Due to reasons related to administrative costs, the Cooperative typically pays fermenters a lower price than what is offered by the local companies in Ben Tre at any given time. Three companies in Ben Tre is family owned so they do not have to deal with administrative costs. The Cooperative meanwhile has to pay rent and wages to five workers, none of whom has a strong tie to the growth of the Cooperative. They thus lack the incentive to closely monitor the quantity of beans the Cooperative should receive from its members. Fermenters, without close monitoring, may find it more tempting to sell to external buyers instead as they are paid a higher price.

In fact, the Cooperative expected to collect 85-90 tons of dried beans last year while the total quantity received was only more than 60 tons, according to Mr. Dang Binh, Director of the Cooperative. He also said that the skills of the employees with respect to their positions are weak. In another issue related to fermenters, a program
officer said that some fermenters did not pay farmers the any UTZ premium but farmers were not aware of their losses.

Starting from October 2013, the model of the cooperative went through significant changes in order to manage the quantity of beans collected and make sure that farmers receive the premium they deserve. It pursues a no-net-loss policy mechanism, in which a farmer will receive 60% of the payment upon selling fresh pods and then receive the rest 40% (at the new market price if it is higher) three weeks later through the nearest post office. This is to ensure that the Cooperative always have circulating capital and know the exact amount of dry beans they should be receiving from fermenters while farmers receive exactly the payment they deserve. Yet this policy encounters significant objection since it costs farmers time and gas money to go to the post office weekly to collect only a small amount of money (a few dollars).

Comparing Ben Tre’s value chain and Tien Giang value chain

The Eco-cocoa project in Ben Tre was started after Tien Giang but has obtained greater success. To give fair judgment, we have to acknowledge that that the cocoa farming areas of Ben Tre (10,000 hectares) are five times as big as those of Tien Giang (2,000 hectares). Yet the main reasons behind the issues concern the governance structure, which was an aspect highlighted in Making markets work for the poor (2008). When market players do not work to meet the criteria set by other actors, the relationships among them are not stable and the net value will be reduced.
Key governance differences are illustrated in Figure c. and are summarized below:

- The extension center in Ben Tre has a vertically integrated managing system that facilitates the project at any levels from commune to district and province. The Department of Technology does not have such power hierarchy to enforce the implementation of the project.

- Companies in Ben Tre are family-owned. They are self-interested and self-motivated to work closely with farmers in order to collect the expected quantity of beans. The Cooperative’s employees do not have such an incentive. In addition, the professional skills of employees are weak.

- The Cooperative incurs administration costs compared to family-owned companies. Its activities are limited to selling cocoa beans (which is causing loss) and selling fertilizer (which has low margin). A bigger business like Pham Minh incurs administration cost too but it has a wider range of activities to generate profits, namely manufacturing final products.
• After the Organic project was ended, Tien Giang farmers may have gotten discouraged and lost trust in the Eco-cocoa project and the project’s officers. Some of them thus do not want to continue with the UTZ certification.

As can be seen, inefficiencies in the governance structure can hurt all players in the value chain, especially farmers, and reduce the net value created. In order to facilitate upgrading in any value chain, economic development projects need to establish strong relationships among various stakeholders and reinforce players’ compliance with criteria outlined in their mutual contracts.
Appendix 2 - Survey questions for UTZ fermenters

I. General information
   How long have you been fermenting cocoa beans?
   Number of people in your family:
   Number of people under 16:
   Number of people above 60:
   Number of people who are working:
   Number of people who do fermenting and their age, gender:

II. Procedures
Please answer these questions based on your last batch of fermentation.
Each batch is equivalent to one fermentation box.
Amount of fresh pods used (kg): The maximum capacity of one box (kg):
Amount of dried beans produced (kg): The dimension of one box (m): x x

<table>
<thead>
<tr>
<th>Steps &amp; questions</th>
<th>Length of step</th>
<th>Tools &amp; other details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Store pods after harvesting and before fermenting</td>
<td>(day)</td>
<td>Ground/platform/shade</td>
</tr>
<tr>
<td>*Separate the rotten fruit from the good fruit</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td></td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>The percentage of green pods used at the time of fermentation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Break pods open</td>
<td>(hour)</td>
<td>Machine or with knife</td>
</tr>
<tr>
<td>*Separate the black beans from the good ones before fermentation</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td></td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Eliminate pulp juice</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td></td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Spread wet beans in the sun before fermentation</td>
<td>Yes, for ___hours</td>
<td></td>
</tr>
<tr>
<td>Materials used to cover the box</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Ferment
- Number of days
- Number of nights
- Mix the fermentation box (WHEN) ______Minutes/each time
- How do you determine the right time to mix the beans? 1st time 2nd time
- Sun-dry (day) -Dry on the sun beds only -Dry with the solar drier ___days ___ days
- Drier machines (woods)
<table>
<thead>
<tr>
<th>Turn beans during the drying process</th>
<th>Times/day</th>
</tr>
</thead>
<tbody>
<tr>
<td>*Continue to separate impurities</td>
<td>Y/N</td>
</tr>
<tr>
<td>What do you do when it rains</td>
<td></td>
</tr>
</tbody>
</table>

**Storing condition after drying**

<table>
<thead>
<tr>
<th>Wait time before beans are sold</th>
<th>(day)</th>
</tr>
</thead>
</table>

**Transportation**

<table>
<thead>
<tr>
<th>(hour)</th>
<th>Distance Method</th>
</tr>
</thead>
</table>

| Are there other processes and details of fermentation that is not mentioned here | |

**These two questions are left out on paper and will be asked in a casual manner to get the most honest answers from interviewees. Mixing rotten fruits with good ones has been suggested as the common reason for poor-quality beans by some technical experts.**

<table>
<thead>
<tr>
<th>Other technical questions</th>
<th>Short answers</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amount of beans produced last month (kg)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Price per kg last month</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total revenue</td>
<td></td>
<td>Is this the main source of income</td>
</tr>
<tr>
<td>Amount of beans produced last year (kg)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Estimated production in 2013</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fermentation season</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Key factors in successful fermenting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Who else are involved in fermenting</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
What methods you use to test the quality of your beans?

<table>
<thead>
<tr>
<th>Description of good beans</th>
<th>Testing methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight of beans</td>
<td></td>
</tr>
<tr>
<td>Level of moisture</td>
<td></td>
</tr>
<tr>
<td>Color outside</td>
<td></td>
</tr>
<tr>
<td>Color inside</td>
<td></td>
</tr>
<tr>
<td>Taste</td>
<td></td>
</tr>
<tr>
<td>Other dimensions</td>
<td></td>
</tr>
</tbody>
</table>

II. Costs
1. **Cost of input:** VND/kg fresh pods
2. **Cost of tools**

<table>
<thead>
<tr>
<th>Tool name</th>
<th>Size</th>
<th>Capacity per unit</th>
<th>Cost for each tool (000VND)</th>
<th>Quantity</th>
<th>How many (if any) are paid for by Helvetas</th>
<th>Receive equipment from Helvetas in</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fermentation boxes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Storing platform</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drying platform</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Machine to open pods</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Knife to open pods</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Boxes with holes to squeeze juice pulp</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Others</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3. **Cost of labor/month**

<table>
<thead>
<tr>
<th></th>
<th>Man-day or Hours/day</th>
<th>Price (000VND)</th>
<th>No. of family members</th>
<th>No. of hired labors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collect fresh pods</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Open pods...</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other cost</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
III. Other qualitative questions
1. When did you start fermenting cocoa? Why did you choose this career and what keep you motivated to do it? If you did not do this, what would you be doing? Would you be interested in letting your children take over the business? Why did you choose to participate in the UTZ program? (Recommendation, profit, free tools, support etc)
2. What are the benefits of the UTZ program? (Price, quantity, stable outlet, health, environment)
3. What kind of training do you receive from the program? How frequent? What do you find most and least helpful?
4. What other kinds of support do you receive? Would you still do UTZ without such support?
5. What are the main differences between UTZ and non UTZ (Procedures, prices)
6. What problems do you encounter?
7. To whom do you sell your beans to? Percentage sold to each buyer. Do you HAVE TO sell to the company?
8. On a scale of 5, how strongly do you recommend other farmers to participate in this program (1= Not strongly at all, 5= very strongly)
9. Any recommendation you have for the program?
Appendix 3 - Survey for farmers (Vietnamese)

I. Thông tin chung
Số thành viên trong gia đình: Số thành viên dưới 16 tuổi:
Số thành viên đang đi làm: Số thành viên trên 60 tuổi:
Số thành viên từ cacao (tuổi và giới tính):
Số nhân công làm thuê thường xuyên:
Mức lương:

<table>
<thead>
<tr>
<th>Đơn vị</th>
<th>Số liệu</th>
<th>Chú thích</th>
</tr>
</thead>
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Từ đánh giá sản lượng trên thang điểm 10 (1= rất thấp, 10= rất cao). Lý do tại sao đạt được sản lượng trên?

II. Chi phí sản xuất tính trên 1000m2/năm

<table>
<thead>
<tr>
<th>Tên dụng cụ</th>
<th>Số lượng</th>
<th>Giá (000 đồng)</th>
<th>Tổng chi</th>
<th>Hỗ trợ từ Helvetas</th>
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<tr>
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<th>Phân bón</th>
<th>UTZ</th>
<th>Trước UTZ</th>
<th>Chú thích (Hỗ trợ từ Helvetas)</th>
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<td>Bệnh Thời trái</td>
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<tr>
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<td>Lượng phun</td>
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Ti lệ mức độ cây bệnh

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<th>Lượng nước tưới</th>
<th>Xác định ntn</th>
<th>Hệ thống tưới (tiền điện)</th>
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<tbody>
<tr>
<td>Chi phí lao động (ngày công)</td>
<td>Tía cành tạo tán</td>
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<td>Thu hoạch</td>
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Người mua và số lượng mua
Ràng buộc với công ty?

Năng suất/công

<table>
<thead>
<tr>
<th>Những tháng cao điểm</th>
<th>Những tháng thấp điểm</th>
<th>Tổng năm</th>
</tr>
</thead>
</table>
III. Câu hỏi chất lượng

1. Tại sao anh chỉ chọn trồng ca cao? Điều gì khiến anh chỉ tiếp tục theo đuổi ngành này (giá tốt, đầu tư, yếu thích, thú vị). Nếu không trồng ca cao thì anh chỉ sẽ làm gì?
   Anh chỉ có muốn con cái mình theo đuổi nghề này không?

B. Tại sao anh chỉ tham gia vào chương trình UTZ (và HTX)? (Ai giới thiệu, lợi nhuận, đúng cụ mĩnh phí, các hỗ trợ khác v.v.)

2. Lợi ích từ việc thực hiện UTZ là gì? (Giá cả, đầu ra ổn định, sức khỏe, môi trường)
   Khó khăn của việc thực hiện tiêu chuẩn UTZ

3. Anh chỉ được tập huấn về những nội dung gì từ chương trình? Bao lâu tập huấn một lần?
   Phân tập huấn nào có hiệu quả cao nhất/ thấp nhất?

4. Anh chỉ còn nhận được những hỗ trợ nào khác? Nếu không được hỗ trợ UTZ thì anh chỉ sẽ có làm UTZ nữa không?

5. Anh chỉ thấy mình làm điều gì chưa tốt trong quá trình sản xuất ca cao (UTZ)?

6. Anh chỉ gặp những khó khăn chung nào trong công việc? Cách giải quyết?

7. Hướng phát triển của anh chỉ trong tương lai?

8. Trên thang điểm 5, anh chỉ khuyến khích các hộ lên men khác tham gia UTZ ở mức độ nào. (1 = Khỏng khuyến khích. 5 = Rất khuyến khích)

9. Gọi ý cho chương trình UTZ hay ca cao nói chung.
References


"Title of the Work." *Title of Site*. Name of sponsoring institution


[Day Month Year].


UTZ


Nguyen, Hoa. “Tong hop ket qua chung nhan” (Summary of the results of the UTZ certification program in Ben Tre). November 11, 2013.


