



Evaluating opportunities for enhancing Mondelez' sourcing strategies to ensure sustainability of its cocoa supply

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Executive Summary

Chocolate is a multibillion dollar industry with nearly 50 million people along cocoa's global value chain dependent on the crop for their livelihood. In recent years low productivity, urbanization, climate change, rise of the middle class leading to growing global chocolate demand, and consumer demand for increased transparency have put pressures on the cocoa value chain. By 2020, annual global cocoa demand is projected to exceed supply by nearly 1 million tonnes.

On the farm level, cocoa producers are faced with low incomes, low productivity and poor agricultural practices, leading to a vicious poverty cycle. In many origins, farmers are looking elsewhere for alternative livelihoods. Such factors pose risks to the stability of the cocoa value chain. In light of these pressures, chocolate manufacturers are exploring alternative sourcing strategies. The emergence of industry mechanisms such as third-party certifications, Chain of Custody, direct trade and dedicated supply chains have ushered in a new wave of business models that hold promise for more sustainable sourcing.

As one of the largest chocolate manufacturers in the world, Mondelēz International, Inc. (Mondelēz) has committed USD \$400 million over 10 years in a cocoa sustainability program called Cocoa Life. The goal of cocoa life is to "improve the livelihoods and living conditions of more than 200,000 cocoa farmers and about one million people in cocoa farming communities around the world" (Mondelēz Press Releases , 2013). In the past, sustainability programming at origin and sourcing decisions were kept separate; with Cocoa Life, the intent is to create a direct link between the two to achieve supply chain stewardship.

Our Master's Project seeks to leverage insights from global value chain analyses of five key cocoa origins, peer benchmarking, and interviews with industry experts and internal Mondelēz stakeholders to identify intervention points, best practices, and recommendations for Mondelēz' cocoa sourcing strategies.

Based on our understanding of Mondelēz' sourcing approaches and priorities, we recommend the company continue integrating landscape approach elements to Cocoa Life, by building relationships and trust throughout the value chain especially with producer communities and government entities, prioritizing professionalization of the farmer, and engaging in the pre-competitive challenge of eliminating cocoa smallholder and community poverty. Additional opportunities include applying financing mechanisms through REDD+ payment for ecosystem services models. This paper also provides a basic framework that highlights key conditions required for specific sourcing strategies' viability. Our intent is that the framework be adapted to each of Mondelēz sourcing origins and serve as a basis to inform future strategic decisions.

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Preface

Definitions

For the purpose of this report, we define the following commonly used terms per below:

Cooperative: Group of producers that are self-organized for mutually-beneficial purposes

Smallholder: Cocoa farmer, farming on less than five hectares of land

Sustainability: Meeting the long-term economic, social and environmental factors necessary to ensure thriving cocoa communities.

Sustainable Sourcing: Sourcing strategies or approaches to achieve sustainability as defined above

Sustainable third-party certification: Cocoa certification schemes that incorporate social and environmental principles into their standards, most notably Rainforest Alliance, UTZ, and Fairtrade Alliance

Acronyms

CCE: Certification Capacity Enhancement

CoC: Chain of Custody

CSP: Cocoa Sustainability Partnership (Indonesia)

FFC: Fine Flavor Cocoa

GVC: Global Value Chain

MOU: Memorandum of Understanding

NGO: Non-governmental organization/non-profit

PPP: Public-Private Partnerships

WCF: World Cocoa Foundation

CHAPTER 1

The Global Cocoa-Chocolate Value Chain: Current Practice & Pressures for Change

Valued at USD \$80 billion per year, the chocolate industry's value chain spans the globe (Goodyear, 2012). Nearly 50 million people rely on cocoa, the basis of chocolate, for their livelihood. It is an essential cash crop for producing countries, a key import for both processing and consuming countries and a traded commodity on the London and New York exchanges (WCF Programs, 2013).

There are two cocoa varieties that the market distinguishes; ordinary or bulk cocoa of the *Forastero* family and fine flavor cocoa (FFC) of the *Criollo* family. Ninety-five percent of global cocoa production is ordinary or bulk cocoa. Within this variety, there are varying degrees of quality from high to low-grade determined based on fat content and flavor profiles. Cocoa bean quality and attributes can also be distinguished based on if beans are fermented. Beans of higher quality are generally fermented beans which further improves quality grade. Lower quality beans are generally unfermented, and unfermented beans are considered lower grade. There is significant market demand for both high-quality fermented beans and lower-quality unfermented beans. The European market prefers the refined taste of the higher-quality, fermented cocoa and the US market prefers unfermented cocoa. Further, low-grade cocoa is often used as filler in chocolate-flavored snacks such as baked goods. FFC/*Criollo* production is a very small percentage of total global cocoa production (the remaining 5%) but this is expected to grow as demand for FFC increases (UNDP, 2010).

I. Cocoa-Chocolate Value Chain

Fernandez-Stark & Gereffi define a value chain as the full array of tangible and intangible value-adding activities that are performed to bring a product from conception to end-of-life. Activities that constitute a value chain are often performed through inter-firm cooperation and networks on a global scale (Fernandez-Stark & Gereffi, 2011). Figure 1 presents a simplified version of the global cocoa-chocolate value chain. This depiction highlights segments and corresponding activities undertaken to bring cocoa beans, the primary raw material of chocolate, to the most common end-use product, chocolate confections. Each segment is described briefly below along with key global stakeholders involved. Note that Figure 1 is a highly simplified schematic and depending on the origin, regional value chain players and structures may differ. Regional cocoa-chocolate value chains are explored in detail in Chapter 4.

Production

Cocoa (*Theobroma cacao*) is a delicate perennial crop that must be cultivated with care. It requires a tropical climate and grows in a few origins in a belt within 10 degrees north and south of the equator. See Figure 2 for the global cocoa production countries of origin. Smallholder farms of less than 5 hectares produce between 80%-90% of global cocoa production and consequently, there are 5-6 million cocoa farmers fragmented throughout the world (Cocoa Market Update, 2014).

Ripe cocoa pods which contain cocoa beans are harvested continuously but a large harvest generally occurs twice a year. The farmer removes cocoa pods by hand as they must be individually picked based on level of ripeness. The farmer then removes cocoa beans from the pods. In many origins, farmers ferment the beans. Fermentation is a critical step in order to produce the chocolate flavor once beans

are roasted. Following fermentation, cocoa beans must be dried over several days to weeks. Harvesting and fermentation are done manually while drying can be done manually or be mechanized (Cocoa Market Update, 2014). In some origins, smallholders do not ferment or dry the beans either because they do not have the capacity to do so, there are weather constraints (e.g. rainy conditions make it challenging to dry beans on the farm), or there is little market demand for fermented beans.

Cocoa production is dominated by Africa, with 68% of the world's production, followed by Asia and the Americas, with 17% and 15% respectively. Approximately 4.8 million tonnes of cocoa were produced in 2012 (Cocoa Market Update, 2014). According to our analysis using FAOSTAT crop production data, the top producing countries in 2011 were Côte d'Ivoire (34%), Indonesia (15%), Ghana (15%) and Nigeria (9%). Figure 3 displays the top producing countries' production volume from 1999-2011 alongside the total global production volume derived from the FAOSTAT database. As can be seen, while there have been peaks and valleys, global production has increased gradually since 1999 and the top producing countries have remained constant (FAOSTAT, 2013).

Marketing (Buying, Trading & Export)

The cocoa bean marketing channel can vary significantly between and even within producing regions. Nonetheless, there are generally at least two middlemen in the buying and trading activity between a cocoa farmer and an exporter. This includes a local trader or buyer who purchases cocoa from the farmer and a wholesaler who purchases cocoa from the trader or buyer. The local buyers can take the form of an individual driving from farm to farm in his vehicle, a farmer cooperative or a private enterprise. The local trader or buyer conducts the first quality check of the cocoa beans based on color, moisture content, quantity and blend and sorts the cocoa beans accordingly. Some local traders or buyers will ferment or dry cocoa beans and may offer financing to smallholders (Cocoa Supply Chain, 2012). In a few instances, cocoa farmers sell directly to exporters through their co-operative. It is rare that a farmer sells directly to an exporter or to a chocolate manufacturer. The wholesaler then sells cocoa to the exporting company which can be a private domestic company, multinational trader, multinational processor, government agency, or in some cases producer cooperative. Cocoa beans are then exported, may be further traded internationally and then placed in a storage facility usually until a processor or manufacturer requests the commodity (ICCO, 2013).

A few, major multinational cocoa traders participate in cocoa trading within cocoa producing countries as well as internationally. The major multinational traders have historically been Armajaro Trading, Ltd. (Armajaro), Ecom and OLAM. In recent years, there has been increasing consolidation in the trading industry. As of late 2013, Armajaro sold its cocoa trading arm to Ecom making Ecom one of the largest physical cocoa traders in the world (Nicholson, 2013). Some traders, such as Ecom, also process cocoa and then trade cocoa products (processing is discussed below). Note that in this paper we discuss cocoa trading in the actual or physical market and not the futures or terminal market (ICCO, 2013).

Processing

During processing, cocoa beans are shelled to remove the nib which is the piece inside a cocoa bean used to make chocolate. Nibs are roasted, ground into a paste and the paste is pressed to extract cocoa butter. The remaining concentrated cocoa can then be crushed into a powder. Thus, processing produces three cocoa products that are sold to manufacturers; cocoa paste, cocoa butter, and cocoa powder (Cocoa Market Update, 2014).

Some chocolate manufacturers such as Cadbury and Mars are vertically integrated and process cocoa, however it is more common for chocolate manufacturers to outsource processing. Most processing occurs outside of cocoa producing countries. However some processing does occur at producing country ports prior to export. This is an increasing trend among multinational processors. Cocoa processing and

processors are sometimes referred to as cocoa grinding and grinders; these terms can be used interchangeably (ICCO, 2013).

Over the last twenty years, there has been significant consolidation processing level. As of 2012, three companies processed 40% of the world's cocoa; Barry Callebaut, Cargill, and ADM (Asante-Poku & Angelucci, 2013). These companies have processing facilities throughout the world and are projected to control approximately 75% of global cocoa processing operations within the next few years (UNDP, 2010). Due to this consolidation and mergers in the industry, there is increasingly a blurred line between international traders, processors and exporters. Multinational processors are entering the trading business and vice versa. For example, Cargill and ADM are heavily involved in on-the-ground trading in cocoa producing countries. In this paper, we often refer to these giants as 'multinational buyers' as they are involved in the buying, trading and processing of cocoa.

Chocolate Manufacturing

After processing, cocoa products are combined with sugar, milk and other ingredients to make chocolate products. About 90% of cocoa is used in the chocolate industry and produced into chocolate confection (e.g. chocolate bar). This product category drives the cocoa industry. The remaining 10% of cocoa products are used for baking, flavoring and the cosmetics (UNDP, 2010). Rarely do chocolate manufacturers import cocoa products from exporters directly, and as such there is generally a cocoa product trader as an intermediary between the exporter and manufacturer (Trade structure, 2012).

Like the processing and marketing stages, major consolidation has occurred at the chocolate manufacturing level which has resulted in a few, very large international chocolate manufacturers. In 2010, four global companies accounted for 43% of total global chocolate confectionary sales. This is down from 10 companies accounting for the same percentage in 2000 (Barrientos, 2013). Europe and the United States lead the chocolate confection market with an estimated 19.3 billion USD in sales in the US and 50 billion EU in sales in Europe. Nearly 70,000 jobs in the United States and 245,000 jobs in Europe are dependent on the manufacturing of confectionary and chocolate (WCF Programs, 2013). See Table 1 for the top 7 global chocolate confectionary companies in 2014; Mars, Inc. and Mondelez lead the industry.

Distribution and Consumer

Distribution channels vary throughout the world between manufacturing brands, retail brands, and wholesalers. The chocolate confectionary consumer market can be divided into three market segments; low-price/high-volume, mainstream (medium) quality, and high quality/niche chocolate consumer groups (Barrientos, 2013). More than 3 million tonnes of cocoa beans are consumed each year (Cocoa Market Update, 2014).

II. Cocoa Trade Patterns

The following section examines cocoa bean export and import patterns in five year increments from 1996-2011. Utilizing the United Nations Commodity Trade Statistics Database (UN Comtrade), the commodity code for cocoa beans, 0721: "Cocoa beans- whole or broken, raw or roasted" was selected for the cocoa bean export and import trend analysis. The following cocoa-derived product commodity codes were utilized for the cocoa-chocolate unit value analysis: 0722 - "cocoa powder not containing added sugar or other sweetening matter;" 07230 - "cocoa paste;" 0724 - "cocoa butter, fat or oil," and 073 - "chocolate, other cocoa prep" (UN Comtrade 2013). We utilized data through 2011 because the data through 2012 was not complete.

Cocoa Bean Export Trends

Since 1996, the total global world cocoa bean trade has increased significantly, both in terms of export volume (total kg) and export value (total USD). Figure 4 displays the total world cocoa exports from 1996-2011. Cocoa export volume has increased by 105% since 2006, reaching 4.84 billion kg in 2011. Cocoa export value has had an even more drastic spike during the same time period; increasing 192% to reach 9.38 billion USD. Côte d'Ivoire and Ghana value increased by more than a factor of two (see Table 2). It follows that the unit value of cocoa exports (USD/kg of cocoa beans) has increased from a global average of 1.36 USD/kg of cocoa beans in 1996 to 1.94 in 2011.

This total increase in value and volume could be explained by a few factors. Consumer demand for chocolate confectionary has experienced a consistent annual growth over the last 10 years and in 2011 global sales of chocolate confectionary reached an all-time high, surpassing sales of USD 100 billion. Further, emerging economies appetite for chocolate confectionary has grown at a much faster rate. Both China and India's demand for chocolate confections has increased 10% per year and is not expected to slow down (Barrientos, 2013). With increased demand, cocoa prices increase. Additionally, the cost of agriculture commodities has increased in part due to increasing cost of inputs, most notably petrochemicals and energy.

Cocoa Bean Import Trends

The leading cocoa bean import countries have remained consistent during the last 15 years with the top 10 importers dominated by Europe (notably the Netherlands and Germany) and the United States. This is expected as Europe and the United States lead the chocolate confection manufacturing market. The Netherlands is the top processing country as it grinds much of the cocoa intended for chocolate confections for the European market. One trend to highlight is Malaysia's increase in import value from 93.44 million USD in 1996 to 1 billion USD in 2011, becoming the fourth largest cocoa importer. Malaysia has gained importance in the cocoa industry and is a top cocoa-processing country, grinding 40% of the cocoa produced in Asia while not being a top producing country.

Cocoa-Chocolate Value Chain Product Export Value

Table 3 shows a comparison of the average global unit value (USD per kg) for each stage of the cocoa-chocolate value chain. These figures were derived from the total export value data in the UN Comtrade database. Cocoa beans have the lowest average unit value (1.94 USD per kg) and the value increases progressively at each stage along the chain peaking at the chocolate stage (4.79 USD per kg). European countries are players along each stage of the cocoa-chocolate value chain and dominate the higher value stage activities, as shown in Figure 5. Indonesia and Côte d'Ivoire have captured value along the processing stage, though these producing countries still lag far behind Europe. Further, their largest processing stage share is in the lowest unit value processing stage; cocoa paste. Malaysia has found a niche in the intermediary segments of the value chain. Ghana is not a big player in the higher value activities, despite its key role in the production of cocoa beans.

III. Cocoa Production System & Implications

Overview of Cocoa Production

The most common cocoa producing system is the agroforestry system in which cocoa is cultivated within an existing forest, under the forest canopy or in an intercropping model with other trees (Franzen & Mulder, 2007). Roughly 70% of the world's cocoa is produced under this agroforestry system and is

often referred to as “shade” cocoa. The remaining harvested area is produced in intensified systems, or monoculture, in which only cocoa is grown. This is often referred to as “full sun” cocoa (UNDP, 2010). While shade cocoa is the dominant production system worldwide, full sun cocoa is becoming increasingly common in some cocoa producing regions (Franzen & Mulder, 2007).

Cocoa is a sensitive crop, which requires specific climatic conditions (See Table 4 for the cultivation requirements of cocoa). The most crucial component of cocoa production is the distribution of rainfall and the planting period is the most sensitive part of cocoa cultivation. Tools and resources have been developed to enhance plant propagation, including grafting and budding which enable cocoa to produce earlier than normal, generally within the first year. However, there are negative externalities associated with these techniques including disease vulnerability and unfavorable traits. While cocoa does not require a considerable amount of tasks after the cocoa crop is established, cultivation requires manual labor of which can be very intensive and cannot be mechanized. This includes clearing undergrowth, thinning trees, controlling for insects, fertilizing, harvesting and drying of beans. More recent research and development efforts have been made by chocolate brands and governments in an effort to improve productivity, including breeding programs and biotechnology. While these do pose some issues, as discussed, cocoa varieties that are more resilient to diseases, pests, acidic soil and variable climate conditions have been developed (UNDP, 2010). This research, however, has come after years of underinvestment. Cocoa is still widely unproductive, and is characterized globally with low yields in the major producing origins.

Economic Implications of Cocoa Production

In most producing regions, cocoa is a vital cash crop for farmers and is one of the main sources of income (Franzen & Mulder, 2007). Unfortunately, cocoa production is characterized by underinvestment both on the farmer level (such as planting new trees or procuring farming input materials) (KPMG, 2013) as well as in cocoa research and development. Because cocoa is produced primarily by individual smallholders, historically there has been little government or industry investment and support for research and development. Thus, cocoa falls far behind in terms of farming knowledge and modern farming practices compared to that of other major agriculture crops (Securing cocoa’s future, 2012).

Because of this underinvestment, farmers are struggling with under-performing farms. A myriad of issues compound this challenge and essentially create a vicious cycle, resulting in suboptimal farming and reduced productivity levels. For example, farmers tend to lack knowledge of modern farming methods, techniques and farm management skills (WCF Challenges, 2013). This reduces productivity which leads to improper use of agrochemicals and poor soil management which further reduces productivity.

Cocoa farmers tend to have slim margins, if any and very low income. For example, Ghanaian cocoa smallholders earn on average 80 cents per day (Hoffman, 2013). Common drivers are:

- **Low-Yield:** As discussed above, due to underinvestment from the industry and lack of good agriculture practices among farmers.
- **Aged trees:** Many cocoa trees throughout the world have past the peak cocoa pod production and this is a big challenge facing cocoa farmers (WCF Challenges, 2013). For example, in West Africa, 35% of cocoa trees are older than 35-years, far past peak (KPMG, 2013).

- **Disease & pests:** 30-40% of crop is lost due to disease and pests in the three major cocoa production regions (WCF Challenges, 2013). Some problems could be prevented by chemical treatment but these inputs can be prohibitively expensive to smallholders (UNDP, 2010).
- **Working capital:** Cocoa farmers generally have very low cash and limited access to finance, credit and insurance which would enable farmers to purchase appropriate equipment, supplies and planting materials (WCF Challenges, 2013).
- **Unfair Dealings:** Because of limited access to markets and market information, knowledge of quality requirements and transparency issues among the market and governments, many cocoa farmers do not necessarily receive a fair price for their cocoa (Products 2011). Many cocoa-producing countries have historically been politically unstable and lack the means to address corruption and unfair trading and compensation in the cocoa value chain.
- **Volatility:** The cocoa market is highly volatile due to both price speculation and production fluctuations from weather, pests and/or disease (KPMG, 2013). Farmers are highly vulnerable to this price volatility. A majority of cocoa farmers are not members of cooperatives that help facilitate trade or other market benefits. For example, only 15% of cocoa produced in Côte d'Ivoire is marketed via cooperatives (UNDP, 2010).

Economic instability and hard working conditions have led to mass exodus of cocoa farmers in most producing regions. Farmers are either migrating to urban areas, as is occurring throughout the developing world or transitioning within agriculture from cocoa to other cash crops such as rubber and palm oil. This is particularly being observed among the youth. According to Oxfam, “low pay, irregular work and dangerous conditions for workers currently provide little incentive for young people to stay in agriculture” (Hoffman, 2013).

Environmental Implications of Cocoa Production

Local cocoa plots are established primarily through the conversion of existing forests. Clearing tree cover to create new farmland allows farmers to avoid the high investment costs associated with rehabilitating depleted soils and as discussed above, farmers do not have the resources to make high investment costs. This concept can be understood as a ‘differential forest rent’ (UNDP, 2010). It is shifting agriculture, causing the movement of plantations to new areas rather than replanting on existing cocoa farms or on barren lands. This has become the norm as cocoa plants are productive for only a few decades without significant investment (UNDP, 2010). The abandoned cocoa farms are often then converted to other agricultural uses to grow food crops or raise livestock in which the cocoa trees and cover crops are removed. It is estimated that 8 million hectares of tropical deforestation can be attributed to cocoa cultivation (Daniels, 2006). If this model continues and the current cocoa production level is maintained, an estimated 6 million more hectares of tropical forest will be lost. Industry experts expect cocoa production to increase to keep up with demand, so the deforestation rates will likely be greater unless there is immediate intervention (UNDP, 2010). This drastic level of tropical deforestation leads to significant biodiversity loss, greenhouse gas emissions, hydrological and water quality impacts, and negative social impacts for the communities which rely on the tropical forests for their livelihood.

The same poor management practices that pose economic challenges for cocoa farmers cause environmental concerns as well. Understorey removal during cocoa cultivation causes soil degradation and erosion, and then even further soil degradation when cocoa farms are converted to other agricultural uses. This is compounded by poor soil management practices of cocoa farmers (UNDP, 2010). Shade cocoa generally does not require much agrochemicals (insecticides, fungicides, herbicides and fertilizers) compared to full sun cocoa or other crops like coffee. However, when agrochemicals are

applied in cocoa farming, 9 chemicals listed on the Pesticide Action Network “dirty-dozen” list are commonly used. In full sun coffee, fertilizer nitrogen leaching is a serious concern causing groundwater contamination (Daniels, 2006).

Social Implications of Cocoa Production

Aside from low profitability, corruption and unfair compensation for cocoa beans, there are dire social issues associated with cocoa production that have gain international attention. Forced labor (slavery) and child labor are linked to cocoa production in some producing regions, particularly West Africa. While there has been progress to combat these labor issues through the work of international initiatives, the private sector and governments, there is still much progress to be made (KPMG, 2013). An estimated 15,000 children in Côte d’Ivoire are subject to forced child labor, exploitation and inhumane living. Often these children are enslaved. Due to the remote and dispersed nature of smallholder cocoa farms and lack of government resources, West African governments struggle to combat these issues. In other parts of the world, forced adult labor is a concern in cocoa production, particularly in Brazil (UNDP, 2010).

In many cocoa production regions, a critical issue for cocoa farming communities is the dearth of basic education. The absence of this fundamental need cascades throughout cocoa farming activities, impacting business decisions and ability to negotiate with middlemen, good farmer labor practices, good farm management practices, and is one driver for the urbanization of youth farmers. Without access to basic education, cocoa farming communities cannot thrive (WCF Challenges, 2013).

As can be seen, most of the economic and social concerns associated with cocoa production are symptoms of an underlying problem; smallholder poverty. Without the resources needed to invest in their farms and the knowledge and power to do so, cocoa farming will continue to follow a vicious cycle of economic instability, social implications and environmental costs.

IV. Pressures for Change

An overwhelming majority of the value in the multibillion dollar chocolate industry is staying in the hands of very few players. Major consolidation has occurred up the value chain and little value is reaching the smallholder. Productivity challenges as a result of industry and government underinvestment plague farming communities and drive social and environmental constraints. These trends and issues have recently captured both industry and consumer attention. As such, manufacturers are feeling pressures to change how they think about their cocoa sourcing strategies. Three major factors driving manufactures’ pressures for change are discussed below.

Forecasted Supply Deficit

Approximately 4.3-4.8 million tonnes of cocoa is produced annually (Cocoa Market Update 2014). Cocoa demand is projected to grow by 30% by 2020 due to explosive growth in emerging markets and an overall growth of middleclass consumption habits throughout the world (Goodyear, 2012). As discussed, cocoa production is declining globally and farmers are leaving the industry. There are serious concerns varying climate change impacts on farm productivity, particularly droughts in West Africa where the cocoa crop is generally rain-fed and intensified precipitation events in other origins which destroy cocoa pod producing flowers. The extreme growth in demand coupled with these production constraints has led to an industry-wide supply/demand deficit. The deficit reached 60,000 tonnes in the 2012/2013 season and a deficit of 75,000 metric tonnes is projected by the 2013/2014 season. For the short term, cocoa surplus from recent years can compensate small deficits (Nieburg, 2013a). However, this will not solve the long-term supply challenge. By 2020, global cocoa demand is projected to exceed supply by

nearly 1 million tonnes. This is a conservative figure based on a demand increase of 2% per year coupled with decreasing farm productivity as discussed above (Securing cocoa's future, 2012).

Chocolate manufacturers and cocoa processing companies are becoming concerned not only with their ability to source cocoa, but particularly to source high-quality cocoa for the high-value customer market. Cocoa farm underinvestment has had a direct, negative impact on cocoa bean quality (KPMG, 2013).

Consumers' Increasing Demand for Transparent Supply Chains

Consumers around the world now expect companies to practice sustainable business and see it as a critical strategic issue. They believe companies have a responsibility to change the world and expect brands to change operations in order to address social and environmental issues in order to provide responsible products (ECHO Global CSR Study, 2013).

This is particularly salient in the food and beverage industry as social, environmental and health attributes of raw materials are increasingly becoming important factors in purchasing decisions (Hoffman, 2013). Food and beverage consumers, particularly consumers of cocoa, are beginning to value a transparent supply chain and are increasingly demanding it (Sarni, 2013). While Fairtrade and organic cocoa is a small part of the market (each less than .5% of cocoa market), this category is growing at an exponential rate (Barrientos, 2013) indicating growing consumer preferences for transparent, environmentally-friendly and socially responsible chocolate products.

Brand equity

Chocolate brands are the most visible players in the cocoa-chocolate industry and among the public, are considered to have influence over suppliers, traders and governments. Thus, global brands are often the target for campaigns intended to expose issues along the cocoa-chocolate value chain. The media is regularly airing segments that link cocoa production to child labor and NGOs are developing public awareness campaigns targeting cocoa supply chain players (KPMG, 2013). The popular CNN produced documentary, [Cocoa-nomics](#), aired in February, 2013 and highlights child labor in cocoa after exposing the industry in 2011.

According to the 2013 Cone Communications report, 90% of global consumers are prepared to boycott a company for irresponsibility or dishonest business practices (ECHO Global CSR Study, 2013). With social media, brands are incredibly vulnerable to consumer perceptions and must rapidly respond to brand issues as information can go viral and spread to thousands of consumers overnight. For example, Green Peace's 2010 "Have a Break" video campaign accused Nestlé of illegally sourcing palm oil from Indonesian rainforests. The video features an office worker 'taking a break,' and biting into an orangutan finger (See Figure 6). It rapidly spread over social media outlets around the globe, including Twitter Facebook and YouTube, generating over 1.5 million views and prompting hundreds of thousands of emails and messages to Nestlé. Within two months, Nestlé announced a new policy and committed to "identify and exclude companies from its supply chain that own or manage high risk plantations or farms linked to deforestation" (Sweet success for Kit Kat campaign, 2010).

Other considerations regarding brand equity may not be as alarming but are equally as important to address consumer needs and gain competitive advantage. For example, Oxfam's 'Behind the Brands' campaign publishes an annual report which examines the 10 most powerful global food and beverage brands and "scores" the companies' social and environmental performance. It then ranks global brands against their peers in order to instigate a "race to the top" among the brands to increase accountability and transparency in their respective food chains (Hoffman, 2013). The 10 companies include Nestlé, Unilever, Coca-Cola, PepsiCo, Mars, DANONE, Mondelēz, General Mills, Kellogg's and Associated British

Foods, Plc. The 2013 report ranked Nestlé as the high scorer with a mere 54%. The report concluded that these global companies have recognized the need for a fair supply chain and have made respective commitments, however they are failing to “take the necessary steps in their policies to ensure the well-being of those working to produce their products. Instead they continue to profit from a broken system they should be helping to fix” (Hoffman, 2013).

CHAPTER 2

Emerging Agricultural Sourcing Models

I. Shifts in Conventional Supply Chains/Sourcing Models

In a conventional cocoa value chain, high transaction costs of dealing directly with cocoa producers mean that chocolate manufacturers rely heavily on middlemen for– traders and local exporters. Chocolate manufacturers’ risk aversion of dealing with a large number of smallholder farmers means that the middlemen absorb the risk of supply volatility, which they are willing to do. The traders and exporters also leverage their local expertise in engaging with smallholder farmers. In selecting suppliers, manufacturers’ focus is on ensuring reliable quantity, quality and cost of supply. The downside of the traditional model is that smallholder farmers are squeezed and have a lower chance of receiving a ‘fair’ price for their cocoa (Phillips & Tallontire, 2007).

Working within the conventional cocoa supply chains, some CPG companies and chocolate manufacturers have been shifting from a linear supply chain model with a “company-centric emphasis on least-cost purchasing and efficient logistics” to a network-based model, with emphasis on “collaboration with value chain partners to maximize value and minimize cost” (Unchaining Value: Innovative approaches to sustainable supply, 2008). The focus has shifted towards managing sustainable supply chains and sustainable sourcing. By this we mean that in order to ensure a secure supply of raw materials, companies must work with their value chain actors along the supply chain to manage environmental sustainability, social stability and economic viability according to certain standards. Companies have come up with different models and standards to achieve the “sustainable supply chain”, from investing in traceability systems that enable them to make more transparent purchasing decisions to third-party certifications.

II. Drivers of Macro-shifts in Sourcing Models

As touched on in the previous section, the drivers for these shifts are varied and range from “macroeconomic supply shortages in the commodity crop to food safety and other regulation (push factors), and pull factors such as consumer-driven demand for increased transparency in the supply chain and the opportunity to contribute to rural development as part of the company’s sustainability or CSR program. These companies are restructuring their purchasing and sourcing models and investing in new trading relationships (Think big go small, 2010).

III. Industry Mechanisms for Sustainable Sourcing

Companies have varying strategies for integrating smallholder farmers into the global supply chains while ensuring delivery of both commercial value and positive community impact. The majority of companies are not trading directly with farmers but working with intermediaries across their entire supply chain, and engaging with farmers via these suppliers.

Third-party certification: certifying inputs

Third party certifications incorporate social and environmental principles into their standards, providing a clear way for producers to work with the organization as well as providing clear communication to consumers (Think big go small, 2010). In 2010, approximately 50% of certified tea volumes traded was Rainforest Alliance-certified, the balance was mostly Fairtrade certified. For cocoa, less than 1% is

Fairtrade certified in 2009 (Steering Committee of the State-of-Knowledge Assessment of Standards and Certification, 2012).

For companies that do not have direct control over their supply chains and are sourcing raw materials from a distance, certification adds value by enabling companies to obtain third-party verification that a certain raw material is sustainably sourced. The added credibility of the third party standard can be especially valuable for companies that need to address stakeholder concerns regarding environmental hotspots such as deforestation and human rights. For well-known third party labels that have on-package labeling, such as the Rainforest Alliance, TransFair or FLO, certified products may have a competitive advantage over products with no certification, depending on the target consumer. The costs of certification include higher premiums to farmers and suppliers (SAI Guide, 2013). Different certification standards have different requirements to be met; therefore companies should select a certification partner based on ability to meet the company's goals.

For example, in 2005 Unilever established a goal to source 100% of its Lipton Tea brand from environmentally and socially sustainable sources. Unilever chose to enhance Lipton's positive brand value and as a differentiating factor for its consumers. The company chose to work with the Rainforest Alliance based on its "recognition by consumers, capacity and flexibility to certify large and small suppliers, ability to work with local organizations to train employees, and ability to recruit and train teams of regional auditors" (SAI Guide, 2013).

Risk-Management Strategy vs. Product Differentiation Strategy

In a Working Paper by Tallontire, Nelson, Dixon, & Benton (2012), Henson and Humphrey (2010) argues that the academic literature on agrifood standards and regulation has come to a consensus on three rationales for private standards:

- 1) As a substitute for inadequate or absence of public regulation in some countries
- 2) A way to demonstrate compliance with regulatory frameworks
- 3) A way for companies to differentiate products, especially in markets where segmentation is based on quality

While B2B food safety standards such as GlobalGAP Standards and XYZ are based on risk-minimization, others such as the Rainforest Alliance (RFA), Marine Stewardship Council (MSC), and Forest Stewardship Council (FSC), are considered product differentiation strategies. The latter type of standard is characterized by consumer-facing labels. In some cases, companies have leveraged certifications as a product differentiation strategy by selecting different certifications and messaging for different regions (Tallontire, Nelson, Dixon, & Benton, 2012).

However, in today's increasingly standards-filled marketplace, becoming certified has shifted from being a choice to more of an essential requirement to gain access to certain supply chains, especially in coffee and tea (Tallontire, Nelson, Dixon, & Benton, 2012).

Chain of Custody Certification, Buying 'Green Certificates'

Chain of Custody Certification (CoC) takes certification an extra step by ensuring the place of origin of the raw material is known. CoC is expensive and complex to implement. Actors along the chain pay a custody cost (membership fee) but in return benefit from supply chain security; one example is the reassurance of no child labor used in the production process (Tallontire, Nelson, Dixon, & Benton, 2012). Rainforest Alliance and UTZ both use CoC, while several other chocolate manufacturers we encountered do not use CoC certification for cost reasons.

Mass-balance

Mass-balance allows raw materials bought from non-certified sources to be mixed in with raw materials bought from certified sources, at any stage of the production process, as long as there is reconciliation between the quantity of material (e.g. Roundtable on Sustainable Palm Oil) bought and the volume of CSPO material sold. This is the most basic requirement that several large corporations have adopted for the sourcing of cocoa. There is no segregation requirement, meaning that certified raw materials from one source does not need to be managed separately at any stage of the supply chain; it does not need to be stored, processed, and refined separately from non-certified raw materials (SAI Guide, 2013).

Fairtrade

Fairtrade is one of the most well-known forms of alternative trading available. The Fairtrade Labelling Organisation (FLO) focuses on improving trading relationships for cooperatives of smallholder producers by establishing the criteria for production as well as for hired labor, and setting contractual prices (Fairtrade International: About Fairtrade, 2011). The farmers and farm cooperatives are incentivized to participate in Fairtrade certification by the higher price they would receive for their beans than they would through a local trader. In addition to the monetary incentives, Fairtrade certification encourages economic, environmental and social development of cocoa growing communities. In the case of Kavokiva Cooperative in Côte d'Ivoire, farmers are looking to the fair trade cooperative for provision of basic social services such as education, health services, credit for fertilizers and other farm inputs, which the cooperative pays for through the Fairtrade premium set aside for the community (Kavokiva Cocoa Co-operative, Côte d'Ivoire [Kavokiva] 2009). Fairtrade Certification also indicates to the end consumer that certain social, environmental and economic standards have been met as Certification for cocoa growers is only open to farmer groups that are owned and organized by farmers and advocate transparent administration, democratic decision-making, among other criteria. Fairtrade standards also serve to prohibit illegal child labor as standards are enforced through regular audits (Kavokiva, 2009).

Other third party certifications:

Unlike Fairtrade, the following certifications do not provide fixed premiums to producers/farmers, but they can provide a market premium.

UTZ Certified

Founded in 1997 initially as a sustainable coffee standard to create transparency along the supply chain, UTZ has since become a widely recognized standard for sustainably traded coffee, tea, cocoa palm oil and cotton (KPMG, 2013). UTZ has developed a set of standards for sustainable cocoa production at the farm level via its strict Code of Conduct and CoC Tallontire, Nelson, & Benton, 2012). The Code of Conduct aims to professionalize the farmer through responsible agricultural practices. UTZ has a code for large plantations and one for smallholders. CoC requires that companies along the chain (roasters, traders, grinders) handling UTZ Certified cocoa must also be certified through UTZ Certified's CoC code (Tallontire, Nelson, & Benton, 2012). The certification process is stepwise, which means that the number of requirements increase annually. This approach ensures that the barriers to entry are not too prohibitive.

Sustainable Agriculture Network and Rainforest Alliance Certified TM Seal

Established in 1987, the Sustainable Agriculture Network (SAN) is a coalition of top conservation groups across Brazil, Colombia, Costa Rica, Ecuador, Guatemala, Honduras, India and Mexico and associated groups around the world that connects farmers with socially and environmentally-conscious consumers by way of the Rainforest Alliance Certified TM seal. Only farms that meet the rigorous criteria of the SAN

are approved to use the Rainforest Alliance Certified TM seal (Sustainable Agriculture Network [SAN], 2010).

Some companies pursuing a landscape approach to sustainability have ensured that in addition to the conventional SAN training, farmers also undergo training in the SAN Climate Module, a voluntary additional module which contains 15 new criteria to help farmers adapt to climate change while mitigating the impacts of climate change in their production process (SAN, 2010).

The Rainforest Alliance Seal can be found on products ranging from chocolate, coffee to flowers and furniture. The Seal marks a product that originates from, or contains ingredients sourced from farms or forests that are Rainforest Alliance certified (Rainforest Alliance, 2014). With the goal of conserving biodiversity, business practices and consumer behavior, the standards cover environmental management systems, ecosystem conservation, wildlife protection, protection of well-being of workers and their families, community relations, soil management, integrated waste management. The drawback of RA is that the focus is mainly on social and environmental criteria and less on economic conditions. Farms are audited annually by members of Rainforest Alliance's certification team or a member of the SAN (Tallontire, Nelson, & Benton, 2012).

Certification Capacity Enhancement project (CCE)

CCE is a joint partnership between an alliance of NGO and private sector partners with the aim of “[boosting] the capacity of the West African cocoa sector to benefit from sustainability certification programs and increased productivity” (IDH: CCE, 2013). CCE is jointly developed by several NGOs - Rainforest Alliance, UTZ Certified and Fairtrade International (FLO), Solidaridad and German International Development Cooperation (GIZ), and private sector players Mars Inc., Barry Callebaut, ADM and Armajaro (IDH: CCE, 2013). The World Cocoa Foundation has been credited in facilitating the establishment of this partnership. The project has two phases:

Phase 1 (Pilot phase, March 2010 until December 2011): While CCE is not a certification itself, the program is being implemented in Ghana, Côte d'Ivoire and Nigeria and prepares farming communities to adopt third party certifications by developing and applying a common training program. This enables farmers to fulfill key requirements for the three international standards for cocoa (UTZ Certified, Rainforest Alliance and Fairtrade), in order to implement productivity improvement mechanisms. Auditors are also trained to evaluate multiple systems (IDH: CCE, 2013).

Phase 2 (Up scaling, January 2012 until February 2013):

This phase aims to strengthen certification capabilities in each of the project countries through developing an information platform to address stakeholders' certification related questions, and through implementation of monitoring and evaluation systems (IDH: CCE, 2013).

It is evident that as the certifications marketplace becomes increasingly crowded, programs such as CCE aim to gain broader recognition and market share among farming communities and private sector players alike. As a result of such partnerships, we may begin to see convergence within the cocoa sector towards a few key certification standards.

Company's own standards

Several companies have formed their own tailor-made standards; these typically combine farm-level performance indicators and best practices with indicators beyond the farm-level. In the case of Starbucks' Coffee and Farmer Equity (C.A.F.E.) Practices, established in 1998 in partnership with Conservation International, C.A.F.E. was formed as a set of system-wide best practices for coffee production that addressed ecosystem services while upholding biodiversity protection (Kissinger,

Brasser, & Gross, 2013). They combine 200 environmental, social, agronomic and economic standards that are assessed by a third party auditor. Producers who meet the sustainability requirements achieves preferred supplier status and receives preferred prices for their coffee negotiated directly between cooperatives, private farms and traders, as well as 3-5 year contracts. C.A.F.E. is now part of Starbucks' core operations. In 2011, 86% of Starbucks coffee were sourced under C.A.F.E. Practices ("Reducing Risk Landscape Approaches to Sustainable Sourcing"). Company-own standards are not necessarily used mutually exclusive to other third party certifications. For example, Starbucks purchases Fairtrade and Organic coffee that have been verified by C.A.F.E. Other company-own standards include The Nestlé Cocoa Plan, Mondelēz' Cocoa Life, and Nespresso AAA Sustainable quality™ program (Nespresso AAA sustainable quality Program, 2014).

IV. Risks of Certification Standards

There is ongoing debate on whether introduction of standards actually makes it more difficult for smallholder farmers from participating in the cocoa value chain. In Tallontire, Nelson, & Benton's Report (2012), the authors highlight Graffam et al.'s surveys of Kenyan exporters, and the finding that many exporters significantly scaled back business with smallholder farmers after the introduction of GlobalGap standards. Graffam argues that because large-scale producers have better access to finance and infrastructure, it is easier for them (compared to smaller farms) to be in compliance with regulations. Other case studies suggest that certification schemes can make it difficult for smallholder farmers in accessing the global markets as they can have the unintended consequence of enabling medium to large farms to benefit differentially and squeezing out smaller producers from the value chain (Smith and Barrientos, 2005). According to Maertens and Swinnen, the ITC (2011b) review found that while there are many examples of small-scale producers benefiting from participating in growing Fairtrade and organic markets, when the standards become de facto norms, they can actually act as a trade barrier for the smaller scale producers (Tallontire, Nelson, & Benton, 2012).

There is also debate as to whether enactment of these certifications and standards are actually shifting power relations, suggesting that it is still unclear what the broader impacts associated with the standards are (Tallontire, Nelson, & Benton, 2012).

V. Major Adaptations/Changes to Sourcing Models

Direct Trade

There is no standard definition of 'direct trade'. What constitutes 'direct trade' differs depending on the company. For example, Divine Chocolate sources 100% of its cocoa from the cooperative, Kuapa Kokoo, (See Chapter 4 and Chapter 5), enabling smallholder farmers from the cooperative to access the global marketplace. Kuapa Kokoo is also the majority shareholder with 45% ownership of the company and board seats such that the community can provide input on how the company is managed (The Divine Story, 2013). Counter Culture Coffee has created its own Counter Culture Direct Trade Certification based on its four principles of "Personal & direct communication with coffee farmers, fair & sustainable prices paid to farmers, exceptional cup quality, and supply chain transparency" (Counter Culture Coffee: Direct Trade Certification, 2014). Given the lack of a single definition for direct trade, one must review the company's sourcing criteria and business model to define what is meant by direct trade in each given context.

Dedicated Supply Chains

According to Rabobank's 2013 report, "Winning through the Supply Chain," dedicated supply chains are characterized as "a shared commitment between companies to work closely together, generally from one end of the chain to the other" (Sherrard, 2013). A dedicated supply chain usually occurs between parties that normally interact but have made a conscious decision to work closely together to share in the benefits of cooperation and to share in the risks. Dedication implies cooperation, and not necessarily devotion of all available resources to the one chain. Rabobank sees dedicated supply chains as "the most effective way to manage supply chain pressure while enabling growth" (Sherrard, 2013). These pressures arise from price volatility, growing global demand, the need to deliver more in a more complex operating environment. Dedicated supply chains is different from vertical integration and consolidation in that the former does not require capital outlays or loss of control.

The dedicated supply chain is defined by four key attributes (Sherrard, 2013):

1) downstream company being captain of the chain, 2) continuous flow of information in both directions, 3) long-term supply contracts, 4) transformational instead of transactional relationships between partners along the chain. One example is the US berry company, Driscoll's. In order to guarantee a year-round supply of berries, it has locked in 1-3 year supplier commitments that are wherein grower commit to supplying all their berries to Driscoll's in return for stable returns. Though there is less flexibility along the chain all parties are better off. In the cocoa sector, as part of Mars' commitment to sustainably source all of its cocoa by 2020, Mars has decided to publicly release the cocoa genome sequence in a pre-competitive move. This addresses the long-term threats to the cocoa supply chain while benefiting the whole supply chain.

Landscape approaches

"The landscape approach has been championed by organisations active in the development and conservation sectors for many years, though the concept has been slow to migrate into mainstream corporate thinking..."

- José Lopez, Executive Vice President, Operations, Nestlé S.A.

According to a recent KPMG report, the food and beverage sectors face the highest risk from "sustainability megaforges" such as climate change, water scarcity and security, ecosystem degradation and population growth, but are least prepared to mitigate and manage these risks (Kissinger, Brassler, & Gross, 2013). Recognizing that interconnected sustainability challenges present significant operational risks, agribusinesses are increasingly turning to integrated landscape approaches to sustainability as they realize that conventional farmer or producer support at the farm-level is insufficient to mitigate operational risks. A landscape approach recognizes that companies facing water, climate, energy and community risks must look to interventions beyond the farm-level, which is where most agribusinesses currently focus their sustainability efforts. A landscape approach looks at sustainability more holistically, extending to broader areas – watersheds, ecosystems, transport systems, governments, communities and markets. REDD+ and payment for ecosystem services are examples of landscape approaches.

The Landscapes for People, Food and Nature Initiative released a report, "Reducing Risk: Landscape Approaches to Sustainable Sourcing" which analyzed 27 companies in cocoa, coffee, palm oil, and other commodity sectors who are already integrating climate resilience and other relevant issues into their sourcing strategies (Kissinger, Brassler, & Gross, 2013). In this report, rationales quoted for business engagement in landscape approaches include operational risks, realizing value chain efficiencies, investor requirements, voluntary compliance, and reputational risks. The landscape tools identified to

address these risks include carbon finance, water finance, watershed management, value chain approaches, and regional producer support programs (Kissinger, Brassler, & Gross, 2013). See Chapter 5 for examples of landscape approaches.

VI. Conclusion

As the examples above show, companies are still, for the most part, working within traditional supply chains and partnering with their suppliers to achieve long-term goals that address both securing the supply chain and achieving sustainability metrics. Other companies like Cafédirect and The Body Shop have built internal teams to develop expertise in securing new sources of supply from smallholder farmers. Few examples of true “direct trade” have yet to be seen, though this is not necessarily the optimal strategy. Companies have designed innovative models and collaborative multi-stakeholder partnerships to align sourcing decisions more closely with business strategy.

CHAPTER 3

Research Questions and Methodology

I. Research Questions

In collaboration with Mondelēz International, we developed the following research question for our Master's Project:

What are the most promising opportunities for enhancing Mondelēz' sourcing strategies to ensure sustainability of its cocoa supply?

Given the myriad definitions of *sustainability* and *sustainable supply chains* we encountered in our research and interviews, for the purposes of our Master's Project, we are defining *sustainability* as meeting the long-term economic, social and environmental factors necessary to ensure thriving cocoa communities.

We also divided our overarching question into supporting research questions to help guide our thinking:

- *How are cocoa value chains structured within Mondelēz' origins of interest (Ghana, Côte d'Ivoire, Indonesia, Brazil, and Dominican Republic) and what are key intervention points for brands?*
- *What are the best practices in the cocoa-chocolate industry for sustainable cocoa sourcing?*
- *What best practices could be applied to Mondelēz?*

II. Methodology

1. Literature Review

We initially conducted a literature review to understand the global cocoa-chocolate value chain in order to better understand current practice and drivers for change in the industry. We also researched the emerging agricultural sourcing solutions, including third-party sustainable certifications, the rise of Fairtrade, and company cocoa programs. This literature was sourced from industry trade journals, academic papers, NGO research and company websites. We also analyzed primary data for cocoa trade trends to inform the industry research.

2. Global Value Chain Analysis

We conducted Global Value Chain (GVC) Analyses for each of the five regions to better understand the dynamics and structures of various players in the cocoa industry and how the value chain is organized. We mapped the value chains by consulting existing value chain analyses, publicly available data and reports, and interviews with researchers and practitioners in the field. The GVC framework enabled us to identify key opportunities, challenges and intervention points for chocolate manufacturers in general.

3. Sustainable Cocoa Sourcing Strategy Benchmarking

After reviewing sourcing strategies of peer companies within the cocoa-chocolate industry and examples across other crops and industries, we selected case studies to analyze by identifying key opportunities,

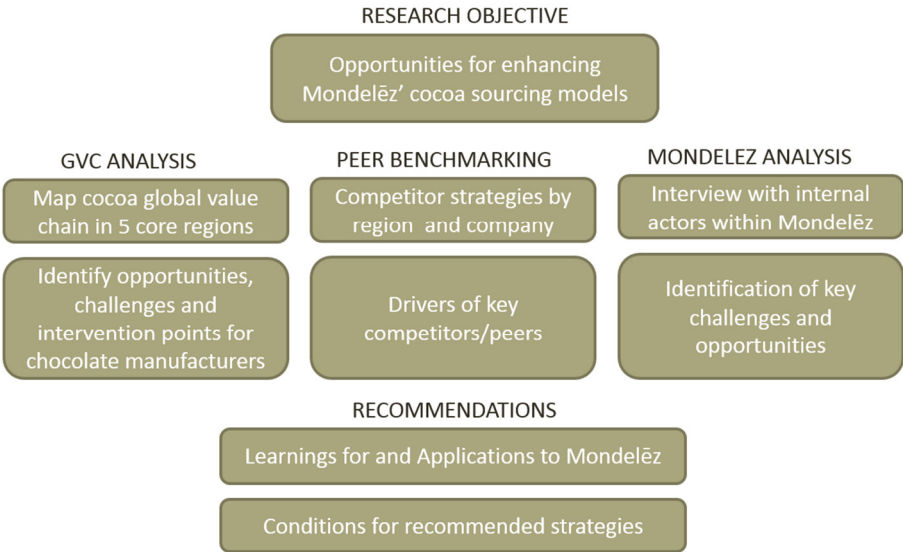
constraints and intervention points. Some of these examples are well-known while others were more obscure. The objective is to provide Mondelēz with relevant case studies to learn from.

4. Analysis of Mondelēz Sourcing Strategies

Based on our conversations with internal contacts at Mondelēz as well as our own research, we compiled a summary of the benefits and challenges of the current sourcing model, and current Cocoa Life applications and best practices. In many cases, we found that Cocoa Life has been newly launched in some regions so there is limited documentation on Cocoa Life best practices. In discussion with Mondelēz, we decided to focus more on lessons Mondelēz can learn from peer benchmarking.

All three types of analyses informed our recommendations to Mondelēz. The team also developed a framework to help Mondelēz think through which sourcing strategies to prioritize. Below (Exhibit 1) is a schematic representation of this methodology. The team conducted industry (companies, academics, NGOs) expert interviews through all the data collection stages and used secondary sources including industry trade journals, academic papers, NGO research and company websites. (See Appendix B for a list of industry experts and practitioners that we interviewed.)

Exhibit 1. Methodology



CHAPTER 4

Global Value Chain Analysis: Introduction & Country Level Analyses

I. Global Value Chain Analyses: An Overview

According to Gereffi and Fernandez-Stark (2011), Global Value Chain (GVC) analysis is a framework that examines the dynamics and structures of different players in an industry in order to understand how the industry is organized. The framework can be applied on a global, regional or domestic level. There are five basic dimensions of a GVC analysis each of which are explored and discussed for a particular value chain. These include 1) an input-output structure which details how the product is transformed from raw material into the finished good, 2) a geographical scope or consideration, 3) a governance structure that describes how the value chain is controlled, and 4) the institutional context in which the value chain operates (Fernandez-Stark & Gereffi, 2011).

Upgrading

More recently, a fifth concept of *upgrading* has been added as a component to the GVC framework. Upgrading explores the strategies employed by actors along a value chain to improve or maintain their position in the chain. Initially, GVC frameworks focused on economic upgrading; however, incorporation of environmental and social dimensions is becoming more common in GVC analyses. Four forms of economic upgrading have been identified within the GVC framework and each approach is pursued by an actor in an effort to capture more value. These include the following:

- *Process upgrading*, which more efficiently transforms inputs into outputs by introducing and applying new technology or processes to the production system;
- *Product upgrading*, which involves transitioning to more advanced products along chain;
- *Functional upgrading*, which involves improving/increasing the skill content of the activity;
- *Chain or inter-sectoral upgrading*, during which an actor moves into a new industry that is often related to their previous industry (Fernandez-Stark & Gereffi, 2011).

Buyer-Driven Chains & Governance

In the mid 1990's, researchers began studying the new phenomenon of powerful, global purchasers using 'explicit coordination' to establish a "highly competent supply-base upon which global-scale production and distribution systems could be built without direct ownership" (Gereffi, Humphrey & Sturgeon, 2005). These value chains are known as buyer-driven chains and are characterized by large, powerful firms, such as brands or retailers, having significant control over producers without vertical integration. The lead firms in the chain do not own any of the downstream value chain segment activities (production, transport or processing). In contrast, producer-driven chains are more integrated among all segments and producers generally "keep control of capital-intensive operations." Industries requiring high capital investments or technological capabilities are generally producer-driven chains (Ponte, 2002).

Since this designation, the GVC framework has developed a more intricate typology for governance which includes market, modular, relational, captive and hierarchy governance types. These are defined in Figure 7. Governance within a value chain is complex and governance structure within an industry is dynamic both over time as the industry matures as well as across space (e.g. from one country to the next). Further, governance can transition from buyer-driven to producer-driven and back. In each governance structure, identification of the 'lead' firm(s) is a powerful tool to understand chain dynamics. Lead firms are the powerful firms that coordinate and control their global supply networks and affiliates. A GVC analysis can explore how the lead firms' business decisions impact economic, social and/or social upgrading (or downgrading) for those along the chain (Fernandez-Stark & Gereffi, 2011).

II. Country-Level Value Chain Analyses

The global cocoa-chocolate value chain discussed in Chapter 1 provides a high-level overview of the activities and actors along the chain. In order to explore if and how Mondelēz can source cocoa sustainably, it is necessary to evaluate regional value chains to uncover key constraints, opportunities and points of leverage for chocolate manufacturers. As such, we conducted five country-level cocoa-chocolate value chain analyses for origins of interest to Mondelēz in order to understand the key actors at each origin, relationships among actors, the external influences affecting the chain, and sustainability actors along the chain.

We outline our findings in this chapter for the five components of the GVC analysis discussed above, as well as additional economic, environmental and social considerations. Based on the observations in the value chain analyses, we identify points of intervention for chocolate manufacturing brands to address constraints and leverage opportunities in order to ensure more sustainable cocoa sourcing as defined in the preface.

This analysis was conducted using secondary research and has been informed by conversations with industry experts and professionals including the public and private sector, manufacturing brands, certification bodies, and processors. For the input-output evaluation, we set the system boundaries to include cocoa producers through chocolate manufacturers. We did not include cocoa input providers (e.g. fertilizer companies) or cocoa bean imports.

III. Indonesia

Indonesia is a unique archipelago nation comprised of over 17,000 islands and 246 million ethnically diverse and geographically dispersed citizens. Since gaining independence after World War II, the country has undergone rapid transformation and will continue to transform into the future (Indonesia, 2013). It is the 16th largest economy by nominal GDP (\$878 B in 2012) with projections to be the seventh largest economy by 2030 (Indonesia, 2013). Since 2000, the country has also had the lowest volatility of economic growth among developed economies (Budiman et al, 2012).

I. Cocoa Production Overview

Indonesia is the third largest producer of cocoa in the world, producing roughly 15% of global cocoa production, following very close behind Ghana (FAOSTAT, 2013). While cocoa is a relatively new crop for Indonesia when compared to other cocoa producing regions production has increased significantly over the last 10-15 years to make it a global production leader (Hafid & McKenzie, 2012). The Indonesian Cocoa Industry Association estimated the total production for the 2013 season of 430,000 tonnes produced on roughly 1.5 million hectares (Taylor, 2013). The island of Sulawesi accounts for 75% of total domestic production. See Figure 8 for map of Indonesia's five major cocoa producing regions (Cocoa, 2013).

Two thirds of cocoa produced in Indonesia is of low quality and considered a filler bean that is blended with more flavorful beans from other origins (Hafid & McKenzie, 2012). This bean dominates Indonesia's cocoa bean exports and is traded as unfermented, fat bulk beans. While the lower quality cocoa is traded at a discount compared to the standard New York Stock Exchange terminal price, Indonesia holds a firm market position as there is significant global demand for this type of bean and there are relatively few origins that produce and trade it on the market (Meyer & Panlibuton, 2004) and the country's competitive advantage is its capability to produce and export high volumes (Hafid & McKenzie, 2012). Further, these beans are relatively price inelastic.

Indonesia is the fourth largest cocoa bean exporter in value, having exported USD \$614M worth of cocoa beans and 210 million kg of cocoa in 2011 (UN Comtrade, 2013). This export value position is lower than its rank in production because of the low unit price of unfermented bean and as of recently, the demand for beans for domestic processing (Harrison-Dunn, 2013).

II. Input-Output Structure

The Indonesia cocoa value chain is long, complex and highly competitive. It relies on market-forces and is poorly regulated. As a result, it is considered to have unfair competition and considerable speculation (VECO, 2011). See Figure 9 for an Indonesia cocoa-chocolate value chain schematic constructed based on our research. Each segment is described below.

Smallholders

Production is dominated by smallholder farms averaging about 1 hectare of land. An estimated 1 to 1.6 million smallholder farmers produce 92% of total production (Cocoa Sustainability Partnership, 2013). Cocoa labor is generally family-managed, with little hired or outside help. Farming is managed by the men of the family but women are often tangentially involved in the chain for work such as quality control (Pathways, 2011). The average smallholder farmer is around 42 years old. Cocoa is an important crop to smallholders and many rely on cocoa as their primary income source (Hafid & McKenzie, 2012).

There is a general lack of ability among cocoa producers to conduct sufficient farm maintenance and practices and to acquire adequate planting materials which has resulted in dramatic decreases in yield. Production is characterized as low; on average 500kg per hectare per year (Cocoa Sustainability Partnership, 2013). Cocoa production in Indonesia has low margins combined with unstable and inconsistent revenue (Harrison-Dunn, 2013). While, Indonesian cocoa smallholders on average gain a higher share of the international price compared to smallholders in West Africa (Meyer & Panlibuton, 2004), productivity “is at a level that does not make for viable income” (Cocoa Sustainability Partnership, 2013).

Smallholders do not practice on-farm fermentation, like is done in West Africa origins, and rather sell unfermented beans to subsequent actors in the value chain (VECO, 2011). Farmers sell beans either as a collective group of farmers or individually. Less than 10% of farmers are members of formal cooperatives (Cocoa Sustainability Partnership, 2013) and farmers seem to prefer to work with collectors or traders independently (Lusby & Panlibuton, 2006). Farmers are, however, organized into “village-level” groups of around 25 farmers (Cocoa Sustainability Partnership, 2013) which mainly exist for government-distributed fertilizer (VECO, 2011) or group labor collaboration (Cocoa Sustainability Partnership, 2013). These village farmer groups tend to be disorganized. While there is interest among many stakeholders to organize farmers into cooperatives, success has been limited (Cocoa Sustainability Partnership, 2013). The bigger farm organizations are mostly local-facing and are not represented on the national level (Claes 2012).

Farmers are generally bound by middlemen in terms of pricing and access to market information (VECO, 2011). They have very weak bargaining power, if any at all, because of their limited capacity to “organize collective marketing” or acquire accurate market information through the layers of traders. Cocoa farmers are price takers and daily price fluctuations pose a significant challenge (Pathways, 2011).

Local Collectors

Local collectors generally exist in regions where smallholders do not have the ability to deliver cocoa to local traders. Collectors are usually farmers but can be entrepreneurs. They travel around, visiting smallholder farms weekly during the harvest season to purchase cocoa. An estimated total of 9,000 collectors reach about 70% of cocoa farmers (Cocoa Sustainability Partnership, 2013). Sometimes collectors dry wet beans purchased from smallholders though they are limited by their capacity to store the beans. Some local collectors offer pre-financing to farmers in forms of cash or in-kind (e.g. inputs) (Cocoa Sustainability Partnership, 2013) and others offer services like housing and transportation in exchange for beans (Meyer & Panlibuton, 2004). An estimated 20-50% of smallholders take advantage of this service (Cocoa Sustainability Partnership, 2013).

Local Traders

Traders generally purchase cocoa beans from collectors but sometimes purchase directly from farmers (20% of trade is from farmers directly). Most purchases occur at collection points in the markets or towns where traders arrange for transport of beans primarily to exporters in the major cities of Makassar or Palu. Some beans are also transported to local processors and a few traders sell ‘export-ready’ cocoa beans which are fermented and of high quality. Traders are sent cocoa price information from New York daily. Traders are a key marketing point in the cocoa value chain but there are a lot of them; an estimated 9,000 traders in Sulawesi alone (Meyer & Panlibuton, 2004)

**Both collectors and traders do not need a permit or license, thus there are limited barriers to entry and competition is high (Lusby & Panlibuton, 2006).

Processors – Domestic

As of relatively recently – 2004, 90% of cocoa beans were exported for international processing (Meyer & Panlibuton, 2004). However within the last three years, this has changed and now the majority of cocoa beans are processed domestically by multinational companies (T. Ryan, personal communication, February 20, 2014). Effem, a subsidiary of Mars, has traditionally been one of the largest local processors. However, this is changing as a joint venture between Barry Callebaut & Comextra Majora was established in fall 2013 to form the new company PT Barry Callebaut Comextra Indonesia. The new company is constructing a processing facility in Makassar which is estimated to process 30,000 tonnes of cocoa and Barry Callebaut is building four other processing facilities in Sulawesi (COKELAT, 2013). Additionally, Cargill invested \$100 million in May 2013 to develop its first processing plant in Asia which is expected to be operable by mid-2014 and process 70,000 metric tonnes of cocoa beans annually (Cargill, 2012). Other multinational traders and processors are building processing plants and the amount of processing in Indonesia is expected to increase significantly. Conversely, most traditional local processors are suboptimal and are either not operating or are well below capacity (Meyer & Panlibuton, 2004). This development is rapidly changing the marketing landscape and commodity traders that do not have a processing plant are now at a disadvantage (T. Ryan, personal communication, February 20, 2014).

Manufacturers- Domestic

A small percentage of Indonesian cocoa is manufactured domestically. In 2006, Ceres Group was the largest domestic manufacturer and the only local integrated processor, manufacturer and chocolate exporter. There are a few smaller, local manufacturers that manufacture high-quality chocolate products for high-end domestic consumers (Lusby & Panlibuton, 2006). This may change, though, as chocolate manufacturing brands build plants in Indonesia.

Exporters/Buyers

In 2006, 80% of the cocoa beans in Indonesia were sold by five multinational exporters but as of this year (2014) there has been even further consolidation due to the aforementioned acquisitions and mergers to three multinational buyers: OLAM, ECOM/Armajaro and Cargill/ADM. These multinational buyers purchase beans in bulk from suppliers that meet their quality criteria. There are some local exporters though it is difficult for local exporters to compete with the large multinationals and many local exporters sell directly to the multinationals instead (Lusby & Panlibuton, 2006). Some multinational buyers are exploring buying activities or stations away from the main trading centers in Makassar or Palu. At present, 10% of farmers sell directly to buying stations from large, international firms, and those that do are mostly sustainable certified cocoa farmers (86% of the sustainable certified smallholders in Indonesia sell cocoa directly to these buying stations). The use of buying stations is increasing (Cocoa Sustainability Partnership, 2013). Most Indonesian cocoa is exported to the US and traded through the NY Stock Exchange (Meyer & Panlibuton, 2004).

Processors - International

Many of the exporters and trader firms discussed above are subsidiaries of multinational processing firms, such as Cargill/ADM. These multinational processors have facilities throughout the world including regional processing facilities, such as in Malaysia. Malaysia has historically been one of the biggest

processors of Indonesian cocoa and in 2011 67% of Indonesian cocoa is exported to the country for processing (UN Comtrade, 2013). The US processor, Blommer Chocolate Company, was a large processor of Indonesia cocoa as well. However, these figures have likely changed due to domestic processing capabilities.

Manufacturers – International

Both domestic and international processors sell processed cocoa products to international chocolate manufacturers of chocolate or cosmetics. Some manufacturers are integrated processors and manufacturers. Mars in particular is vertically intergrated and has a strong presence in Indonesia. Most cocoa products are exported for international chocolate manufacturing (T. Ryan, personal communication, February 20, 2014).

End-Market

United States is the most important market for Indonesian cocoa. However, the Asian market is expanding. Other markets include Latin America. The domestic market is a small percentage of Indonesian chocolate consumption (T. Ryan, personal communication, February 20, 2014).

III. Sustainable Cocoa Value Chain Actors

Notable Cocoa Cooperatives: AMANAH is a notable farmer organization in Sulawesi that is a key player in sustainable cocoa. It is UTZ certified and the Indonesian government has provided capital assistance in order for the cooperative to be able to negotiate more effectively with the local collectors and traders (VECO, 2011). JANTAN and SIKAP are recognized, strong cooperatives on the island of Flores which implement sustainability considerations into cocoa farming (Pathways, 2011).

Cocoa Sustainability Partnership (CSP): The CSP is public/private forum with a mission to “increase communication, coordination and collaboration between public and private stakeholders engaged in cocoa sustainability activities in Indonesia for the mutual benefit of all cocoa sector stakeholders” (CSP Indonesia). It was founded with the objective to align the public and private cocoa work and members meets quarterly. The CSP has potential to be a “peak body for cocoa in Indonesia” (Hafid & McKenzie, 2012) and it developed the 2020 Roadmap to Sustainable Indonesian Cocoa which was endorsed by all members and finalized in December 2013. The roadmap is intended to outline strategies for doubling cocoa production output and enabling farmers to be sustainable business owners (Cocoa Sustainability Partnership, 2013).

VECO Indonesia: VECO is a Belgian-based NGO that works internationally on sustainable agriculture development with an expertise on sustainable agriculture practices and a focus on strengthening smallholder cooperatives. VECO works to enable farmers’ direct access to markets and partners with the private sector and other entities through a value-chain approach to find market-based solutions to smallholder challenges. VECO Indonesia has a physical presence in the country and is working to transform farmer organizations in Indonesia from small groups of less than 50 to large farm organizations of 500-2000 farmers (Hafid & McKenzie, 2012).

Swisscontact: An, international development agency funded by the Swiss private sector, Swisscontact has 30 years of experience in Indonesia and recently opened an office in Sulawesi. The NGO engages with farmer organizations, local NGOs, local collectors and traders, government and the private sector address sustainable challenges along the cocoa value chain at a regional level. Swisscontact establishes contracts with private sector partners to address smallholder challenges and needs. The Sustainable

Cocoa Production Program (SCPP) is a Swisscontact managed 3-year project (2012-2015) which engages governments and the private sector. Partners of the SCPP include ADM Cocoa, Armajaro, Cargill, Mars and Nestlé (Hafid & McKenzie 2012).

IDH: IDH is an NGO that establishes and coordinates “public-private, precompetitive market transformation programs in 18 sectors” including cocoa (About IDH 2013). The organization has a Euro 130 million grant which is co-funded by the Dutch, Swiss and Danish Governments. The Dutch market is committed to 100% certified cocoa by 2025, thus IDH has established a 5 year (2008-2015), Euro 20 million program in key producing origins. Indonesia is one of the origins and partners including Nestlé, Mars, Heinz, Barry-Callebaut, ADM, and Armajaro representing approximately 40% of global cocoa processing and 40% of global chocolate manufacturing as well as local NGOs and governments (About IDH 2013).

ACDI/VOCA: An international agriculture development NGO, ACDI/VOCA takes a value-chain approach to poverty alleviation in low-income countries. There is a current cocoa project in Indonesia called the Cocoa Innovations Project (CIP) which was co-launched with WCF and utilizes partnerships with the private sector to improve cocoa farmer livelihoods through “innovations in crop management and the application of information technology”. Mondelēz, Mars, The Hershey Company (“Hershey’s”) and Armajaro are key partners (Indonesia Cocoa Innovations Project, 2013).

National Government: In 2009, the government developed a cocoa revitalization program in order to improve yield and productivity and remain competitive among other producing countries (called GERNAS). The project included a myriad of rehabilitation and intensification activities on 450,000 hectares of cocoa land. Its goal was to reach one million tonnes of annual production by 2013. This USD \$350 million project has essentially failed and has not boosted production output (Taylor, 2013).

Sustainable Certifications: Rainforest Alliance and UTZ certified are the major and most utilized sustainable certifications present in Indonesia (Cocoa Sustainability Partnership, 2013).

III. Institutional Context

The Indonesian government has traditionally been hands off in the cocoa value chain, especially at the producer-level, and there is no strong federal activity working on behalf of cocoa smallholder interests (VECO, 2011). As discussed, this has resulted in a general lack of ability among cocoa producers to conduct sufficient farm maintenance and acquire adequate planting materials which has resulted in low productivity. Recent quality standards developed in part by the government are voluntary and enforcement of standard is limited.

The government has, however, recognized regional and domestic cocoa demand trends and has been developing cocoa processing capabilities in collaboration with the private sector as well as imposing trade taxes and tariffs to incentivize processing and discourage cocoa bean exports. In 2010, the Indonesian government imposed a raw cocoa bean export tax (decree No 67/2010) of 5-10% depending on global cocoa prices. Before 2010, only processed cocoa products were taxed and this encouraged raw bean exports over processed cocoa beans. The 2010 tax on raw cocoa bean exports provides incentives for industry players to build processing capabilities. In 2011, Indonesia claimed it was “ripe for investment” from the private sector in processing cocoa, and their incentives worked (Chibber, 2011).

An important highlight is the mass exodus of cocoa farming posing risk to the government viability of cocoa farming. The government has made claims that it wants to become the greatest producer of cocoa, though it has not specified how. Low profitability, considerable alternative agriculture revenue sources (palm and rubber) along with urbanization trends within Indonesia has created a mass exodus of cocoa farmers leaving the industry (Harrison-Dunn, 2013). The minimum wage in Indonesia is more than the profit for a smallholder's 1 hectare of cocoa (Cocoa Sustainability Partnership, 2013). The demand trends, processing capability developments and production issues have prompted a predicted cocoa bean deficit by 2015. The Indonesian Cocoa Association predicts that Indonesia could become a net cocoa buyer.

IV. Governance

The Indonesian cocoa value chain has a volume-based, price-driven governance with open marketing and trading system. However, this buyer-driven chain still relies on lead firms who control quantities demanded, quality requirements and influence cocoa prices. The cocoa industry is fully liberalized, and as discussed, the Indonesian government has traditionally been hands-off in the Indonesia cocoa value chain, enabling the market to take care of itself. The government is increasingly partnering with the private sector and/or putting development and social, environmental projects in the private sector hands. In the past, smallholder capability building has been the objective of international organizations; however, now the private sector is the big player for capability building.

V. Geographical Scope

For the purpose of this report, the production of cocoa is contained within Indonesia and we do not consider imported cocoa. There are a number of domestic and multinational actors involved in the marketing segment. Some multinational actors have a physical presence in Indonesia while others operate outside of Indonesia. This report does not meticulously examine the activity and relationships outside of Indonesia (e.g. processed cocoa product trade among international processors and manufacturers) and rather high-level, observations of relevance are noted.

VI. Upgrading

As discussed, the Indonesian government has recognized that its exports are dominated by raw commodities and noted the associated risks with this export composition. The government clearly has an agenda to facilitate *product upgrading*, as it has put resources (processing and tax incentives) towards establishing raw material industry "downstream" value-adding processing capabilities over the last few years (Cocoa, 2013). Processing companies have seen the economic potential of establishing facilities in Indonesia due to its cocoa production capabilities, domestic consumption projections and proximity to growing Asian markets. The government has also claimed its goal to increase productivity of cocoa farming, which we can categorize as *process upgrading*. Though, this has not been successful.

Development organizations, the government and the private sector are becoming increasingly involved in taking the value chain approach and focusing on social and environmental upgrading for cocoa farmers, in an effort to ensure economic viability for cocoa farmers. The 2009 GERNAS cocoa revitalization program was the first major attempt to address the social welfare of cocoa farmers. However, this program has proven to have little to no success. There are key NGOs addressing social and environmental upgradings (which were discussed previously) and private sector projects aimed at upgrading which will be discussed in Chapter 5.

VII. Additional Considerations Specific to Indonesian Cocoa

In addition to analyzing the value chain actors and structure, it is important to note additional economic, social and environmental considerations specific to Indonesian cocoa. These are highlighted below.

<p><u>Economic Considerations</u></p> <ul style="list-style-type: none">• <u>High Production Potential:</u> Indonesian cocoa is ranked among the most productive origins in the world (Pathways, 2011) and could be as high as 2.2 tonnes per hectare (Cocoa Sustainability Partnership, 2013).• <u>Low Productivity Drivers:</u> Low productivity (avg .5ton per hectare) are a result of aged cocoa trees (which produce low yields & susceptible to disease) and improper farming practices by smallholders, particularly inappropriate fertilizer use (Harrison-Dunn, 2013). Cocoa pod borer also poses a significant threat and pests/disease destroy 30% of the crop (Cocoa Sustainability Partnership, 2013).• <u>Quality issues:</u> Inconsistent bean quality is one of the most serious weaknesses (Lusby & Panlibuton, 2006).• <u>Infrastructure:</u> Relative to other origins, efficient infrastructure is in place in the sector (Lusby & Panlibuton, 2006).• <u>Alternative livelihoods:</u> Farmers can switch to other, higher income generating crops, like rubber and palm, relatively easily as the farmers are entrepreneurial and these options are viable.
<p><u>Environmental Considerations</u></p> <ul style="list-style-type: none">• Rapid cocoa growth and adoption of full-sun cocoa resulted in conversion of agriculture land to full-sun cocoa in much of Indonesia (Daniels, 2006).• Indonesian government has designated national park boundaries which helps combat some deforestation (Daniels, 2006).• Indonesia has one of the highest levels of biodiversity in the world and one of the largest areas of rainforest. This has caused significant international interest in conservation which has driven conservation priorities in Indonesia (Faizal, 2011).• If farmers leave cocoa, the land will be converted to crops, likely non-agroforestry crops or palm which is a driver of further deforestation
<p><u>Social Considerations</u></p> <ul style="list-style-type: none">• Cocoa farmers are more entrepreneurial by nature compared to other origins, and characterized as being skilled and dynamic. These attributes make the threat of switching to other crops more severe, but can also encourage farmers to stay in cocoa (Cocoa Sustainability Partnership, 2013).• Youth still find cocoa farming an attractive option if they can make a suitable living (Cocoa Sustainability Partnership, 2013).• Child or slave labor is not as serious a threat or concern as other cocoa origins (Cocoa Sustainability Partnership, 2013).

VIII. Key Themes and Intervention Points for Brands

According to our research, the key issues that must be addressed in order enable cocoa farmers to make a viable living are an **increase in production and quality** of the beans. These issues can directly enable economic viability for cocoa farmers and as discussed in Chapter 1, social and environmental implications of cocoa farming are often symptoms of impoverished communities. While there are multiple players along the value chain that must address these challenges, there are **key intervention points** for chocolate manufactures and brands.

Below, we highlight our observations/insights from research which can support or be of influence to brands interventions. Figure 10 highlights the key constraints and opportunities discussed in the preceding section and the respective intervention points we have identified for chocolate manufacturers.

Market Access

Indonesian cocoa farmers have many selling options but have very weak bargaining power. Farmer groups and cooperatives must be strengthened in order to utilize collective marketing and improve the farmer negotiation position. Farmer groups would greatly benefit from cutting out the middlemen and having direct cooperation with exporters considering the unfair market conditions for the farmers as result of the complex supply chain, number of middlemen (9000+) and lack of transparency. Chocolate manufacturers enable smallholder market access by helping to develop cooperative business capabilities, shortening the number of intermediaries, and/or sourcing directly from cooperatives or smallholders.

Leverage Trader Relationships

Multinational

Indonesia's government-initiated processing capability development and the private sector processing investment is a very recent trend (within last 3 years) and can rapidly change the industry landscape. By processing domestically, more value stays in the country and within the cocoa sector. In theory, these value-added benefits should reach the farmer, though this is not the case. The farm gate price (price received by the farmer for cocoa) has not increased and actually decreased due to export tariff structures (T. Ryan, personal communication, February 20, 2014). The multinational processing companies are increasingly acquiring trading companies, are building infrastructure on-the-ground and hiring local staff. Thus, processors are getting closer to the cocoa source (smallholders) than ever before and there should be more opportunity for processors to cooperate with farmer groups. There is great opportunity for brands to collaborate with processors on strategies for engaging farmers on their cocoa sustainability requirements, and the product upgrading trends may enable more traceability capabilities and infrastructure.

Local

There are 9000 local traders and collectors that offer financing and other services to farmers. While it is valuable to reduce the number of layers between the cocoa smallholder and end-buyer, it will likely not be possible to do this for all farmers in all locations due to the remote nature of many farmers. Further, not every trader is manipulative and many provide valuable services to cocoa farmers (housing, pre-financing, food, bean fermenting). Chocolate manufacturers can identify the traders or collectors in which the farmers trust and leveraging the relationships that these local traders already have with the farmers and the services and training opportunities could be a key intervention point for brands to disseminate information and access to finance, etc. Chocolate manufacturers should not aim to eliminate all middlemen and rather keep the essential middlemen that are providing value to the chain.

Capability Building: Infrastructure, Technical & Business

Indonesian cocoa is characterized by low productivity and low and inconsistent bean quality which contributes to smallholder poverty. This stems from a general knowledge gap of appropriate farming techniques (particularly with fertilizer), business competences and of maintenance techniques. Through

knowledge transfer, technical assistance training and business training, brands have a significant opportunity and role to work with cocoa smallholders and other key players in the value chain to enable process (productivity) and functional (quality) upgrading and to ensure this is not achieved at the expense of quality and social/environmental considerations. Indonesian cocoa has among the highest production potential, so the opportunities for improvement are significant. Chocolate manufacturers can leverage the sustainability actors in the chain, as discussed above, in order to provide these materials, especially the emergence of the Cocoa Sustainability Partnership (CSP).

Chocolate manufacturers' voluntary sustainability targets are creating new market opportunities and challenges for Indonesian farmers. In order to meet these standards, VECO estimates that by 2020, over 25% of Sulawesi cocoa will need to meet sustainability and traceability requirements in order to be third-party certified (VECO, 2011). Currently, there is no widely-adopted traceability mechanism in the supply chain to separate bulk, fat beans from high quality beans and there is weak technical assistance infrastructure on the ground due to unsuccessful/limited government interventions. In order to meet demands for certification, Indonesian smallholders will need to build these capabilities within a limited legal framework for enforcement and technology. Chocolate brands can play a significant role in building these capabilities.

Access to Materials/Inputs

Another key driver of low productivity and low and inconsistent bean quality is smallholders' limited access to materials, including inputs (pesticides and fertilizer) and financial resources. Chocolate manufacturers can enable farmers' access to these materials directly with the support of local NGOs, develop local business solutions that provide these materials and/or partner with local governments to more effectively distribute or offer these materials. Manufacturers can leverage the production potential of Indonesian cocoa and the strong sustainability actors in the chain.

Market Incentive for Functional, Quality Upgrading

The Indonesian cocoa sector is market-based and relies on low quality and high volume beans. There is high demand for the bulk beans on the market and thus, there is currently little to no differentiation in place for ranges of quality. As such, actors in the chain do not have incentive to invest in bean quality upgrading capabilities. Manufacturers are not satisfied with inconsistent quality of cocoa beans, however they are continuing to source from Indonesia (Lusby & Panlibuton, 2006). Brands have a significant opportunity to change the market signal and create demand for higher and more consistent quality beans from Indonesia. This would require functional upgrading on behalf of the farmers, which is a significant undertaking. Indonesian farmers are "infinitely practical," higher quality beans require more labor and time, for which they must be compensated (T. Ryan, personal communication, February 20, 2014). Market signals by manufacturers can incentivize Indonesian cocoa value chain players to invest in high-quality bean production and cocoa farmers to ferment beans.

Further, the domestic growing consumer market in Indonesia and regional market in Asia means more sophisticated taste preferences. Asia has a more "discriminating consumer market" (Meyer & Panlibuton, 2004). We anticipate there will be a key demand for high-quality beans in the near future, which will motivate the government and manufacturers to incentivize cocoa producers to produce high quality and fermented beans and partially transition from unfermented beans. Additionally, the increase in domestic processing capabilities can increase demand for fermented and high quality beans. If farmers conduct fermenting, rather than the traders or processors, smallholders can directly capture

more value. Manufacturers can have a first-mover advantage in Indonesia by developing relationships with value chain players, incentivizing quality cocoa bean production and as a result, be ahead of the demand curve.

Government & Industry Group Alignment

The government aims to triple the production of cocoa beans by 2020 (Taylor, 2013) but has not specified how this process upgrading will be achieved. Support from government has seen little success and now national and local governments, NGOs and private sector have recognized that production goals of cocoa farming in Indonesia are likely not possible without addressing environmental and social considerations. The government encourages private/public partnerships to address these challenges. However, there is still no unified approach among the many interested actors for environmental and social upgrading. The Cocoa Sustainability Partnership has significant potential to be a key institution to coordinate and align government, NGO and private sector work in this space.

Further, environmental degradation and deforestation threats have led to the government establishing environmental conservation programs and initiatives to combat natural resource depletion. The government is in pursuit of being a low-carbon economy with a commitment to reduce GHG emissions by 26% by 2020 (Faizal, 2011). This can impact the agriculture industry and particularly the cocoa sector which can be a driver of deforestation as there are still virgin lands with good soil properties for cocoa production, but also a carbon sink if properly cultivated. Brands can capitalize on government objectives that influence the agriculture industry and the government's interest in public-private partnerships, in order to address environmental issues. Particularly, brands can target agroforestry initiatives through a landscape-level approach by capitalizing on or helping to develop payment for ecosystem services schemes.

IV. Ghana

The Republic of Ghana (Ghana) is a country in West Africa and has one of the largest and fastest growing economies in Africa. A major industry in Ghana is in the natural resource sector, including gold and diamond production, natural gas and oil production, and cocoa production. (Marketline 2013). Exports account for 30% of Ghana's GDP of which agriculture accounts for nearly half of exports (Ghana Investment Promotion Centre, 2014).

I. Cocoa Production Overview

Ghana is the second largest cocoa producer accounting for 15% of global production and is the second largest exporter of cocoa beans (Asante-Poku & Angelucci, 2013). Cocoa is considered the "backbone of Ghana's economy" (Asamoah et al, 2012) and is the most important agriculture crop, generating 8.2% of Ghana's Gross Domestic Product and 30% of total export value. Nearly 6 million people, representing 25-30% of the population, rely on the cocoa sector for their livelihoods (Asante & Angelucci, 2013).

Cocoa exports are mostly in the form of fermented cocoa beans. Ghanaian cocoa has high quality premium over other origins (Barrientos 2013) and is characterized with both high fat content and flavor profile which are desired on the market and required for high-quality cocoa food and beauty products. These attributes offer a competitive advantage among other producing origins (Asamoah et al, 2012) particularly compared to its neighboring country, Côte d'Ivoire. Ghana cocoa beans are considered the "world's standard" against which ordinary, bulk cocoa is measured (Ashitey, 2012). Ghana has societies or village levels and is organized into cocoa growing districts of which there are 67 (Lindt & Sprüngli, 2013).

The Ghanaian government controls the cocoa marketing system, including the price of cocoa beans, and is the only producing country that has not liberalized the sector (Asante & Angelucci, 2013). The Ghana Cocoa Board (COCOBOD), which operates under the Ministry of Finance, regulates and monitors all cocoa industry operations (Ashitey, 2012). However, some characterize the Ghanaian cocoa as a "transitional economy" as part of the industry is being liberalized, particularly internal marketing, processing, and other supporting services like farm inputs. However, export marketing and cocoa purchasing is completely controlled by the state and shows no signs of changing (Asante & Angelucci, 2013).

II. Input-Output Structure

The Ghana cocoa-chocolate value chain is very complex; however there are three main players. These are the cocoa smallholders, Licensed Buying Companies and COCOBOD. See Figure 11 for a Ghanaian cocoa-chocolate value chain schematic constructed based on our research. Each segment is described below.

Smallholders

Ghana cocoa production is dominated by smallholder farming which accounts for 90% of total production (Asamoah et al, 2012). There are 720,000 smallholder farms, which are generally family-run (Barrientos 2013) and have an average farm size of 2 hectares or less (Daniels et al 2012). Cocoa accounts for nearly 70% of smallholder total income (Asante & Angelucci, 2013). While farming is dominated by men, 25% of farmers are estimated to be women (Barrientos 2013). The average age of a

cocoa farmer is in the mid 50's (Asante & Angelucci, 2013) and the life expectancy is 65 years old (Marketline 2013).

Cocoa is grown predominantly under “selective shade,” and most often farmers employ mild or no shade/full-sun methods. Slash and burn planting techniques are common followed by cocoa planting alongside fruit trees (Daniels, 2006). Farmers ferment the cocoa beans on site and dry the beans, usually using sun-drying techniques on bamboo mats (Asante & Angelucci, 2013). Smallholders generally produce hybrid cocoa varieties which require more farm maintenance and care (Asante & Angelucci, 2013). However, farmers still use traditional methods of farming and often have inadequate access to farm-level services offered by the government for productivity enhancement (e.g. government subsidized fertilizer). They are also generally unaware of these types of programs (Barrientos, 2013). As a result, productivity is low at only 40% of potential production output.

The government sets the price of cocoa so there is no competition among farmers. The aim is for farmers to receive 70% of the current Free On Board (FOB) price which is determined every October (Ashitey, 2012), though price information does not necessarily trickle-down to the farmer. The majority of cocoa farmers are not organized into formal cooperatives and rather sell beans at central buying centers that are established by Licensed Buying Companies (LBCs) near the production area (LBCs are discussed below) (Daniels et al, 2012).

Licensed Buying companies (LBCs)

All cocoa beans produced in Ghana must be sold to Licensed Buying Companies (LBCs). LBCs are government-licensed organizations that are allowed to purchase cocoa and are then required to sell the cocoa to COCOBOD (Asamoah et al, 2012). As of 2011, there were 26 LBCs, two of which were international traders, Olam of Singapore and Armajaro of the UK. Only one LBC is a smallholder cooperative which is also the only Fairtrade LBC (Kuapa Kokoo Ltd, to be discussed later in this section). The largest LBC is Produce Buying Company, Ltd. (PBC) which is required by the government to purchase cocoa directly from smallholders throughout Ghana. PBC purchases cocoa from remote growing regions and consequently provides infrastructure support to farming communities including roads and electricity and water utility access (Barrientos & Asenso-Okyere, 2008). LBCs are the only entities allowed to sell cocoa to COCOBOD. Most other LBCs purchase cocoa through the buying centers as discussed, in the cocoa production areas. All LBCs are required to pay at least the government-established minimum cocoa price to farmers (Ashitey, 2012).

Unrecognized Middlemen

According to Asamoah et al. (2012), there are unrecognized middlemen in the Ghanaian cocoa-chocolate value chain. These middlemen can be entrepreneurs or cocoa farmers. They purchase cocoa from individual farmers but can only sell to the LBCs in Ghana as unlicensed companies are not legally permitted to sell to COCOBOD. When the fixed cocoa prices in Ghana are lower than neighboring countries, middlemen may look for higher returns elsewhere and smuggle cocoa out of Ghana (Asamoah et al, 2012). Conversely, when the fixed prices are high in Ghana relative to neighboring countries, cocoa may be smuggled into Ghana from unrecognized middlemen.

Exporter/Buyer- COCOBOD & CMC

All cocoa produced in Ghana must be sold to the government-owned Cocoa Marketing Company (CMC) which is a subsidiary of COCOBOD. The CMC is responsible for all sale and export of Ghanaian cocoa

beans and also exports some cocoa products. The CMC purchases and sells cocoa at a fixed price where it is either exported or sold to domestic processors (Ashitey, 2012). As discussed, in reality some cocoa is smuggled outside of Ghana, and these numbers are unknown (Asamoah et al, 2012). COCOBOD is the only cocoa exporter in Ghana, and thus 'holds an external market monopoly' (Daniels et al 2012). COCOBOD has different divisions that manage and facilitate cocoa producing and buying activities throughout the value chain. Notably, the Quality Control Division (QCD) of COCOBOD actively manages quality assurance and has a rigorous quality-control process and traceability system to ensure an adequate bean quality. The QCD also develops value-adding activities like education and training programs for LBCs regarding quality concerns and issues relevant to Ghana production (Barrientos & Asenso-Okeyere 2008).

Processors- Domestic & International

Ghana processes 40% of production domestically (Asamoah et al, 2012) through four main cocoa processing companies (Ashitey, 2012) who produce products including liquor, butter and powder. The remaining 60% of cocoa is exported by COCOBOD for international processing. The main markets for cocoa exports are the European Union and Japan (Asante & Angelucci, 2013).

Manufacturers – Domestic & International

Only 10% of processed cocoa stays in the country to be manufactured into chocolate by roughly 10 domestic chocolate manufacturers. The remaining 90% of processed cocoa is exported to international manufacturers (Ashitey, 2012). Major markets for Ghanaian cocoa products are the European Union, Japan and the United States.

III. Sustainable Cocoa Value Chain Actors

Kuapa Kokoo: Kuapa Kokoo is the only cocoa cooperative LBC and is the only certified Fairtrade LBC. Kuapa Kokoo has 65,000 members representing 1400 village societies and produces 5% of Ghana's cocoa. The cooperative has invested the "fairtrade premium in developing farming communities and farming skills – focusing particularly on water, health, education and sanitation to improve standards of living as well as child labor issues." Kuapa Kokoo also develops climate change adaptation initiatives and environmental projects aimed to increase productivity (The Divine Story, 2013).

Source Trust: An NGO established by Armajaro Trading Ltd, Source Trust was established to "help farmers improve their livelihoods through better crop yields and quality, achieved through sustainable farming practices" (Source Trust 2013). Source Trust is an emerging player in Ghana, partnering with Lindt, Ferrero, Meiji and Hershey's on sustainability cocoa sourcing projects and traceability capability building in the Ghanaian cocoa value chain. The NGO creates Farmer Development Centres which work directly with cocoa farmers in Armajaro buying centers to address eight key areas: farming training and extension, seedling nurseries and planting materials, development of premium certified cocoa, village resource centers, farm inputs on credit, malaria prevention, carbon credit, and community infrastructure. The NGO is funded by premiums paid by chocolate manufacturers for traceable cocoa beans (Source Trust 2013).

World Cocoa Foundation: The WCF is a major convening body that aims to streamline company interventions and align cocoa work in West Africa, through three of their flagship programs, which not only train farmers, but are working towards "enhancing education, investing in families, and improving community health and welfare" (WCF Programs 2013). These include: the Cocoa Livelihoods Program,

WCF African Cocoa Initiative, and WCF ECHOES which will be discussed in the Chapter 5: Benchmarking. Ghana is a priority country for each of these programs. Most major chocolate brands are involved in the three flagship WCF projects and in particular are working with WCF and the Ghanaian government on their National Plan for the Elimination of the Worst Forms of Child Labor (WFCL) (WCF Programs 2013).

IDH: As discussed in the Indonesia GVC section, IDH is an NGO that establishes and coordinates “public-private, precompetitive market transformation programs in 18 sectors” including cocoa (About IDH, 2013). The organization has a Euro 130 million grant which is co-funded by the Dutch, Swiss and Danish Governments. The Dutch market is committed to 100% certified cocoa by 2025, thus IDH has established a 5 year (2008-2015), Euro 20 million program in key producing origins. Ghana is one of the origins and partners including Nestlé, Mars, Heinz, Barry-Callebaut, ADM, and Armajaro representing approximately 40% of global cocoa processing and 40% of global chocolate manufacturing as well as local NGOs and governments (About IDH, 2013).

Bill & Melinda Gates Foundation: The foundation has sponsored numerous cocoa projects in Ghana aimed at improving the livelihoods of cocoa growing communities. These include the Commercial Strengthening of Smallholder Cocoa Production Program (CSSCPP) from 2009-2013 and multiple projects through a \$23 million donation in 2009 to the WCF. WCF identifies implementation partners for work on-the-ground (TechnoServe Press Releases 2009).

National Government

As discussed, the government is heavily involved in the cocoa sector and as such has more recently begun spearheading projects to improve productivity and thus the economic livelihoods of farmers. The government established the Cocoa Research Institute of Ghana which conducts cocoa production agronomic research including higher yield hybrid cocoa trees and pest/disease control (Ashitey, 2012). There are also government led projects to improve road infrastructure, rehabilitation and replanting of old cocoa trees, fertilizer, improved farming practice outreach, and higher prices for farmers (Ashitey, 2012). A majority of the Ghana government investments, however, have a focus on production and not necessarily holistic farm management. A significant social initiative is the government’s National Plan of Action for the Elimination of the Worst Forms of Child Labor (WFCL) which includes COCOBOD and meets four times a year. The government has established The Children’s Act, a Hazardous Child Labor Framework, piloted the Ghana Child Labor Monitoring System, and expanded the Livelihood Empowerment Against Poverty (LEAP), and distributes a child labor survey each year. There has been progress but large gaps still remain as there is insufficient funding to monitor and enforce (Findings, 2012).

IV. Institutional Context

Ghana is considered as having a stable government and a transitional economy (Asamoah et al, 2012) as part of the country’s industry continues to be liberalized. The government is very involved in the sector, as discussed above and the cocoa industry is subject to policy interventions by the Ghanaian government which include subsidies for farming inputs, export and import taxes and licensing provisions (Asante & Angelucci, 2013).

There are grave social conditions ubiquitous across Ghana which affect the Ghanaian cocoa sector. Most notable are public health concerns, basic community needs such as education and access to clean water and child labor. Lack of adequate government funding means many social projects and regulatory processes are ineffective to address these social challenges (Findings 2012.)

There is a general trend among Ghanaian small-scale producers to move out of agriculture which is not unique to cocoa. Youth do not see cocoa as an attractive career, moving to urban areas for higher earning and more modern careers as they associate cocoa farming with low status and a last resort. Older farmers are disinclined to invest in farm programs and productivity gains because the risks may not be worth the reward given their age.

V. Governance

The Ghanaian cocoa industry is governed by monopolistic structures for both cocoa purchasing (through setting an annual cocoa price and being the only permitted end-purchaser of cocoa) and cocoa exporting. Other parts of the value chain are liberalized; however, COCOBOD closely monitors all activities within the value chain including quality control, inputs distribution and testing, cocoa agronomy research and capability building services. While the internal marketing activities are liberalized, the government oversees the purchasing activities of LBCs and has licensing and registration requirements (Ashitey, 2012).

VI. Geographical Scope

For the purpose of this report, the production of cocoa is contained within Ghana and we do not consider imported cocoa or cocoa that is smuggled into the country. There are a number of domestic and multinational actors involved in the marketing segment. Some multinational actors have a physical presence in Ghana while others operate outside of Ghana. This report does not meticulously examine the activity and relationships outside of Ghana (e.g. processed cocoa product trade among international processors and manufacturers) and rather high-level, observations of relevance are noted).

VII. Upgrading

The government has allowed privatization of parts of the cocoa sector and more processing facilities are entering Ghana. As such, the government has made efforts to encourage product upgrading through subsidizing cocoa sold to these domestic processors (20% subsidy) in order for more value to be captured within the country and for job creation. It is unclear if this is effective or sustainable. In an effort to achieve process upgrading, the government has offered subsidized inputs but this has not been effective in boosting production as the farming practices are ineffective and inputs are not widely distributed widely (Boomsma & Laven, 2012). As discussed, much of the work from the government focuses on productivity boosts and does not take into account holistic or sustainable farm management. Private actors (manufacturers and processors) are partnering with NGOs in the sector to address economic, social and environmental upgrading but there does not appear to be coordination among actors and much work still needs to be done.

VIII. Additional Considerations Specific to Ghanaian Cocoa

Economic Considerations

- **Production Potential:** The sector has reached potential for virgin lands as all land is essentially exhausted (Barrientos 2013), but yield can almost be doubled. Thus, the focus has been on productivity gains (Asamoah et al, 2012).
- **Low Productivity:** Yield is 40% less than Côte d'Ivoire due to aged cocoa trees, pests (black pod), and limited investment (Asante & Angelucci, 2013).
- **Implications COCOBOD control:** The COCOBOD quality standards, grading mechanism and control systems has ensured quality and kept the Ghanaian cocoa industry stable, though the industry does not benefit from positive externalities of a market-based system, including

<p>innovation and professionalism (Daniels et al, 2012).</p> <ul style="list-style-type: none"> • <u>Price Fixing</u>: At times, this could be benefit farmers since they are protected from the volatility in the market. This could also be negative since farmers do not benefit from high prices. • <u>Low Quality CDI cocoa smuggled into Country</u>: When fixed prices are higher than neighboring countries, lower-quality Côte d'Ivoire cocoa is sometimes smuggled into Ghana and mixed with the higher quality cocoa (Ashitey, 2012). • <u>LBC Constraints</u>: LBCs have reported challenges with access to farming communities due to lack of roads, CMC payment delays and COCOBOD export wait time at the port (Asamoah et al, 2012).
<p>Environmental Considerations</p> <ul style="list-style-type: none"> • <u>Deforestation</u>: Cocoa has caused significant deforestation in Ghana. While now the country is actively managing a buffer zone to a protect national park, cocoa still to threatens the few lasting stands of forest (Daniels, 2006). • <u>Selective shade farming</u> has some environmental concerns versus full shade, as discussed in Chapter 1.
<p>Social Considerations</p> <ul style="list-style-type: none"> • <u>Child and slave labor</u> was a wake-up call for the cocoa sector in West Africa, including Ghana. In the 2008-2009 season nearly 925,000 children were identified as working in the cocoa sector and more than half reported dangerous working activities resulting in injury. Child labor is a very high-profile issue that the government is actively trying to monitor and eliminate, though it is a complex and difficult problem and there are criticisms of the country's approach (Findings, 2013). Adult, slave labor is also a serious concern in the sector. • <u>Health & Social risks</u>- Social development and human health challenges in Ghana are similar to those characterized by many communities of Sub-Saharan Africa including malaria, HIV/AIDS, access to education, lack of basic amenities including clean drinking water, etc. (WCF Programs, 2013).

VIII. Key Themes and Intervention Points for Brands

According to our research, the key issues that must be addressed in order to maintain a competitive Ghanaian cocoa sector and enable cocoa farmers to make a viable living are an **increase in productivity**, **cocoa price differentiation** and **smallholder economic constraints**. These issues can directly enable economic viability for cocoa farmers and as discussed in Chapter 1, many social and environmental conditions are symptoms of impoverished communities. While there are multiple players along the value chain that must address these, there are **key intervention points** for chocolate manufactures and brands to address these issues.

Below, we highlight our observations and insights from research which can support or be of influence to chocolate manufacturers. Figure 12 highlights the key constraints and opportunities discussed in the preceding section and the respective intervention points we have identified for chocolate manufacturers.

Leverage Existing Quality Attributes – Natural Bean Quality & COCOBOD Quality Control System

Manufacturers can capitalize on the natural high-quality and flavor of Ghana cocoa and its current quality control system. Industry experts have claimed that Ghana has the “best-in-class system of quality control” which tracks and grades cocoa from the village to export (Daniels et al., 2012). While work would need to be done to establish traceability systems from the farm to the village LBCs, this existing

infrastructure (both hard and soft) could be instrumental in enabling manufacturers to divert the highest quality beans and/or sustainably produced beans for their products. This would introduce farmers to reach high-value markets (sustainable cocoa or fine flavor cocoa). Quality control is one of the most costly activities in the Ghana value chain which is currently absorbed by the government. Manufacturers can alleviate some of this cost to incentivize the government to build-out and enhance the system.

Market Incentive for Smallholder Upgrading

COCOBOD will only accept a certain level of quality and as such, there is a quality “floor” for cocoa. However, the government-fixed cocoa price does not account for varying cocoa quality above that floor, and as such, there is no incentive for farmers to invest in functional, quality upgrading. Additionally, because there is no competition among the value chain actors, there are limited drivers for farmers to innovate or to run their farm enterprise in an efficient or professional manner. Conversely, NGOs and other players are encouraging innovation and entrepreneurship in the supply chain and working to enable farmers to essentially manage their own business enterprises. This can conflict with the government’s agenda to control the sector. There needs to be alignment with these strategies in order to get the government onboard with encouraging entrepreneurship and innovation within their existing controlled system. Chocolate manufacturers can collaborate with the government and value chain actors to strike this balance. There also needs to be market demand for differentiated cocoa for both farmers and the government to develop a segregation system. Brands can play a critical role in creating this demand and market-incentive for high quality or differentiated cocoa.

Market Access

Many LBCs are not transparent and unidentified middlemen can complicate the chain and according to numerous research projects, farmers have indicated that LBCs or unrecognized middlemen organize unfair dealings (Barrientos, 2008). For example, some buying agents have been known to use inaccurate scales for weighing cocoa. Brands can help farmers organize into groups and facilitate development of a COCOBOD-recognized cooperative LBC. This would enable farmers to bypass traditional LBCs and capture more value per unit sold (Asamoah et al., 2012).

Inhumane Labor Interventions

Since the child labor scandal broke out, there has essentially been a huge call from the Ghanaian government for collaboration, as the need for an organized response of industry players has been recognized. Collaboration with industry players, NGOs and private sector is a clear strategy for Ghana to address child labor, adult forced labor and human trafficking. Additionally, there is an increasing market demand for high-quality cocoa and the market does not only include flavor and fat content when characterizing “quality.” Social issues and responsible sourcing are increasingly being lumped in the consumer’s impression of quality. This is a good leverage point for chocolate manufacturers to partner with the government.

Access to Materials/Inputs – Particularly Working Capital

Access to working capital is a significant limitation for Ghanaian cocoa farmers and farming is generally financed through their own sources or through support of family. This inhibits the farmer’s ability to hire labor and may lead to child or forced labor. Farmers rely heavily on cocoa for the main source of income and need to diversify their income in order to have working capital to farm. Manufacturers could help provide this access, which would also address the youth impressions of cocoa farming as a last resort.

Capability Building: Infrastructure, Technical & Business

Low cocoa yield is a major constraint for Ghana. The government has invested in programs intended to improve production but many farmers still lack the skills required to see production boosts. Through knowledge transfer, technical assistance training and business training, chocolate manufacturers and brands have a significant opportunity and role to work with cocoa smallholders and other key players in the value chain to enable process (productivity) and functional (quality) upgrading and to ensure this is not achieved at the expense of quality and social/environmental considerations.

Community Development/Empowerment

In addition to agronomic and labor challenges discussed above, Ghanaian cocoa farmers face serious challenges at the community level. The country is characterized by very low adult literacy, health risks like malaria and HIV/AIDS, access to education, and extreme poverty. Chocolate manufacturers should address these challenges at a community-level in order to ensure thriving communities that can support cocoa production (WCF Programs, 2013).

V. Côte d'Ivoire

Despite suffering from a decade of political turmoil culminating in civil war in 2002-03 and post-electoral crisis in 2011, Côte d'Ivoire is the largest cocoa producer and exporter in the world, as well as key producer and exporter of cashews, coffee, rubber, and palm oil. 70% of the population depend on agriculture for their livelihoods, but the sector overall suffers from low yields and vulnerable incomes subject to international commodity price fluctuations. Key challenges include the need to revitalize the agricultural sector and addressing youth unemployment (persons under 40), which has reached 25% in recent years (Côte d'Ivoire Overview, 2013).

I. Cocoa Production Overview

Côte d'Ivoire is the world's largest producer of cocoa, representing 40% of global cocoa exports. According to the Conseil du Café-Cacao (CCC), 1,400,000 tonnes of cocoa beans were produced in 2011-12 (Agritrade, 2012a). Cocoa accounts for 20% of the country's GDP. Majority of the exports are to The Netherlands and the United States. Cocoa, along with coffee, fruit and vegetables, is grown in the southern tropical rainforest region of the country. Côte d'Ivoire ranks third largest in cocoa processing volume with 380,000 tonnes of grindings of cocoa beans during 2011-12, which is approximately 9.5% of global volume (Cocoa Barometer 2009, 2009). (Cocoa Sustainability in Côte d'Ivoire – Memorandum of Understanding [Cocoa Sustainability MOU], 2010).

II. Input-Output Structure:

80-85% of the cocoa trade in Côte d'Ivoire takes place through actors who are not cooperatives (Fair Labor Association [FLA], 2012). Most cocoa from the farm are sold to the “unorganized sector” of local traders, *traitants* and *pisteurs*, who then sell to exporters. While only licensed actors can sell cocoa to exporters, in practice, any party can buy and sell from anyone. The instability of this cocoa supply chain adds to the challenge of transparency and monitoring efforts (Fair Labor Association, 2012). See Figure 13 for the cocoa-chocolate value chain schematic for Côte d'Ivoire constructed based on our research. Each segment is described below.

Smallholder farmers

Cocoa production in Côte d'Ivoire is dominated by approximately 800,000 smallholder farmers, who own between 1.5-5 hectares of land (Abbott, 2013a). The cocoa crop is harvested every two weeks, followed by fermentation on the farm. The farmers then take the beans for drying in the village. Main issues smallholder farmers face include fluctuating cocoa prices and lack of infrastructure in the villages. Farmers are often forced to sell beans at a lower price to *pisteurs* instead of to cooperatives because of farmers' need for immediate cash payments (FLA, 2012).

Pisteurs

Pisteurs are contracted seasonally by *traitants*, SARLs or cooperatives to procure beans from farmers on a regular basis. Usually they procure beans from a defined geographic region though there is flexibility to change villages from season to season (FLA, 2012). They work on commission only, keeping the difference between the price paid to farmers and the amount received from their contractors. *Pisteurs* focus on volume rather than quality of beans. For farmers with whom they have a stable relationship, *pisteurs* sometimes help with financing health costs or school kits. Immediate cash receipts is another advantage to a farmer of selling to a *pisteur*. Some downsides to the farmer include lower prices, as

pisteurs and *traitants* typically quotes prices without international market pricing information or a written record of the sale (FLA, 2012).

Traitants/SARLS

Entrepreneurs licensed by CGFCC, Côte d'Ivoire's cocoa and coffee body, *traitants* work on a larger scale than *pisteurs*. *Traitants* source beans through *pisteurs* and sell them to exporters. SARLS are registered companies who trade cocoa beans. According to experts, SARLS focus mostly on quantity rather than quality. Exporters with established relationships with a *traitant* may sometimes help providing pre-financing to procure beans. *Pisteurs* and *Traitants* are able to offer farmers immediate cash payments because they are financed by foreign-owned exporters who are not allowed to purchase beans directly from farmers.

Cooperatives

As previously mentioned, 80-85% of the cocoa trade in Côte d'Ivoire takes place outside organized cooperatives (FLA, 2012). A cooperative can be established by a group of at least seven founding farmers or *traitants*. The members of a cooperative benefit from lower taxes and access to exporters. Some traders buy directly from cooperatives. According to the Fair Labor Association (2012), certain chocolate manufacturers select cooperatives partly based on meeting sustainability criteria; most of these cooperatives are either already certified by a third party such as Fairtrade, UTZ, Rainforest Alliance or in the process of obtaining certification. Suppliers usually provide training on sustainable agricultural practices, child labor, and health and safety issues.

In contrast to the immediate cash transactions with *pisteurs*, cooperatives face lack of liquidity and therefore the time between bean delivery and payment can last up to two weeks at cooperatives. While some cooperatives are pre-financed by certain exporters, cooperatives may in some cases deliver beans to other cooperatives or *traitants* instead if they can fetch a higher price at the other cooperative. The current unstable supply chain means that it is not feasible for exporters to purchase 100% of cocoa solely through cooperatives (FLA, 2012).

Exporters

By law, exporters are not allowed to purchase beans directly from farmers. Only licensed *traitants* are authorized to sell cocoa to exporters. In practice, some exporters ignore the laws and buy directly from farmers. For example, ED&F Man buys from other wholesalers, cooperatives and occasionally from farmers directly (Oxfam, 2009). Exporters have to transport the coffee beans to San Pedro or Abidjan by truck, though recently some exporters have set up buying centers closer to the farmers and cooperatives. As of 2008 data, eight exporters represented 73% of the annual cocoa export via the main ports, Abidjan and San Pedro (Oxfam, 2009).

International Exporters/Processors

Foreign multinationals ADM, Cargill, and Barry Callebaut dominate Côte d'Ivoire's processing (or grinding) market, trading more than 70% of total volume (Cocoa Barometer, 2009). Incentivized by government tax breaks, many of these multinational processors had heavily invested in expanding processing facilities in Côte d'Ivoire, however, with the recent abolishment of the 20-year tax break that led to semi-finished cocoa products being "taxed based on equivalent weight in beans rather than as a semi-finished product" (Cargill to keep grinding in Ivory Coast, 2013), some exporters threatened to reduce their processing facilities, though Cargill has agreed to stay after some speculation otherwise.

Other stakeholders:

Le Conseil du Café-Cacao (CCC)

Established in 2012, the CCC is a central body with representation from all stakeholders; they are responsible for managing, regulating and maintaining price stability of Ivorian cocoa (Agritrade, 2012a). It is not a marketing board. The CCC “serves to ensure the quality of export products, boost orchard productivity and also promote good governance in the coffee–cocoa sector” (Agritrade, 2012a).

III. Sustainable Cocoa Value Chain Actors

Similar to Ghana, many of the sustainable cocoa value chain actors in Côte d’Ivoire work through public-private partnerships. According to a study¹ by the Fair Labor Association (2012) on Nestlé’s cocoa supply chain in Côte d’Ivoire, the majority of stakeholders are focused on the low-hanging fruit of eliminating “the worst forms of child labor rather than on aspects such as forced labor, wages and benefits, and health and safety even though they could have a causal effect on the presence of child labor” (FLA, 2012). We believe this finding is representative of the work of sustainable value chain actors in Côte d’Ivoire overall.

International Cocoa Initiative (ICI)

ICI is a multi-stakeholder partnership set up between NGOs, cocoa processors, trade unions, chocolate manufacturers to ensure ethical labor practices and standards in cocoa producing countries including Côte d’Ivoire (International Cocoa Initiative, 2010).

Government-Harkin-Engel Protocol

Signed in September 2001 by eight of the top companies, the Harkin-Engel Protocol is an international agreement with the goal of promoting voluntary standards “to eliminate the worst forms of child labor (WFCL)” (International Cocoa Initiative, 2010) in the cocoa production and processing sectors in Côte d’Ivoire and Ghana – targeting reduction of 70% by 2020 (International Cocoa Initiative, 2010). The Protocol has increased engagement and awareness but critics say it has been insufficient in enacting effective change (Fairtrade and Cocoa Commodity Briefing, Fairtrade Foundation, 2011).

Kavokiva Cooperative

Similar to the KuapaKoko cooperative in Ghana, the Kavokiva cooperative is Fairtrade certified and has been tackling child labor for many years. According to the Fairtrade Foundation Fairtrade and Cocoa Commodity Briefing (2011), “programmes to support the education of children have been supplemented with establishing taskforces to train members to identify child labour and take appropriate action.”

World Cocoa Foundation (WCF) - Cocoa Livelihoods Program in West Africa

As discussed in the Ghana GVC Section, the WCF is a major convening body that aims to streamline company interventions and align cocoa work in West Africa, through three of their flagship programs, which not only train farmers, but are working towards “enhancing education, investing in families, and improving community health and welfare” (WCF Programs, 2013). These include: the Cocoa Livelihoods Program, WCF African Cocoa Initiative, and WCF ECHOES.

¹ The FLA assessment team visited with governmental actors, civil society organizations and local associations in January 2012. In addition, “the team visited 87 farms, interviewed a representative sample of 466 men, women and children on the farms” (FLA, 2012) in Nestlé’s supply chain. Over 500 interviews were conducted over the course of three field visits.

With support from the Bill and Melinda Gates Foundation, the Cocoa Livelihoods Program in West Africa is aimed at doubling the productivity of 200,000 small, family-owned cocoa farmers in West Africa (Houston & Wyer, 2012).

WCF ECHOES

Funded by USAID and over a dozen corporate members, the program seeks to strengthen cocoa-producing communities in Côte d'Ivoire and Ghana by offering literacy training, vocational training for youth. WCF ECHOES which will be discussed further in the Chapter 5: Benchmarking.

TechnoServe

TechnoServe is a NGO that “works with enterprising people in the developing world to build competitive farms, businesses and industries” (TechnoServe, 2014). TechnoServe works with the public and private sectors as key implementer for the Cocoa Livelihoods Program, African Cocoa Initiative, and Coop Academy for training cocoa cooperative executives (Côte d'Ivoire Overview, 2013).

ANADER (l'Agence Nationale d'Appui au Développement Rural)

The Côte d'Ivoire's agricultural extension agency conducts farmer training programs for Nestlé, and Mondelez (FLA, 2012).

IV. Institutional Context

Brief overview of recent history:

Caisse de Stabilisation et de Soutien des Prix Agricoles (CAISTAB) was established in 1955, to set and regulate coffee and cocoa prices (Gilbert, 2009). Disengagement of the state later occurred from 1995-1999 as part of the World Bank and IMF's liberalization process (UNCTAD Cocoa Study, 2008). CAISTAB lost its monopoly in purchasing during 1995-96 crop season when exporters bought beans directly from farmers. Complete liberalization of the cocoa sector came in 1999. Direct export sales to CAISTAB are capped at 15% of total production; the rest were sold indirectly by CAISTAB via approved exporters (Gilbert, 2009).

Tensions over tax threatened grinders to relocate

In 2011-2012, cocoa farmers and exporters called to end the 20-year-old tax break granted to local processors in the export of cocoa beans (Agritrade, 2012a). The tax was initially intended only for 5 years and only intended for exports during the mid-crop season from April to September, with the goal of creating jobs and increasing grinding capacity, but it ended up being applied throughout the year. Tax rebate of (€0.114) per kilo of cocoa represented a loss in government revenue of (€53–61 million) per year. (Agritrade, 2012a). These are funds that could arguably be redeployed to support growers and plantations. Grinders threatened to relocate their facilities to Ghana if the subsidy was removed. The subsidy was eventually abolished but local grinders did not relocate (Agritrade, 2012a).

V. Governance:

The global cocoa-chocolate chain is a buyer-driven chain in which producers are price-takers. Unlike in Ghana, however, there is limited government supervision of the cocoa sector in Côte d'Ivoire. Marketing and price setting is left to the private sector. Prices are set at the beginning of the season and served as upper and lower limit guidelines. In contrast, Ghana Cocoa Board continues to govern (state maintained control of exports but private operators allowed to purchase from smallholders at a price set by state).

The CCC's role in governance is by way of initiating new reforms to boost the "quality of export products, boost orchard productivity and also promote good governance" (Agritrade, 2012a) in the sector.

Niels Fold argues that the dynamics within the chain can be best understood by examining the containment strategies of two segments of lead firms: grinders/processors, and branders (chocolate manufacturers), and their efforts to expand their position in the global markets and among suppliers. (Folds, 2002).

Grinders:

As mentioned in the Geographic Scope section, foreign multinationals establishing grinding facilities in Côte d'Ivoire further strengthens the dominance of international traders in the local market; it gives them higher share of global capacity and increased political power. This resulted in exporters losing power to grinders (Folds, 2002). An example of a "containment" strategy is Barry Callebaut (BC) engaging farmer cooperatives in advanced fermentation training (Agritrade, 2012a). BC is one of the many companies engaging in these trainings.

Branders:

There has been a trend of chocolate manufacturers "[reducing] their grinding activities and [outsourcing] lower-profit liquor, cocoa butter, and even standard (intermediate) chocolate production to large grinding companies." (Folds, 2002) There are, however, some exceptions to this trend. Smaller chocolate companies like family-owned Ferrero concerned about the commercial secrecy of their recipes would likely invest in in-house grinding facilities want to keep grinding in-house.

VI. Geographic Scope:

For the purpose of this report, the production of cocoa is contained within Côte d'Ivoire and we do not consider imported cocoa. This report does not meticulously examine the activity and relationships outside of Côte d'Ivoire (e.g. processed cocoa product trade among international processors and manufacturers) and rather high-level, observations of relevance are noted).

Backward integration of grinders into the origin

Most cocoa from Côte d'Ivoire is exported to Europe, namely the Netherlands and the United States. As a result, West African producers have become highly dependent on the changing demands of the European chocolate industry (Ponte, 2002). Liberalization of the cocoa market in Côte d'Ivoire has also led to the trend of European grinders investing in Côte d'Ivoire. In the last 20 years, a third of the world's processing has taken place at the origins of cocoa sourcing. West Africa's share of grindings have increased dramatically, especially in Côte d'Ivoire, and in manufacturing facilities owned by the large European grinders (Folds, 2001).

Some of the consequences of this increase in volume include eradication of price premiums previously commanded by West African cocoa beans due to decrease in quality, and increased pressure to smallholder farmers to maintain price competitiveness (See Table 5).

Consolidation of exporters

Two main factors driving consolidation of exporters are: decreased access to finance and changing economies of scale. With liberalization of the Côte d'Ivoire cocoa trade in the 1990s, the value of personal business connections, for example exporters offering pre-financing to local suppliers have

eroded; upstream integration by resource-rich grinding companies has accelerated the concentration of the exporters and grinding segment. Only the largest most international exporters survived.

Access to finance: With liberalization, private commercial banks raised their credit conditions making it more difficult for local exporters to take on financing risk for the now bulk volume of cocoa trade. Local exporters are at a disadvantage to foreign grinding companies.

Economies of scale: In the 1990s, overseas transport of cocoa has benefited from the shift to bulk shipment and flat storage, resulting in cost-savings in large scale bean processing. These cost savings reinforced the competitive position of foreign MNCs, creating unintended consequences of bulk trading, and a decline in quality of beans

VII. Upgrading

Since the liberalization of the cocoa market in 1999, there has been a trend of increasing processing of cocoa beans into higher value products such as cocoa powder, cocoa butter and paste. Thanks to government tax breaks, foreign-owned grinders have been able to invest heavily in expanding processing facilities in Côte d’Ivoire (Abbott, “Distortions to Agricultural Incentives”). In Côte d’Ivoire EU import policies are also favorable to encouraging the import of processed cocoa from West Africa, as processed cocoa from Côte d’Ivoire can enter the EU tax-free. (Cocoa Barometer, 2009). ADM and Cargill plant managers argue that the quality of cocoa products from West Africa are as European products.

VIII. Additional Considerations Specific to Ivoirian Cocoa

Economic Considerations

- Low Productivity and Lack of Investment: Aging cocoa trees leading to declining productivity; no investment in cocoa tree renewal since 1980s (Agritrade, 2012a).
- Low Quality: The intense competition among suppliers and instability in the supply chain is such that farmers are pressured to sell beans quickly, often before beans have fermented and dried properly, yielding lower quality beans. There is also a lack of a governing body to monitor and control quality of beans.
- No protection from international commodity markets: Farmers are not protected from the volatility in the market. This is not a negative in itself, but there is a lack of investment in the sector and lack of incentives for farmers to increase productivity.

Environmental Considerations

- Shrinking forest: Small-holder cocoa farming has led to a fragmented ecosystem - Côte d’Ivoire has one of the lowest population densities and the highest proportion of forest that has been cut down for cocoa production (Daniels, 2006).
- Unsustainable farming practices, inappropriate application of fertilizers leading to degraded soil quality, all contribute to worsening environmental conditions.

Social Considerations

- Child labor was a wake-up call West Africa, including Côte d’Ivoire (Daniels, personal January 28, 2014) and is a very high-profile issue that cocoa stakeholders are actively trying to monitor and eliminate, though it is very complex and difficult problem (Findings, 2013).
- Migration of youth: Youth do not see cocoa as an attractive career, moving to urban areas for higher earning potential.
- Low farmer incomes leading to widespread discontent: Ivorian farmers earn less than 40% of the price of exported cocoa compared to Ghanaian farmers who earn 60%, causing growing discontent among Ivoirian farmers (Kavokiva, 2009).

IX. Key Themes and Intervention Points for Brands

According to our research, the key issues that must be addressed in order to maintain a competitive cocoa industry in Côte d'Ivoire and enable cocoa farmers to make a viable living are **low productivity, farm-level poverty, need for quality upgrading and child labor issues**. These issues can directly impact economic viability for cocoa farmers and as discussed in Chapter 1, many social and environmental conditions are symptoms of impoverished communities. While there are multiple players along the value chain that must address these, there are **key intervention points** for chocolate manufactures and brands to address these issues.

Below, we highlight our observations/insights from research which can support or be of influence to brands interventions. Figure 14 highlights the key constraints and opportunities discussed in the preceding section and the respective intervention points we have identified for chocolate manufacturers.

Quality Control: Collaboration with all Partners to Promote Quality

In recent years since cocoa liberalization, the quality of beans in Côte d'Ivoire has decreased and so have price differentials relative to Ghana, Southeast Asia and Brazil. Ghanaian beans sell at a premium to Ivorian beans (GB£90 per pound for Ghanaian cocoa vs. GB£60 per pound over London cocoa futures contracts in mid-2012) (Agritrade, 2012a). The price differential can be explained by differences in quality and quality control in the two countries:

- In Ghana, all beans are dry and fermented by the time they leave the plantation. In contrast, this has not been practiced in Côte d'Ivoire for decades; instead, exporters have installed drying infrastructure near the ports in an attempt to capture more of the value along the chain. As a result the humidity of the beans lowers their quality from the start. According to experts, the humidity of the beans sent to ports must be reduced from 14% to 8% to prevent mold growth during transportation.
- Côte d'Ivoire does not have an organizational equivalent of the quality control arm of Ghana's COCOBOD to inspect, sample and grade cocoa beans. In cases where quality control is carried out it is by private sector third party service providers and at buying centers.

Capability Building

Fermentation is critical in determining the quality of the end cocoa product. Chocolate manufacturers can address the quality issues at the plantation level by working with their suppliers on capacity building and training the new generation of cocoa growers on fermentation and drying processes. While brands can influence or require the exporters and processors/grinders that they work with to incorporate quality control standards, disconnect can still arise if these practices do not flow down to local *pisteurs* and *traitants*, both groups for whom quantity is more important than quality. Chocolate manufacturers may be able to influence these downstream players by providing appropriate market incentives to conduct quality control checks at the cooperatives that work with *traitants* and *pisteurs*.

Market Incentive for Improved Quality

In addition to quality issues that arise in the processing of cocoa beans, the productivity of the cocoa sector is of major concern. Most cocoa trees in Côte d'Ivoire are aging and thus facing declining

productivity, requiring the use of fertilizers to maintain high yields. The last major round of investment in tree stock renewal dated back to the 1980s² (Agritrade, 2012a). Investment into renewing the cocoa tree crop can help address the long-term productivity of Ivorian cocoa. Brands have a significant opportunity to work with cocoa smallholders and other key players in the value chain on technical assistance, productivity improvements, and investment in cocoa science, though this should not be done at the expense of social/environmental considerations.

Child Labor Interventions

Child labor is still a key criticism associated with the cocoa trade in Côte d'Ivoire. According to a Tulane University report in 2011, an estimated 1.8 million child labors under 15 labor in the West African cocoa industry. According to published reports, 800,000 of the 1.8 million child labors are in cocoa plantations in Côte d'Ivoire (Luxner, 2012). NGOs are also demanding that the Harkin-Engel Protocol needs to be adequately enforced and made legally binding (Agritrade, 2012a). In September 2010, Côte d'Ivoire passed a law addressing the "worst forms of child labor" (FLA, 2012). The act sets a minimum working age of 14, and "forbids hazardous tasks for workers under 18 years old" (FLA, 2012). Forced labor for adults, however, is not considered an issue in Côte d'Ivoire (FLA, 2012). March 2012, the Government of Côte d'Ivoire adopted the National Plan of Action against Child Labor in Côte d'Ivoire, creating two committees to coordinate all national efforts addressing child labor issues.

Chocolate manufacturers play a key role in educating their supply chain on child labor, from communicating a clear definition of child labor, to training suppliers on labor standards and recognizing forms of child labor. Often this training is limited to Tier 1 suppliers and the lack of comprehensive internal monitoring systems mean that awareness and training on labor standards does not always reach the farm and cooperative level. While the presence of formal systems such as third party certification of cooperatives in isolation does not reduce the incidence of child labor, these interventions can form the foundation for more comprehensive monitoring systems (Fair Labor Association, 2012).

Poverty is also a major underlying cause of child labor. Interventions aimed at boosting farmer incomes, or initiatives that provide financing for school fees are other ways chocolate manufacturers can work with their field partners to address child labor (Kavokiva, 2009).

Market Access

As a consequence of the unstable 'unorganized sector', producers do not have visibility of international market pricing information and incentives are not in place to favor procurement of higher quality beans. Manufacturers could help provide producers access markets through market incentives to improve quality of beans or by addressing the underlying issues of investing in the cocoa crop as described above.

² Yield declines after 15-20 years in the life of cocoa trees (Agritrade, 2012a)

VI. Brazil

Brazil is South America's largest and most influential economy. Brazil has a large and mature agricultural sector; it is the largest global producer of sugarcane and second largest producer of soybeans behind the U.S. It also produces coffee, beef, wheat and cocoa among other commodities (Brazil agriculture, 2011). Agribusiness exports account for 40% of all Brazilian exported products (Rudarakanchana, 2014). Brazil is home to the Amazon rainforest, however expansion of the agricultural and industrial sectors have threatened the health of the ecosystem with deforestation concerns (Brazil country profile, 2014).

Cocoa Production Overview

Brazil once ranked the largest in cocoa beans production worldwide before the witches'-broom disease almost decimated the industry in 1989. It is now the fifth largest cocoa producer, though cocoa production plummeted from 228,881 tonnes in 2012 to 194,382 in 2013 due to an outbreak of the witches' broom disease and bad weather (Gill, 2014). Brazil is one of the top seven largest cocoa grinding countries, after the Netherlands, the United States and Côte d'Ivoire. Brazil's cocoa grinds increased from 216,049 MT in 2008-09 to estimated amount of 245,000 MT in 2012-13 corresponding to the trend of processors moving back to the origin. (Nieburg, 2013b). Brazil is not self-sufficient in cocoa beans and needs to import 50,000 to 70,000 tonnes of beans to manage its cocoa processing installed capacity (Mondelēz, 2014). Brazil is now a net importer of cocoa, driven by increasing domestic sales of chocolate, which is forecast to rise to \$4 billion by 2015, representing an increase of 24% from 2011 (Nieburg, 2013b).

98% of Brazil's cocoa originates from Bahia, which is home to the Atlantic rainforest ecosystem. "Para is the second largest cocoa producing region in Brazil, where production is growing by 10% annually" (Cargill, 2014). In Bahia, most of the Atlantic rainforest is covered in heavily shaded cocoa crop cultivated in the traditional cabruca system. Under this system, farmers thin lower canopies of the rainforest and grow cocoa in 50-60% shade under large native canopy trees (Daniels, 2006). Some of the benefits of the cabruca system include water conservation due to lower soil evaporation and lower evapotranspiration from plants. Cabruca also requires less investment per unit area compared to clear-cutting, which is the typical method for smallholders.

I. Input-Output Structure:

See Figure 15 for the Brazilian cocoa-chocolate value chain schematic constructed based on our research. Each segment is described below.

Large landholders

Brazil is one of the few countries in which cocoa production is largely dominated by large plantation landowners (80% of farms up to 70 hectares) rather than smallholder farmers (Daniels, 2006). Bahian cocoa farmers are known for their culture of absenteeism whereby owners typically lived in a city and hired paid laborers and sharecroppers to work on the farm. Unlike in Malaysia, Brazil was able to develop cocoa plantations without completely decimating the natural forest ecosystem. While large landowners tend to invest more in the land, they are also more price sensitive to cocoa prices, and as a result are more willing to convert their lands to alternative uses such as cattle ranches or palm oil plantations in times of pest or disease outbreaks in cocoa. The classic case of large landowners switching away from cocoa en masse was when production was wiped out by the witches' broom disease (Daniels, 2006).

Three primary traders

In recent years cocoa processors such as ADM, Barry Callebaut and Cargill have been increasingly moving their processing operations back to origin countries, particularly those regions seeing a rise in chocolate consumption, such as Brazil and Indonesia. The region has also seen traders expanding into derivative cocoa products, including cocoa powder, butter, and other product lines for domestic and international markets (UNCTAD Cocoa Study, 2008). See Governance section on the role of traders in governance within the sectors.

Government

The strong private sector driven cocoa production in Brazil is different than in Indonesia and West Africa. Brazil operates a completely liberalized cocoa market with limited attention from the Government. While there is little attention on cocoa from the national government, cocoa is a priority in the agenda for Para's local government.

Federal Cocoa Commission (CEPLAC)

CEPLAC, a financing, research and development agency of the Brazilian government, created two projects, Agroenvironmental Sustainable Credit (CAS) and Agroenvironmental Financing Program, to encourage local producers to keep the Cabruca agroforestry system and to provide incentives for the conservation of biodiversity. CAS in particular provides economic support to aid farmers in economic recovery. Removal of excessive shade is one of the primary goals of the CEPLAC programs. CEPLAC also trains farmers on proper application of fertilizer and agrochemicals (CEPLAC, 2014). (Dantas, Lobão, Bruck de Moraes, Lyrio, & Conceição, 2012).

Other Bodies - Brazilian Cocoa Industry association (AIPC)

Many farmers were in great debt after the witches-broom disease epidemic, straining relationships with CEPLAC, thus improving stakeholder relationships is a priority. To improve relations, Cargill led the AIPC and the Institute of Agriculture Economy in Brazil to study the local cocoa supply chain and to propose public policy solutions to develop the supply chain (Cargill Cocoa Promise Brazil, 2014).

II. Sustainable Cocoa Value Chain Actors

Cargill's Cocoa Promise

The Cocoa Promise is Cargill's global commitment to developing a sustainable cocoa supply chain, and making an impact in three key areas: "improving the lives of cocoa farmers, supporting cocoa farming communities, and investing in the future of cocoa Farming." (Cargill's Cocoa Promise, 2014). The company's approach to securing a sustainable cocoa supply chain involves partnering with NGOs and other local partners, and using third party certification such as UTZ Certified, to provide training, financial incentives to farming communities. Besides Brazil, Cargill is also working in West Africa, Vietnam and Indonesia to train over 80,000 farmers every year. The company is on track to achieve its goal of sourcing over 120,000 metric tonnes of certified sustainable cocoa by 2015 (Cargill Cocoa Promise helps first Brazilian cocoa farmers to become UTZ Certified, 2013).

Cargill-CARE partnership

Cargill has partnered with CARE, an international humanitarian organization, in a five year \$1.25 million partnership to increase market access and improve livelihoods for 4000 smallholder cocoa farmers and their families (Cargill, 2012). The partnership focuses on Brazil's "Cacao Coast" in Southern Bahia state

with the goal of increasing cocoa production by 40%. The project targets improving farmers' business management skills, training farmers on techniques to combat the witch's broom disease and sharing best practices for sustainable cocoa production via demonstration sites. The project also works with farmers to establish supplementary income generating activities such as sale of complementary crops. In addition, CARE launched a regional working group, the Cacao Dialogue, to ensure the interests of smallholder farmers are represented (Cargill, 2012).

Cargill and UTZ certification

As a founding member of the UTZ Certified Cocoa initiative, Cargill has partnered with four farmers in Brazil to educate and train them to produce the country's first UTZ Certified cocoa. 12 additional cocoa farmers, representing 1000 metric tonnes of UTZ Certified cocoa beans are on track to be certified by May 2014 (Cargill News Release, 2013).

III. Institutional Context

Brazil was a major cocoa producer in 1990s, expansion driven by demand for ordinary grades of chocolate produced for milk chocolate. In 1940s production and productivity decreased, the conventional explanation for this is that Brazil lost competition to West Africa, which saw huge increases in exports, driving down world cocoa prices to 6c/pound, discouraging Brazilian producers. Another interpretation is that Brazilian farmers took "boom-and-move-on"/short-term profits and commodity extraction approach to cocoa production: plantings overly crowded, minimal weeding, disease control practices lacking, soil depletion, failure to remove decadent (old) trees, spread of cocoa to non-optimal lands (Leitera & Harding, 2004). This short-term orientation consistent with Brazilian attitude in previous periods in Brazilian economic cycles. "This [attitude], along with environmental degradation and technological backwardness diminished productivity and profits, induced an "overwhelming disillusion and pessimism" among producers, and led to mass exit from production of the commodity" (Leitera & Harding, 2004).

To some extent this is also a case of state failure, as the state did not intervene to reorient land owners towards long-term approach to production. Underpaid and laboring in poor working conditions in the Bahian Fazendas, workers had to incentive to produce quality cocoa. The crop itself was also of poor quality due to poor fermentation practices.

In the 1980s, Witches' Broom Disease cut production of cocoa beans from 400,000t/year to only 100,00t. Some producers switched to alternative crops, cut down trees for pastureland and for timber, resulting in soil exposed to the elements and becoming hard and dry. The shift also altered the area's water flow; the pastureland means water is not able to enter the soil (Silberner, 2008).

IV. Governance:

In the absence of government support, traders have stepped in to revitalize the cocoa sector since the 1980s. In the aftermath of the witches' broom disease, Cargill, working through the Industry Association of Cocoa Processors (AIPC) has led the industry efforts. AIPC works with "small cocoa suppliers in using technology and improving farming practices" (Cargill, 2011). "Project Phoenix [is] sponsored by Cargill, the Ministry of Agriculture of Holland (through its Buffer Stock Fund), and four other members of AIPC" (Cargill, 2011). Currently, cocoa production in Para is on the government's agenda while cocoa production in Bahia is on decline and receives limited attention from the government.

V. Geographic Scope:

For the purpose of this report, the production of cocoa is contained within Brazil and we do not consider imported cocoa. This report does not meticulously examine the activity and relationships outside of Brazil (e.g. processed cocoa product trade among international processors and manufacturers) and rather high-level, observations of relevance are noted).

Cocoa production in Brazil is concentrated in two regions, Southern Bahia State and Pará. Both have very diverse profiles. Bahia is Brazil's main cocoa producing region, and was once one of world's most productive regions. Although this is the traditional cocoa production region in Brazil where the majority of Brazilian cocoa is grown, Bahia is facing declining production fundamentals. Para has more predictable and defined weather patterns, which helps prevent and manage witches' broom disease (Mondelēz, Personal Communication, January 17, 2014).

VI. Upgrading

There has been a trend of cocoa buyers upgrading older facilities to process cocoa powder, butter, and other product lines for domestic and international markets (UNCTAD Cocoa Study, 2008).

VII. Additional Considerations Specific to Brazilian Cocoa

<p><u>Economic Considerations</u></p> <ul style="list-style-type: none">• <u>Low Productivity:</u> Low yields due to diseased, aging trees• <u>Poor infrastructure and Low levels of investment:</u> The government has not invested in developing the cocoa industry after the witches' broom disease almost took out the industry in the 80s.• <u>Lack of income alternatives:</u> youth are not only leaving the cocoa sector but the region as alternatives for farmer income have not been developed.
<p><u>Environmental Considerations</u></p> <ul style="list-style-type: none">• <u>Deforestation</u> The Witches-broom disease in the 1980s resulted in conversion of forestland into cattle ranches and other uses as landowners left the cocoa industry. Recent repeated outbreaks of the disease further discourage cocoa planting and production in favor of other crops, which involves cutting down cocoa trees and other natural forest (Clay, 2004).
<p><u>Social Considerations</u></p> <ul style="list-style-type: none">• <u>Lack of support within farming communities:</u> Producers are not well organized and there is a lack of trust in cooperatives.• <u>Migration of youth:</u> Youth do not see cocoa as an attractive career, moving to urban areas for higher earning potential.

VIII. Key Themes and Intervention Points for Brands

According to our research, the key issues that must be addressed in order to maintain a competitive cocoa industry in Brazil are **low productivity, lack of income alternatives, deforestation and biodiversity** concerns. These issues can directly impact economic viability for cocoa farmers and as discussed in Chapter 1, many social and environmental conditions are symptoms of impoverished communities. While there are multiple players along the value chain that must address these, there are **key intervention points** for chocolate manufactures and brands to address these issues.

Below, we highlight our observations/insights from research which can support or be of influence to brands interventions. Figure 16 highlights the key constraints and opportunities discussed in the preceding section and the respective intervention points we have identified for chocolate manufacturers.

Access to Materials/Inputs and Capability Building

The lack of productivity of the cocoa sector is of major concern. Drivers of this include low yields due to diseased, aging trees, and the low attractiveness of cocoa farming leading to the migration of young generation to other activities and livelihoods, and away from cocoa farming communities. Chocolate manufacturers can help by investing in research and development at origin on new cocoa varieties and ways to renovate cocoa plantations to increase yields. They can also partner with local organizations to provide access to these inputs and training on sustainable agricultural practices to facilitate adoption.

Payment for Ecosystem Services and Market Access

Producers are not organized and there is a general lack of trust in cooperatives. The absence of government support also does not contribute to the low incentives to stay in cocoa farming. As a result of the rampant witches' broom disease in the 1980s as well as more recent outbreaks, some cocoa plantations have been converted to other purposes, such as cattle ranches and other crops. Payment for Ecosystem Services schemes (PES) could provide cocoa farmers with additional and stable revenue, which is critical as cocoa farming is seasonal and income inconsistent due to the volatility of production and market prices. PES could also provide producers with access to new markets. There is potential for chocolate manufacturers to evaluate and design economic incentive schemes for the ecosystem services associated with cocoa production.

Enhancing Stakeholder Relationships

In *World Agriculture and the Environment: A Commodity-By-Commodity Guide To Impacts And Practices*, Hardner et al. predicts that "at least half of Brazil's cocoa farms will be converted to other uses in the near future. Most conversion will include cutting not only cocoa trees but also the intermixed natural forest remnants within the cocoa farms" (Clay, 2004). Chocolate manufacturers can learn from the coffee and cosmetics sector in Brazil, especially companies who have adopted landscape-level approaches to address deforestation and other ecosystem-level impacts. Landscape-level approaches require the collaboration of multiple stakeholders, and therefore this intervention would also help to address one of Brazil's priority issues of enhancing stakeholder relationships, as discussed earlier in the chapter. In Chapter 5 we profile several such companies.

VII. Dominican Republic

The Dominican Republic (DR) is a mountainous Caribbean nation that with Haiti, shares the island of Hispaniola. It is a major tourist destination and the economy relies on the tourism industry over agriculture or other exports (Dominican Republic Profile, 2013). Despite being one of the fastest growing economies in the last 20 years, the DR is stricken by poverty (at 40% in 2011) and inequality or wealth. Since 2000, the country has undergone decreasing exports relative to GDP and in 2013 the country was ranked 105 out of 144 countries in the World Economic Forum's Global Competitiveness Index (Dominican Republic Overview, 2013).

I. Cocoa Production Overview

The DR produces and exports two varieties of cocoa beans. *Sanchez* beans represent most of cocoa bean exports (70%) and are bulk, low-grade beans exported as unfermented beans. The remaining 30% are *Hispaniola* beans which are fermented considered high quality. Cocoa is one of the DR's four traditional export crops. According to the FAO, the DR produced 54.23 metric tonnes in 2011 (van der Kooij, 2013) though this figure is an estimate.

Traditionally Dominican Republic had a poor reputation in the industry for cocoa quality. However significant investment has been made by the largest confederation of farmer associations, the National Confederation of Dominican Cocoa Producers (CONACADO) and other organizations which have improved cocoa quality and fermenting capabilities. Additionally, the DR's natural ecological conditions make it an ideal producer of organic and sustainable cocoa. As an island, there is little disease pressure so there is limited need for inorganic inputs (van der Kooij, 2013). As such, the DR is the major player in the organic market and as of 2010 was the largest exporter of organic IFOAM certified cocoa (52% of total organic produced on market). Because of the DR's history of producing for the organic market, the sector could more readily transition to other sustainability certifications which require traceability. In effect, the DR also dominates the market for sustainable certified cocoa, capturing 25% of Fairtrade cocoa market share and 14% for UTZ certified cocoa market share in 2010 (Larrea & Lynch 2013).

II. Input-Output Structure

See Figure 17 for the Dominican Republic cocoa-chocolate value chain schematic constructed based on our research. Each segment is described below.

Smallholders

While figures are disputable, there are approximately 40,000 smallholders that produce between 32,000-28000 tonnes of cocoa annually (Dominican Republic Sustainable Cocoa Livelihoods 2013). There is a trend among smallholders to increase plot sizes to medium or large plots, but the sector is still dominated by smallholders and not commercial plantations. The average cocoa farmer is in his/her 50's. Cocoa trees are old and as of 2004 the average tree age was 35 years. All cocoa is shade grown (Berlan & Bergés, 2013) and cocoa farmers generally have diversified farming activities as cocoa is commonly intercropped and is part of a farmer's income (Alwang & Siegal, 2004). However, income remains unstable for the average cocoa farmer (Berlan & Bergés, 2013). Producers also lack fixed assets and have trouble securing long-term loans to invest in their farms (Larrea & Lynch, 2013) and nearly half of farmers depend on external support, such as financing or technical assistance (Berlan & Bergés, 2013). Smallholders produce unfermented beans and any fermentation generally occurs at the export level. Many also do not dry beans and sell wet beans because the high degree of precipitation poses

challenges to drying beans (Berlan & Bergés, 2013). There are significant infrastructure challenges facing smallholder communities including poor roads and housing for cocoa producers and workers (Berlan & Bergés, 2013) and exposure to natural disasters (Alwang & Siegel, 2004). Cooperatives are relatively strong in the DR, particularly CONACADO which will be discussed below, and an estimated 60% of producers belong to a cooperative (market research 2012).

The Department of Ministry of Agriculture categorizes three types of cocoa producers. The first employs minimal farm maintenance, does not purchase inputs and produces cocoa for their own consumption selling excess beans, and yield is around 250-300 kg/ha. The second has improved cocoa varieties and uses adequate agricultural practices, and has yields of 700-1100 kg/ha. The third type produces organic cocoa for CONACADO and yields vary from 700-1300 kg/ha. But, according to the FAO, the average yield is 350 kg/ha (van der Kooij, 2013).

Intermediaries

Cocoa intermediaries purchase cocoa beans directly from cocoa farmers or from the villages nearby the farmers. Roughly 39% of cocoa flows through intermediaries (van der Kooij, 2013). Most intermediaries are actually purchasing agents for cocoa exporters, but some sell cocoa to the exporters. There are four types of cocoa intermediaries in the DR; traders, mobile intermediaries, stationary intermediaries, export buyers. Traders exchange other agricultural goods for cocoa with the very small scale cocoa farmers who generally dry and exchange cocoa on the road. Mobile intermediaries travel to cocoa farmers and purchase on the farm. These are often agents or representatives of exporters or other larger intermediaries. In 2004, there were 1000 purchasing agents for exporters. Stationary intermediaries establish purchasing centers in villages or towns. Export buyers are the large exporters and buy directly from producers. This internal marketing system is competitive and as such, the prices paid to farmers vary (Alwang & Siegel, 2004).

Exporters

The major cocoa exporters in the DR are national organizations and the top three include CONACADO, Nazario Rizek Cacao CXA, and Comercial Roig. There are a number of other domestic entities that have market share including Munne and Company, Cortes Brothers, Yacao, J. Paiewonsky & Sons and Garcia and Meija and another farmer association, the Association of Cocoa Producers of Cibao (APROCACI). Drying and fermenting of cocoa beans occurs at the exporter level (Berlan & Bergés, 2013)

CONACADO is a confederation of farmer associations and represent 12,000 smallholders and accounts for 30,000 hectares. According to the DR Ministry of Agriculture, in the 2009-2010 season CONACADO led cocoa exports and it currently dominates the export market for organic certified cocoa, 70% is Hispanola and 30 is Sanchez (van der Kooji, 2013). Rizek Cacao CXA both buys cocoa beans and owns 5,000 ha of cocoa farms, it was the second largest exporter in the 2009-2010 season. Comercial Roig, a family-operated DR company was a close third for exporting cocoa in the 2009-2010 season. Historically Rizek and Commercial Roig dominated cocoa exports and in 2004 accounted for nearly 75% (Alwang & Siegel, 2004). Since then CONACADO has challenged this figure and risen to be the lead exporter, exporting around 33% of the country's cocoa (van der Kooiji 2013). Notably, APROCACI is another farmer association which represents roughly 60 medium or large-size cocoa producers covering 1,060 hectares and exports cocoa (van der Kooji, 2013).

Processing & Manufacturing

The majority of DR cocoa is exported for processing and manufacturing. In 2004, 90% of cocoa was exported for international processing and 10% was processed domestically (Alwang & Siegel, 2004). The amount of cocoa processed domestically has likely increased since then, though no figures could be found. The major market for *Sanchez* beans is the United States for which unfermented beans are sold generally at a discount (Alwang & Siegel, 2004) and Europe is the major market for *Hispaniola* beans (van der Kooji, 2013).

III. Sustainable Cocoa Value Chain Actors

Exporters: Each of the **top exporters** noted above are engaged in organic and sustainably certified cocoa production and exports. Notably, these exporters are engaged throughout the chain, in the production of cocoa, marketing and exporting, and as such manage various projects aimed at producing organic and sustainable cocoa. CONACADO, for example, is licensed to produce both organic cocoa and markets the cocoa through UTZ and Rainforest Alliance channels. Approximately 85% of cocoa from CONACADO is certified organic and 50% is sold on the Fairtrade market. Fairtrade and the Rainforest Alliance have a strong presence in the DR (van der Kooji 2013).

Government & Development Agencies: The **Comision Nacional de Cacao (CNC)** is a “semipublic organization” that was a spin-off of the Department of Cocoa in the Ministry of Agriculture and is funded by the government and private sector. The organization has had rehabilitation projects in an effort to increase productivity and improve cocoa quality. There are also various **development organizations and NGOs** working on-the-ground in the DR to address cocoa sustainability challenges which focus on capability building and technical assistance (Alwang & Siegel, 2004). For example, the University of West Indies’ Cocoa Research Unit (CRU) and the Centre for Development of Enterprise (CDE) have jointly established an initiative to increase productivity and quality through technical assistance, access to materials, education and fermenting and drying techniques, including solar drying (van der Kooij, 2013). And, as part of the UNDP Green Commodities Programme, the UNDP in partnership with the Ministry of Agriculture launched the National Cocoa Platform in 2013 which is designed to become a 10 year program to “agree on a national vision, develop and implement a strategy for sustainable cocoa farming and adaptation to climate change” (Dominican Republic Sustainable Cocoa Livelihoods, 2013). The CNC and Mondelēz are engaged in the project planning along with USAID, Mondelēz is the funding partner for the project.

IV. Institutional Context

The Dominican Republic government has been very hands-off in the cocoa sector, almost to a fault. In the 1980s, agricultural policy was restructured which removed and alleviated policies against exports. It also reduced frequency of direct subsidies which posed challenges to cocoa farmers (van der Kooji, 2013). More recently, the government has engaged in the sector though support appears ad-hoc and lacks clear vision. The Department of Cocoa in the Ministry of Agriculture conducts activities like research, data collection, and some projects working with smallholders. The CNC manages quality control of exports and certifies exports. However, the organizations are not coordinated in their efforts (van der Kooji 2013).

There may be a new organization, Consejo Dominicana de Cocoa (CODOCOCOA) which is currently in development and would align all cocoa activities, moving them outside of the Ministry of Agriculture. This would be an organization governed by public and private institutions and would be an autonomous organization. As of October 2013 the bill was before the Senate (van der Kooiji 2013).

The challenges in the cocoa sector are compounded by corruption (Risks and Vulnerabilities, 2013). The regional Latin American market, including the DR market, may be notable consumers in the future given economic growth as here has been a rise in per capita disposable income (albeit a disparate gap between the wealthy and the poor). Rizek developed a high-quality brand, Kah Kow, which and was very well received by the domestic market and chocolate confections are expected to grow at a CAGR of 3% (Passport, 2013).

V. Governance

The Dominican Republic cocoa value chain has a volume-based, price-driven governance with open marketing and trading system. The cocoa industry is fully liberalized, and as discussed the DR government has traditionally been hands-off in the cocoa value chain. The power dynamics are different in the DR compared to other origins, in that the control seems to be in the hands of a few domestic exporters. This has created generally positive, competitive sector (Interview with Stephanie Daniels). However, lead firms such as global chocolate manufacturers still have significant influence on the chain as exporters cater to their customer demands (chocolate manufacturers).

VI. Geographical Scope

For the purpose of this report, the production of cocoa is contained within the Dominican Republic and we do not consider imported cocoa. This report does not meticulously examine the activity and relationships outside of the Dominican Republic (e.g. processed cocoa product trade among international processors and manufacturers) and rather high-level, observations of relevance are noted).

VII. Upgrading

The Dominican Republic had poor reputation for cocoa quality in the 1980s and since then, significant investment for has been made in terms of drying and fermenting capabilities. Originally led by CONACADO, this functional upgrading is now supported by various institutions across the DR including NGOs, exporters and the private sector. However, the drying and fermenting of beans is occurring at the exporter level, so the value is being captured by the exporters. There have been efforts by stakeholders to invest in drying and fermenting capabilities at the farm level as well, though most occurs at the export stage.

The country has worked hard to establish itself as the source for fine flavor, quality cocoa and its efforts have been fruitful (Daniels, personal communication, January 28, 2014). The country is capitalizing on its natural environment to pursue certifications, such as organic and RFA, which require environmental and social upgrading and enable more value-capture.

These same agencies also have focused on capability building and technical assistance to improve quality (functional upgrading) as well as yields (process upgrading). However, it appears that CONACADO is the beneficiary of many of these projects (Alwang & Siegel, 2004). CODOCOCOA has potential to be a convening body that would play a significant role in smallholder upgrading including extension services, research and infrastructure development to improve cocoa quality and post-harvest fermenting (van der

kooij, 2013). In 2004, the DR cocoa commission had initiated plans to “support and expand local processing” (Alwang & Siegel, 2004), though most cocoa is exported for processing.

VIII. Additional Considerations Specific to Indonesian Cocoa

<p>Economic Considerations</p> <ul style="list-style-type: none"> • While on average productivity is higher than other origins, it is “half of what it could be.” Low productivity is driven by many factors that can be tied to lack of appropriate farming and maintenance (Berlan & Bergés, 2013). • The smallholder’s access to inputs and better farm management is relatively adequate when compared to other origins but the traditional smallholders do not practice pruning or appropriate fertilization (Alwang & Siegel, 2004) • Farmer access to capital is limited, particularly for medium or long term loans (Larrea & Lynch, 2013). Agribanks are underutilized and some solutions exist in market for working capital (e.g. social lenders) (Berlan & Bergés, 2013). • The farmgate price is set daily by the companies in the marketing segment of the chain, including farmer associations. It does not necessarily reflect the world price (Berlan & Bergés, 2013). • Farming practices across smallholders are rapidly changing to meet the needs of the organic and sustainable certified market as price incentives are present. • There is potential for very high-quality beans due to the natural, good ecological conditions. • Through the help of stakeholders (government, private sector and CONACADO), the country has invested in drying and fermenting facilities to meet demand for fermented cocoa.
<p>Environmental Considerations</p> <ul style="list-style-type: none"> • Exposure and vulnerability to natural disasters, especially hurricanes, is a significant issue as they destroy crops or knock cocoa flowers off of trees (Alwang & Siegel, 2004). An increase of intensity of these storms, due to climate change, is a threat. • Cocoa farms are located within the DR watersheds, which in some cases was a strategic decision by the government as the trees reduce soil erosion and help keep the hydrological properties of the watersheds (Alwang & Siegel, 2004). • New cocoa farms are primarily created by conversion of natural forest to agriculture of land (Dominican Republic Sustainable Cocoa Livelihoods, 2013). • According to the UNDP, production is becoming intensified through natural shade tree cover removal. This has environmental implications as well as causing vulnerability of the cocoa crop to extreme weather (Dominican Republic Sustainable Cocoa Livelihoods, 2013).
<p>Social Considerations</p> <ul style="list-style-type: none"> • Compared to origins in West Africa, the DR is not plagued with as serious forced or child labor issues. However, this may change with Haitian earthquake refugees (Berlan & Bergés, 2013). • Cocoa farming is not attracting young generations (Berlan & Bergés, 2013). • There is significant community vulnerability due to inadequate infrastructure and housing.

IX. Key Themes and Intervention Points for Brands

According to our research, the key issues that must be addressed in order enable cocoa farmers to make a viable living in the DR are an ability to **reach and address vulnerable/underserved farming communities** and **enable farming communities capture more value** through drying and fermentation techniques. These issues can directly enable economic viability for cocoa farmers and as discussed in Chapter 1, social and environmental implications of cocoa farming are often symptoms of impoverished

communities. While there are multiple players along the value chain that must address these challenges, there are **key intervention points** for chocolate manufactures and brands.

Below, we highlight our observations and insights from research which can support or be of influence to chocolate manufacturers. Figure 18 highlights the key constraints and opportunities discussed in the preceding section and the respective intervention points we have identified for chocolate manufacturers.

Engage domestic exporters and facilitate trust in chain

The main cocoa exporters in the Dominican Republic are national organizations, as opposed to multinational buyers like have been observed in other producing countries, and exercise more vertical integration than has been observed in the other value chain analyses. For example, Rizek owns 5000 hectares of cocoa farms and both Rizek and CONACADO are engaged throughout every segment of the DR cocoa value chain (Berlan & Bergés, 2013). These exporters have helped in developing the sector's capabilities and its sound quality-control infrastructure that lends itself well to sustainable certifications and other upgrading initiatives. However, high-quality, fermented bean exports are limited to few concentrated exporters which essentially results in an oligopoly. There is also lack of trust in the internal marketing system which is dominated by these exporters and is very uncoordinated. Many industry organizations are partnering with CONACADO on upgrading initiatives, but through such partnerships, manufacturers and agencies may exacerbate the lack of trust in the chain. Chocolate manufacturers should work with the major exporters to ensure that purchasing practices are transparent and fair, and engage in work on-the-ground to help develop transparent processes.

Address smallholders not associated with top exporters (e.g. non-CONACADO)

In addition to engaging with key exporters, as discussed above, chocolate manufacturers should address constraints of smallholders that do not sell to CONACADO or the other major exporters. CONACADO is the major beneficiary of upgrading projects led by international development agencies, NGOs and the private sector and as a result, initiatives may miss producers that are not in business with exporters. Manufacturers can engage with these producers directly or help connect the farmers to exporters and intermediaries. There is great potential for all cocoa farmers to improve quality of both *Sanchez* and *Hispaniola* varieties due to the natural agro-ecological conditions, developed 'sustainable' supply chain and networks, and support agencies on-the-ground. Brands can capitalize on this existing system and reach additional farmers.

Access to Long-Term Capital

Dominican Republic cocoa farmers and farm associations are capital constrained as they have limited assets. In order to employ success functional upgrading projects particularly for drying and fermentation of cocoa beans, cocoa farmers and communities need medium and long term loans to invest in the infrastructure required. Chocolate manufacturers can provide access to long-term loans directly or find creative ways to provide smallholders or growing communities with the funds needed.

Ecosystem Services of Cocoa Production

There is potential for chocolate manufacturers to evaluate and design economic incentive schemes for the ecosystem services associated with cocoa production. Payment for Ecosystem Services schemes (PES) could provide additional and stable revenue to cocoa farmers, which is critical as cocoa farming is seasonal and income inconsistent due to the volatility of production and market prices. Agroforestry crops, such as cocoa, can provide valuable ecosystem services when cultivated appropriately including

carbon sequestration, provision of soil stability, biodiversity habitats, and water quality improvements. Notably, as discussed much of the DR cocoa is planted in environmentally sensitive water sheds. The DR is very dependent on hydroelectric power and the watershed protection properties of sustainably managed agroforestry are critical to maintaining the natural hydrologic system required to generate hydropower. Currently there is a trend for intensified cropping and removing of shade cover, which would disrupt the hydrological cycle. In addition to watershed protection, chocolate manufacturers could explore other PES schemes relevant to the DR such as REDD+ projects due to the carbon sequestration properties of agroforestry and sustainable soil management. Particularly since conversion of natural forests are the primary sources of new cocoa farms. Lastly, the cocoa crop is only part of the smallholder income. There could be opportunity for additional PES schemes depending on the crop.

Government, Public & Private Sector Alignment- CODOCOCOA

The DR cocoa sector is characterized by inconsistent and uncoordinated government support as well as an uncoordinated internal marketing system. There are increasing projects on-the-ground to develop the organic and sustainable cocoa sectors which are led by private, public and international agencies and demand for organic and sustainable chocolate is expected to increase. Chocolate manufacturers should ensure alignment with both the public and private sectors to alleviate the patchy and uncoordinated efforts. Notably, manufacturers should stay abreast of the development of CODOCOCOA, the public-private sector led organization, and become a member early in order to have a seat at the table when projects are being initiated.

Capability Building: Technical Assistance for Better Farm Management Practices

Cocoa farmers in the DR lack good agriculture practice skills required in order to increase yield and to dry and ferment cocoa. The government-led projects and efforts aimed at increasing productivity are not implemented frequently enough (Berlan & Bergés, 2013). As discussed, production is becoming intensified through natural shade tree cover removal which has both economic and environmental implications. Through knowledge transfer and technical assistance training, chocolate manufacturers and brands have a significant opportunity and role to work with cocoa smallholders and other key players in the value chain to enable process (productivity) and functional (quality) upgrading and to ensure this is not achieved at the expense of quality and social/environmental considerations. These should be aligned, however, with other cocoa stakeholders as discussed above.

Community Development

In addition to agronomic challenges discussed above, DR cocoa farmers face serious constraints at the community level. Most notable are inadequate infrastructure (roads and utility services) and housing. This is compounded by the turbulent weather and natural disasters as these events destroy homes, crops and flood roads. Such extreme are likely to be more common due to climate change. Chocolate manufacturers should address these challenges at a community-level in order to ensure thriving communities that can support cocoa production. This could include direct support and also through developing communities' abilities to support themselves financially, such as commercializing additional crops (WCF Programs, 2013), and enabling the communities and governments to develop climate change adaptation policies and implement action plans.

VIII. GVC Chapter: Conclusion

At a glance, the global cocoa-chocolate value chain may appear homogenous as cocoa production is dominated by smallholders, and a few consolidated multinational buyers and manufacturers dominate global cocoa purchases. Most origins are also participating in upgrading initiatives to improve their positions along the chain. A closer look through origin-level GVC analyses, however, uncovers key differences among origins.

In each origin, sustainability actors are emerging throughout the value chain in order to ensure social and environmental upgrading at the farmer and community level. These include NGOs, industry groups and government agencies. Smallholder and community economic upgrading is being pursued by both the private and public sectors through process upgrading (e.g. productivity gains) and/or functional upgrading (e.g. quality improvements). In a few countries, the government is driving product upgrading by incentivizing domestic cocoa processing.

One interesting observation derived from our research is the global positioning of the five origins discussed in regards to their competitiveness based on two attributes; volume produced and quality of beans. Figure 19 displays the five origins' global competitive position according to these attributes and it is clear that at a country-level, each origin aims to improve its competitive position through various strategies.

Through the GVC analyses, we identify unique, origin-specific constraints that must be addressed and opportunities to be leveraged in order to achieve sustainable cocoa production. These were discussed and highlighted in Figures 10, 12, 14, 16 and 18.

While the new value chain governance typology outlined in Figure 7 is characteristic of some industries such as consumer electronics or apparel, the cocoa industry is still largely a buyer-driven commodity chain. Multinational chocolate brands are the global buyers of cocoa who set product specifications including cocoa quality, volume and blends that essentially determine producer and supplier actions. Brands exercise vertical coordination in order to procure this specified product. Chocolate manufacturers have historically benefited from being 'arms-length' from production while they rely on their suppliers to meet product specifications. Through consolidation along the cocoa-chocolate value chain, as discussed, very few global chocolate brands/manufacturers hold final control of the market of which 40 million people depend for livelihood (UNDP, 2010).

As powerful lead firms, chocolate manufacturers have great opportunity to exert their chain influence and the address intervention points we identified to ensure a resilient cocoa supply.

CHAPTER 5

Sustainable Cocoa Sourcing Strategy

Benchmarking

I. Introduction

In Chapter 4, we identified potential intervention points for chocolate manufacturers that address constraints and leverage opportunities in order to source cocoa more sustainably (as defined in the preface). Below we have outlined existing examples of how other cocoa manufacturers or consumer facing brands are addressing sustainable cocoa sourcing challenges. We also researched other agricultural commodities that could have relevant best practices for application to Mondelēz. Through research and interviews, we defined strategies employed by chocolate manufacturers specific to each respective origin and have linked these strategies to the identified interventions discussed in Chapter 4. We do not claim this list to be comprehensive. Rather, we outline the company strategies that we identified which offered enough information and insights to warrant including in this report.

We do not discuss processor or trader strategies unless they are directly related to manufacturing brands' approaches (e.g. a supplier for Hershey) or if there are particularly noteworthy insights for Mondelēz. This is because processor and trader strategies are generally a response to customer demand; the principal customer being chocolate manufacturers.

The following is based on secondary research and has been informed by conversations with industry experts and professionals including the public and private sector, manufacturing brands, certification bodies, and processors.

See Figures 22-26, which offer a schematic representation of the sourcing strategies identified at each origin and their respective intervention points.

II. Indonesia Sustainable Cocoa Sourcing Strategies

Construct & Manage Buying Stations Close to Producers

Company: Mars, Inc.

Description: In 2009, Mars opened a buying and fermenting station in Central Flores as a pilot project. Farmers and cooperatives could sell wet beans to Mars at the station and Mars would dry and ferment the beans in order to ensure quality. Mars established quality and quantity requirements to make the buying station cost-effective. As of 2011, the pilot was considered not cost effective by Mars because the farmers could not meet quantity requirements (Pathways, 2011). However, according to our research, Mars now manages upcountry buying stations in Indonesia (T. Ryan, personal communication, February 20, 2014). Mars may require that farmers dry and ferment cocoa beans but this was not evident in our research.

Driver: By sourcing closer to the farmers, Mars can better ensure sustainability and traceability of its cocoa sourcing and ensure quality cocoa supply. Mars has a long history in Indonesia, with a research center (SymbioScience) and processing facility, thus engagement on the farm-level is relatively feasible.

Key Partners: None Identified

Principal Intervention Point: Market Access; Market Incentive for Quality Upgrading

Constraints addressed: Smallholder weak bargaining position; complex crowded supply chain with no transparency; low & inconsistent bean quality; no incentive to improve quality or fermentation

Opportunity Leveraged: Entrepreneurial & dynamic farmers

Direct-Trade with Cooperatives

Company: Mars, Inc.

Description: Mars was directly sourcing unfermented, wet cocoa beans from SIKAP and JANTAN, cooperatives in Flores. In an effort to improve the cooperative cocoa bean quality, Mars offered a price premium. In 2011, if the bean waste content was below 2.5%, Mars paid a premium of IDR 200 (USD .024) per kilogram. Mars' target in the 2010 season was 60 tonnes of wet cocoa at this quality level from the cooperatives. Because of limited capabilities as well as insufficient quality-control measures at the collection areas, requirements were not met by JANTAN in 2010 (the cooperative sold 50.3 tonnes of wet beans). SIKAP did, however, meet the requirements by selling 60.3 tonnes in 2010.

Mars was SIKAP and JANTAN's biggest purchaser until Mars changed its purchasing policy in 2011 and stopped accepting wet, unfermented beans. Mars has changed its sourcing approach to sourcing from inter-island traders instead of farmer cooperatives. This is discussed below (Pathways, 2011). Mars has offered to purchase directly from cooperatives when they can provide dried and fermented cocoa beans of required quality at minimum quantity of 8-10 MT dried cocoa beans. This is significantly less than their normal purchase volume of 25 MT from the inter-island traders. The shipment of cocoa beans to

Mars must be organized by the cooperatives. According to VECO, one of the few strong farmer cooperatives in Sulawesi, AMANAH, is also in contact with Mars for direct sourcing (VECO, 2011).

Driver: By sourcing closer to the farmers, Mars can better ensure sustainability and traceability of its cocoa sourcing and ensure quality cocoa supply. Mars has a long history in Indonesia, with a research center, SymbioScience and processing facility, thus engagement on the farm-level is relatively feasible.

Key Partners: VECO

Principal Intervention Points: Market Access; Market Incentive for Quality Upgrading

Constraints addressed: Smallholder weak bargaining position; complex crowded supply chain with no transparency; low & inconsistent bean quality; no incentive to improve quality or fermentation

Opportunity Leveraged: Entrepreneurial & dynamic farmers; Sustainability actors & emergence of CSP

Establish Local Trader Relationships

Company: Mars, Inc.

Description: After Mars changed its purchasing policy to not source wet beans, the company identified inter-island traders that were able and willing to purchase cocoa directly from the farm organizations, dry the beans, and then sell to Mars. Mars then connected the organizations with the traders. As of 2011, UD Dawn in Maumere (Geliting) sources directly from SIKAP and UD Gonzalu in Boru sources directly from JANTAN (Pathways, 2011). Mars requires local suppliers be transparent with cocoa price process and have fair and honest prices. The company also established required traceability and sustainability criteria for the traders (Claes, 2012), (Pathways, 2011).

As of 2011, Mars had 2 staff on the island of Flores to help manage this process. Staff tasks are to implement a traceability system for Mars cocoa beans, monitor the collectors and traders that source from cooperatives and sell to Mars' to ensure the price is transparent and honest, provide technical assistance for JANTAN and SIKAP on drying and fermentation in collaboration with VECO, and manage the internal auditing process of the beans purchased from the traders (Pathways, 2011). Mars is also working with the cooperatives to develop business capabilities (discussed in strategy below) in order to improve the cooperatives negotiation power.

According to VECO, before this arrangement and Mars' investment in building farmer business capabilities, the farmers received IDR 7,800 (USD 0.92) per kg of wet beans and this has increased to IDR 9,600 (USD 1.13) per kg because of stronger negotiation power. The farmers can also receive quality premiums if they meet Mars' quality requirements (Pathways, 2011).

Driver: By engaging with local business partners, Mars can better ensure sustainability and traceability of its cocoa sourcing and ensure quality cocoa supply.

Key Partners: VECO, local traders

Principal Intervention Points: Market Access, Market Incentive for Quality; Trader Relationships (**Note: inherent in this approach is capability building and access to materials, though these are not identified as the principal intervention points for this strategy*).

Constraints addressed: Smallholder weak bargaining position; complex crowded supply chain with no transparency; low & inconsistent bean quality; no incentive to improve quality or fermentation

Opportunity Leveraged: Entrepreneurial & dynamic farmers; Domestic processing capability

Directly Develop Cooperative Organizational & Business Capabilities

Company: Mars, Inc.

Description: Mars has established a multi-year partnership with JANTAN and SIKAP cooperatives with a goal to develop the cooperative collective marketing capabilities in order to strengthen farmers' negotiation power. Mars partnered with VECO Indonesia to enable the farmers to organize into efficient groups. Over a two year period, VECO facilitated farmers' organization from small groups of 25-50 farmers to large organizations of 500-2000 farmers. After VECO organized the farmer groups, Mars and VECO signed an MOU in 2011 to further build organizational and business capabilities of the large farmer organizations. Mars and VECO partner with local NGOs for technical assistance. Ayu Tani works with JANTAN and has a strong relationship with East Flores government which is key for success. Tana Nua is an NGO partner that works with SIKAP (Pathways, 2011).

According to a report by VECO, before the Mars partnership, "farmers were manipulated by middlemen buying their cocoa for low prices" (Pathways, 2011). Cooperative marketing and organizational capabilities significantly improved, particularly the bargaining and negotiation position of the farmers and the ability to procure local government support (Pathways, 2011). In 2011, SIKAP had 147 farmer members (Claes, 2012). JANTAN had 630 farm members with expected growth, and is a key player in Flores cocoa for sustainable cocoa practices (Pathways, 2011).

Key Partners: VECO, local NGOs

Driver: In order to ensure sustainability and traceability of cocoa to meet certification requirements, there is a need for Mars to cooperate with organized farmers if they are to purchase cocoa from the farmer groups. Thus, Mars has been directly involved in helping to build cocoa cooperative organizational, business and professional capabilities. It is not efficient for Mars to source from unorganized cooperatives or smallholders.

Principal Intervention Points: Market Access, Capability Building

Constraints addressed: Smallholder weak bargaining position; complex crowded supply chain with no transparency; lack of & disorganized cooperatives

Opportunity Leveraged: Entrepreneurial & dynamic farmers; Sustainability actors & emergence of CSP

Extension Services

Definition of Extension Services: Cocoa industry stakeholders recognize that a major constraint for cocoa farmers is simply a lack of knowledge. “Knowledge” here can take the form of good agriculture practices, good business practices, and access to market information and/or environmental and social considerations of cocoa farming. For the purpose of this report, we define extension services as the transfer and application of new technology, research, information, and/or knowledge to cocoa farmers through on-the-ground, hands-on farmer education. We also consider enabling farmer access to inputs, such as fertilizer or pesticides, and general access to knowledge, such as market information, as part of an extension services program. The key to extension services is that education occurs in the field with the intent for smallholders to apply learnings to their own management of their farms. For the purpose of this report, we categorize extension services as the programs that offer these services but do not intend to source directly from the communities in which they are offering the services. We recognize that many programs have the intent to source directly also offer extension services to some capacity (capability building, etc.). The key designation in our definitions is that the initiatives we categorize as extension services are intended to ‘raise-the-floor’ for cocoa farmers in the community and may not necessarily be producers in the company’s supply chain.

Companies: Mars, Hershey, Nestlé

In Indonesia, extension services are offered by the private sector (brands and processors) and public organizations (NGOs). Each of the major global chocolate brands is engaged in Indonesian cocoa smallholder extension services in some capacity. Extension services programs take various names and have some differences in scope, however the approaches generally follow the same structure: A “hub-and-spoke” model for information dissemination which was pioneered by Mars. Information “is transferred from central extension centers through local extension centers to the individual cocoa farmer” (Cocoa Sustainability Partnership, 2013). See Figure 20 below for a simplified schematic of this model. The central and local extension centers usually serve as training and demonstration sites. The central hub is used for training the farmer trainers as well as for research and development activities. At the local centers the “information and inputs are transferred to the farmer” by the trainers (Cocoa Sustainability Partnership, 2013).

Extension services have great outreach in Indonesia, and according to the Cocoa Sustainability Partnership, “more than 50% of farmers have participated in formal training programs at least once (Cocoa Sustainability Partnership, 2013).” Though, the challenge is continued participation and effective application of learnings to smallholder farms (Cocoa Sustainability Partnership, 2013). Below we’ve highlighted a few key extension services offered by public and private actors in Indonesia.

- **Nestlé:** In 2011, Nestlé launched the Nestlé Cocoa Plan in Indonesia which focuses on training farmers through Farmer Field Schools and focuses particularly on technical training due to the cocoa pod borer pest problem. The company created and supports a demonstration plot in Luyo with local trader Bumi Surya (Hafid & McKenzie, 2012) among others. The Cocoa Plan also emphasizes transparency in the supply chain, strengthens farmer groups and is working to develop Smallholder Cocoa Enterprises. Nestlé is investing 4 million in the project and as of November 2013, Nestlé has “created and strengthened 100 farmer groups and trained more than 3,000 farmers in Good Agriculture, Nutrition, Environment, and Business Practices” (Nestlé Cocoa Plan Indonesia, 2013). Key partners include VECO, ACDI-VOCA and Swisscontact.

- **Mars:** Mars has been involved in extension services in Indonesia since 2003 and pioneered the Hub-and-Spoke model. In 2005, Mars introduced Cocoa Development Clinics (CDCs) which act as the hub, and later developed the regional, “spoke” centers which Mars coins Cocoa Village Clinics (CVCs). A CDC is designed to collaborate with up to 20 CVCs and the CVCs work directly with up to 100 cocoa smallholders. As of 2012 there were five CDCs in Indonesia. Mars manages and funds this program but relies on partner organizations for on-the-ground support, including VECO and Swisscontact. Mars requires a five-year MOU in order to work with NGO partners on-the-ground (Hafid & McKenzie, 2012). In 2012 the company signed an MOU with the Sustainable Trade Initiative (IDH) for the second round of the IDH Cocoa Production Quality Program funding for 2012-2015 (Asmayanti, 2012). Mars intends to have the CVCs eventually become a self-sufficient business (Hafid & McKenzie, 2012).
- **NGO Led Projects with Private Sector Support:** The private sector is engaged in a number of NGO-led extension service programs. A few are briefly outlined below.
 - **Cocoa Innovations Project (CIP):** Jointly launched in July 2013 by WCF and ACIDI/VOCA, the CIP aims to leverage PPPs and apply crop management innovations and information technology to improve cocoa farmer incomes. Financial supporters include Mars, Armajaro, Olam, Continaf, Mondelēz and Hershey. The goal is to increase smallholder income and improve efficiency. Elements include microfinance loans, banking via mobile phones extension services, and cocoa community fermentation programs (PR Newswire, 2013).
 - **Sustainable Cocoa Production Program (SCPP):** Swisscontact launched this 3-year project in 2012 in partnership with ADM, Armajaro, Cargill, Mars and Nestlé. The approach includes extension services, “nutrition and gender sensitivity integration, farmer organization, market access and certification, integrated agri-business financing, and stakeholder management and networking platforms” (Our Projects, 2013). The goals are large and include training 60,000 farmers and increasing their cocoa income by 75%, establishing 2000 producer groups and creating 500 jobs in the cocoa value chain. The program emphasizes certification as a tool to address smallholder constraints and to-date has enabled 2,451 smallholders to become UTZ Certified (Our Project, 2013).
 - **IDH Sustainable Trade Cocoa Productivity & Quality Program (CPQP):** The CPQP is a co-funding program to help develop cocoa market initiatives that intend to address six key areas; “quality, productivity, professionalization of farmers and their organizations, total quality standards systems, financing and coordination and alignment” (CPQP, 2013). Goals are to both increase and align the private and public sustainable cocoa projects and mainstream successful programs throughout key cocoa producing origins. Swiss Contact is the on-the-ground program coordinator in Indonesia. As of May 2013, there were four CPQP Projects in Indonesia co-funded by Mars, Nestlé, Barry Callebaut, Armajaro and ADM (CPQP second round, 2013).

Drivers: In general, the intent of these extension services is to raise-the-floor for cocoa farming communities and improve the livelihood of cocoa farmers through improved productivity and quality of cocoa. The companies are not necessarily planning to source directly through these communities, however, many efforts are intended to enable the communities to become third-party certified in the near future.

Principal Intervention Points: Access to materials/inputs; Capability building; Government & industry group alignment (depends on project)

Constraints addressed: Low & inconsistent bean quality; Low productivity

Opportunities leveraged: High production potential; Entrepreneurial & dynamic farmers; Sustainability players and emergence of CSP

Catalyze Community-Led Business Solutions

Company: Mars

Description: As discussed above, Mars intends to enable the CVCs to eventually be self-sufficient business communities. In an effort to diversify CVC businesses, Mars has enabled community members to explore business opportunities that support the cocoa value chain, such as agro-input distribution. One interesting development is the establishment of a composting business model which Mars developed with ACDI/VOCA in 2005. Mars and ACDI/VOCA help farmer cooperatives create compost businesses through training and equipment. As of 2008, 40 compost stations were established in Indonesia CVC communities. This also addresses specific needs of access to fertilizer which is a key input constraint for Indonesian cocoa farmers (Hafid & McKenzie, 2012) and (Cocoa Sustainability Partnership, 2013).

Drivers: Ensure cocoa communities thrive so farmers will remain in the industry.

Key Partners: ACDI/VOCA

Principal Intervention Points: Access to inputs/materials; Capability building

Constraints addressed: Low productivity; Low & Inconsistent bean quality

Positive Attributes leveraged: Entrepreneurial & dynamic farmers; Sustainability players & emergence of CSP

Sustainable Certification

Companies: Nestlé, Mars & Hershey

Description: UTZ & Rainforest Alliance are the most common and well known certification bodies in Indonesia (Cocoa Sustainability Partnership, 2013). Certification has been one way to stimulate better technical assistance for cocoa smallholders and the value chain particularly in Indonesia where the technical infrastructure has historically been weak. Much of the extension services discussed above are, in part, intended to enable smallholders to become certified.

Currently **OLAM** is the leading supplier of Rainforest Alliance certificates and their key partners include **Hershey** and Blommer (a chocolate processor in the US). OLAM purchases cocoa through local traders but is willing to work directly with cocoa farmers to source certified cocoa (Rainforest Alliance 2013). **Armajaro** has been another major player in the Indonesian cocoa value chain for certified cocoa and is helping **Nestlé** meet this goal. Nestlé has partnered with VECO and Armajaro to ensure UTZ certification in order to enable Nestlé to meet its certification commitment (Nestlé Cocoa Plan Indonesia, 2013).

Mars considers certification as a key part of the solution but recognizes that certification alone will not solve all problems. As such, Mars is working with certification organizations to incorporate farmer productivity and profit into certification standards (Our Supply Chain Cocoa, 2013). Notably, Mars is working with Rainforest Alliance, VECO and SwissContact to find alternative structures to the certification scheme's Internal Control System to ensure farmers benefit from certification. One alternative is the Biodiversity and Agricultural Commodities Program (BACP) which is "applying sustainable cocoa practices through agroforestry in community forest areas as a tool for achieving biodiversity conservation outcomes" (Rainforest Alliance, 2013). This project enables cocoa farmers to manage certification as a community through self-organization and capacity building. Mars has committed to increase Rainforest Alliance cocoa in Indonesia. The company currently sources around 6,200 tonnes of RAINFOREST ALLIANCE certified cocoa and has a target to source between 9,500-10,000 tonnes by the end of 2015 (Rainforest Alliance, 2013).

Driver: Certification is recognized by chocolate manufacturers one of the best tools that currently exists on the market to ensure sustainable cocoa production.

Key Partners: UTZ, Rainforest Alliance, traders, processors and on-the-ground NGOs for extension services

Principal Intervention Points: Market incentive for quality upgrading; Capability building; Access to materials/inputs

Constraints Addressed: Low & inconsistent bean quality; Sustainability players and emergence of CSP

Opportunities Leveraged: Sustainability actors & emergence of CSP

Industry and/or Government Collaboration

Companies: Mars, Nestlé, Mondelēz

Description: At the country-level, Mars is engaging with the national government to address cocoa sustainability issues. Together with Armajaro, VECO Indonesia, CSP, Rainforest Alliance and UTZ, the group established Indonesian cocoa national sustainability and certification criteria. This is a benefit to Mars as the company had a seat at the table when decisions were made regarding criteria (Pathways, 2011). Mars, Nestlé and most recently Mondelēz consulted in the development of the Cocoa Sustainability Partnership 2020 roadmap which was finalized in December 2013 in an effort to align private and public sector engagement in the cocoa value chain (Cocoa Sustainability Partnership, 2013).

Driver: Public and private value chain actors have recognized the need and benefits of collaboration and sharing best practices in order to align projects on-the-ground.

Key Partners: Multiple

Principal Intervention Points: Government & Industry Group Alignment

Constraints addressed: Failed government intervention for sustainability and productivity

Opportunities Leveraged: Government PPP support; Sustainability Actors & Emergence of CSP

III. Ghana Sustainable Cocoa Sourcing Strategies

Develop separate value chain for specified cocoa

Company: Hershey

Description: Hershey was a core partner in the Ghana Fine Flavor Cocoa (FFC) Project, which was a project under the New Business Models for Sustainable Trading Relationships Initiative. The project took place from 2008-2011 with a goal to “design and implement a fine flavor cocoa value chain in Ghana to help small-scale cocoa farmers gain access to high-value markets” (Daniels et al, 2012). The project was inspired by the co-founder of Scharffen Berger, a fine flavor chocolate brand acquired by Hershey. The project aimed to improve income of Ghanaian farmers through sale of FFC directly to manufacturers of gourmet chocolate, to develop the farmers capabilities to cultivate FFC, and “create and document a sustainable business model based on a differentiated, premium cocoa brand for future scale-up of development benefits” in Ghana (Ghana fine Flavor Cocoa, 2010). Fine flavors were identified in a taste test and the project showed promising results. As of 2010, FFC production systems were being adopted in five growing communities and COCOBOD was supporting a separate FFC supply chain from farmer village to export. Hershey had also committed to purchasing the pilot project cocoa at a premium (Ghana fine Flavor Cocoa, 2010).

Driver: Hershey was interested in sourcing FFC cocoa for Scharffen Berger brand, a high-end, artisanal chocolate brand.

Key Partners: Sustainable Food Lab, International Center for Tropical Agriculture (CIAT), AgroEco/Louis Bolk Institute, Cocoa Research Institute of Ghana, and the Sustainable Tree Crops Program, COCOBOD.

Principal Intervention Points: Market access; Market incentive for smallholder upgrading; Leverage existing quality attributes (**Note: Inherent in this approach is capability building and access to materials, though these are not identified as the principal intervention points for this strategy*).

Constraints Addressed: Price fixing → no incentive to improve quality or innovate; Poverty & limited livelihood alternatives

Opportunities Leveraged: Very high natural bean quality; Quality control & traceability system

Company: Lindt & Sprüngli

Description: Lindt & Sprüngli (Lindt) implemented the “Ghana Traceability Project” in 2008 upon which the company partnered with Source Trust and COCOBOD to develop a traceable supply chain and independent purchasing model for Ghana cocoa. Lindt owns a minority share in a Licensed Buying Company which purchases cocoa directly from smallholders and as such, the company claims to have “full control and responsibility for all processes along the entire supply chain” (Lindt & Sprüngli, 2013). Cocoa is purchased in bags of 60kg which are sourced back to the village-level. Lindt relies on Armajaro as a partner to identify, track and separate the beans at the villages. Then the beans are graded at one of the cocoa districts by the COCOBOD Quality Control Division. The Lindt beans are then stored separately at the CMC export center (Lindt & Sprüngli, 2013).

Lindt pays a premium of USD \$60/tonne for the traceable cocoa. Fifty-percent of the premium funds the COCOBOD Armajaro Traceable Foundation (CATF), a non-profit aimed at community development in the communities from which Lindt purchases. Lindt is building capabilities for farmers with its partner, Source Trust, through extension services which will be discussed below. Rather than pursuing third-party certification, Lindt is pursuing its own independent traceability and sustainability program to be verified according to specified criteria. Companies such as Africert, IM Control, and Control Union will be solicited to audit and verify the program (Traceability, 2013). Lindt chose not to pursue sustainable third-party certification as it intends to eventually have the Lindt brand itself “stand for a sustainable value chain.” (Traceability, 2013). The company standards are aligned with UTZ and Rainforest Alliance and will follow the training criteria of the Certification Capacity Enhancement program (CCE) discussed in Chapter 2. However, the verification model methodologies differ (Cooper, 2013). In 2013, IDH announced its decision to co-fund the project expansion (Lindt & Sprüngli and IDH, 2013). Through the expansion, Lindt expects to reach 45,000 additional farmers between 2014 and 2016 and verify all Ghanaian cocoa farmers that source Lindt cocoa. Further, Lindt has committed to source 100% traceable and verified cocoa from all sourcing origins by 2020 (Traceability, 2013) and is planning to expand this system in South America.

Driver: Ghana is Lindt’s entire supply base for West African cocoa beans. In order to secure supply, Lindt’s priority is to improve Ghanaian cocoa farmers’ livelihoods.

Key Partners: Source Trust, Armajaro, COCOBOD, Cocoa Research Institute of Ghana

Principal Intervention Points: Market Access; Market incentive for smallholder upgrading; Leverage existing quality attributes (**Note: Inherent in this approach is capability building and access to materials, as well as community development through the development fund, though these are not identified as the principal intervention points for this strategy*).

Constraints Addressed: Price fixing → no incentive to improve quality or innovate

Opportunities Leveraged: Very high natural bean quality; Quality control & traceability system; Government interest in sector improvements with some success

Direct-Trade with Cooperatives

Company: Divine Chocolate

Divine Chocolate (Divine) is a private, for-profit, Fairtrade chocolate company limited by shares. The company sources 100% of its cocoa from the cooperative, Kuapa Kokoo, which as discussed in Chapter 4 was one of the first LBCs in Ghana and is the only LBC producer cooperative. Divine has a unique business model as Kuapa Kokoo is the majority shareholder of its 99 shares. Divine was founded in 1998, (as Day Chocolate Company) by the Kuapa Kokoo cooperative members along with Twin Trading, a UK based Fairtrade non-profit (The Divine Story, 2013). Today, Kuapa Kokoo owns 45% of the company shares and two representatives from the cooperative sit on Divine’s Board of Directors which ensures that cooperative members have input in how Divine is managed. Other Board of Directors include two individuals from Twin Trading and one each from Oikocredit, Christian Aid and Comic Relief. At least one quarterly board meeting is held in Ghana each year and as equity holders, cooperative members receive a share of profits. In addition to Kuapa Kokoo, the other current shareholders are Twin Trading and

Oikocredit, an international development financing institute. The Body Shop, an international cosmetics company, was one of the original shareholders in 1998 and donated its shares (14%) to Kuapa Kokoo in 2006. Divine's work is also supported by Christian Aid and Comic Relief, both UK-based NGOs. (The Divine Story, 2013).

Divine pays a Fairtrade social premium which totaled 186,000 pounds in 2012 and directly supports the producers, having spent 151,000 pounds on direct support in 2012. Divine and the company shareholders work with Kuapa Kokoo on quality and productivity upgrading and on a myriad of holistic community development projects. The company established a non-profit organization, Trading Visions, which works to alleviate poverty of smallholder producers by "amplifying their voices in the supply chain" (Inside Divine, 2013).

Driver: Divine is a mission-driven, Fairtrade chocolate company that was started by cooperatives.

Key Partners: Kuapa Kokoo, Twin Trading, Christian Aid, Comic Relief, The Body Shop (historic)

Principal Intervention Points: Market access; Market incentive for smallholder upgrading (**Note: Inherent in this approach is capability building and access to materials, though these are not identified as the principal intervention points for this strategy*).

Constraints Addressed: Price fixing → no incentive to improve quality or innovate; Poverty & limited alternative livelihoods; Unfair transactions of LBCs or unofficial middlemen

Opportunities Leveraged: Very high natural bean quality

Company: The Body Shop

Description: As part of its Community Fair Trade program (CFT), The Body Shop directly sources cocoa from Kuapa Kokoo for use in over 20 beauty products (Doherty & Tranchell, 2005). As mentioned above, the Body Shop was an original shareholder of Divine Chocolate and one of its first customers (Inside Divine, 2013) and has maintained a direct relationship with the cooperative for almost 20 years (Support Community Fair Trade, 2014).

The Body Shop established the CFT program in 1987 as a sourcing strategy for key ingredients intended to ensure fair trade with raw material suppliers. The program builds relationships with smallholder farmers, rural cooperatives and traditional artisans. Currently the Body Shop has 25 CFT suppliers and chooses to source ingredients under the program that are and will continue to be an integral part of the company's supply chain for the long term. Cocoa is one of the 25 CFT ingredients (Support Community Fair Trade, 2014).

The CFT program works as follows: A Body Shop specialist buyer team seeks out producer community groups who have the potential to supply high-quality ingredients to the company but do not have the means (e.g. capacity, contacts or scale constraints) to engage in international markets. When a community is identified, the specialist buyer team invests in understanding the community needs and context in order to determine capability building needs and ultimately the price to be paid to the producers. The Body Shop then connects a refining intermediary (e.g. processor) with the community. The refining intermediary manages the purchasing process from the community group along with

transportation and logistics. The Body Shop purchases the processed good from the refining intermediary. The product is entirely traceable throughout the value chain (The Body Shop, 2011) and (M. Davis, personal communication, April 2, 2014).

Pricing Strategy: The pricing process does not consider global commodity prices and market reactions to cocoa supply and demand. Rather, pricing factors include social and cultural issues, production technicalities, and the economics of a basic standard of living. The Body Shop often pays a “community premium” on top of their established price for a development fund (e.g. for every tonne of cocoa purchased from Kuapa Koko a premium is paid). The fund is managed by leaders of the community who determine how to best use the funds for community development projects. According to The Body Shop, “the aim in every case is to achieve what’s called a ‘sustainable business level’ – in other words, we first determine the amount of money we need to spend on purchases to make a tangible impact on each supplier and their community” (The Body Shop, 2011). The Body Shop honors the CFT pricing strategy for the life of the producer relationship. The CFT program and its claims are independently verified by a third party entity, the Institut fur Markteologie (The Body Shop, 2011).

The CFT program requires significant investment from The Body Shop in financial resources, management and employee time to foster and maintain producer community relationships. In 2010, The Body Shop spent \$8.9 million on the program. As of 2013 the company sources CFT ingredients from 21 countries and 85% of the Body Shop’s products contain at least one CFT ingredient. L’Oreal acquired The Body Shop in 2006 and as of 2010, 6 CFT ingredients were used in L’Oreal branded products (The Body Shop, 2011).

Driver: The Body Shop was founded with the philosophy that business can be a force for change and for good, thus its core values support programs like the CFT. Further, the fine CFT ingredients are vital for The Body Shop’s products and the program is a core part of the company’s brand image.

Key Partners: Kuapa Koko

Principal Intervention Points: Market access; Market incentive for smallholder upgrading (**Note: inherent in this approach is capability building and access to materials, though these are not identified as the principal intervention points for this strategy*).

Constraints Addressed: Price fixing → no incentive to improve quality or innovate; Poverty & limited alternative livelihoods; Unfair transactions of LBCs or unofficial middlemen

Opportunities Leveraged: Very high natural bean quality

Extension Services

Note: We introduced the concept of Extension Services in the Indonesia benchmarking section of this chapter, please refer to that section for a description and definition.

Description: Like Indonesia, Ghana has a myriad of on-the-ground extension services programs led by public and private value chain actors. However, the national government is more directly involved in the programs. This is expected given the economic importance of the crop and the governance of the cocoa value chain as discussed in Chapter 4. The WCF is also heavily involved in aligning private and public

sector extension services in West Africa considering nearly 70% of cocoa is produced in West Africa (WCF Programs, 2013). Many of the approaches are now following the hub-and-spoke model discussed in the Indonesia section of this chapter. Below we highlight a few recent, notable extension services approaches in Ghana.

- Hershey - Learn to Grow Program: In 2012, Hershey launched its Learn to Grow program in Ghana in partnership with Source Trust as the on-the-ground implementation partner. The USD \$10 million program will use Source Trust's model for extensions services which includes the establishment of community development centers in the central cocoa district of Assin Foso, the formation of 25 farmer organizations, and the construction of farmer stores for access to inputs which also will provide financing services (BusinessWire, 2012). The program will reach 1,250 farmers with a goal to double yield and income between March 2012 and February 2016. Hershey is taking advantage of the rapid development and adoption of technology in West Africa. GPS mapping will enable the farmers to accurately size their farms for the first time and farmers will identify the age of their cocoa trees through technology enabled documentation resources. Each participating farmer is registered and given an identification card which is used when purchasing in the Source Trust farmer store. The program will track farmers' purchases to collect data about farmer behavior and purchases in order to individualize educational and training opportunities (BusinessWire, 2012) and (A. McCormick, personal communication, February 24, 2014).

Hershey has committed to purchasing cocoa beans through Source Trust during the development of the Learn to Grow program. Hershey will not require producing communities to produce for Hershey and recognizes the farmers can opt to sell to other buyers in the market. Like many extension programs, the aim is for the farmers to eventually become third-party certified (A. McCormick, personal communication, February 24, 2014).

- Ferrero - Cocoa Community Commitment: Ferrero also partners with Source Trust for its cocoa extension service program, The Ferrero Cocoa Community Commitment (F3C). The 3 ½ year program (2012-2015) is addressing child labor with the support of the Ghanaian government, will establish eight Village Resource Centres, and will train farmers within the CCE curriculum. The program intends to reach 8,000 cocoa smallholder families (Ferrero, 2013) with the goal for independent certification of smallholders through UTZ, Rainforest Alliance, CCE or Source Trust. Like Lindt, Ferrero is working with Source Trust to ensure traceability and pays a premium to the COCOBOD Armajaro Traceable Foundation. Like Hershey, Ferrero is working with Source Trust to use GPS mapping to accurately size farmers' lands (Sustainable Agriculture Practices, 2011).

Hershey - Cocoa Link: In 2011, Hershey partnered with WCF and COCOBOD to launch a mobile technology service for Ghana cocoa farmers called CocoaLink. The program was deemed feasible as more than 65% of Ghanaians living in rural communities have access to cellphones and the Ghana mobile phone network covers 85% of the country. COCOBOD sends agronomy and social-themed messages to registered farmers on topics such as "improved farming practices, farm safety, child labor, crop disease prevention, post-harvest production and marketing" (CocoaLink, 2011). The program has been successful and Hershey intends to expand its reach throughout West Africa. A controlled study was conducted in 2013 and according to the results the CocoaLink program improved productivity for participating farmers (A. McCormick, personal communication, February 24, 2014).

- **NGO Led Projects with Private Sector Support:** The private sector is engaged in a number of NGO-led extension service programs in Ghana. A few are briefly outlined below.
 - **WCF African Cocoa Initiative (WCF/ACI):** This \$13.5 million, 5-year program (2011-2016) is a public-private partnership program comprised of cocoa industry players, the Sustainable Trade Initiative (IDH), the US Agency for International Development and key government institutions of the four program priority countries (Ghana, Côte d'Ivoire, Nigeria and Cameroon). The goal of WCF/ACI is to strengthen and institutionalize successful PPP cocoa investment models through support of public and private extension programs, development of national PPP platforms and sustainable cocoa roadmaps, enhancement of cocoa productivity through access to planting materials, and fostering “market-driven farming input supply services” (WCF African Cocoa Initiative, 2013). All major chocolate manufacturers and multinational buyers are part of the WCF/ACI (WCF African Cocoa Initiative, 2013).
 - **WCF Cocoa Livelihoods Program (WCF/CLP):** The WCF/CLP three-year program concluded in 2013. Its goal was to “increase farmer income while strengthening local service capacity through three main objectives: Improve market efficiency and build capacity of farmers and farmer organizations; improve production and quality of cocoa at the farm level; improve farmers’ competitiveness on diversified farms” (WCF Cocoa Livelihoods Program, 2013). These objectives were achieved through professionalizing cocoa cooperatives, offering financing schemes for credit access, improving access to farming materials and inputs, farmer business training. The key manufacturing brand partners were Mondelez International, Mars & Hershey and the processors were ADM, Cargill and Barry Callebaut (WCF Cocoa Livelihoods Program, 2013).
 - **IDH Sustainable Trade Cocoa Productivity & Quality Program (CPQP):** As discussed in the Indonesia section, IDH CPQP is a co-funding program with goals to increase and align private and public sustainable cocoa projects and mainstream successful programs throughout key cocoa producing origins (CPQP, 2013). Solidaridad West-Africa is the NGO program coordinator for work on-the-ground in Ghana. As of May 2013, there was one CPQP project in Ghana co-funded by Armajaro (CPQP second round, 2013).

Drivers: In general, the intent of these extension services is to raise-the-floor for cocoa farming communities and improve the livelihood of cocoa farmers through improved productivity of cocoa and through better farm management. The companies are not necessarily planning to source directly through these communities, however, many efforts are intended to enable the communities to become third-party certified in the near future.

Principal Intervention Points: Access to materials/inputs; Capability building

Constraints addressed: Low productivity; Poverty & limited livelihood alternatives

Opportunities leveraged: Government interest in sector improvements with some success

Sustainable Certifications

Companies: Lindt, Mars, Nestlé, Ferrero

Description: UTZ, Rainforest Alliance and Fairtrade are used widely in Ghana and much of the extension services work discussed above and efforts of organizations like WCF and IDH are intended to enable smallholders to become certified. The IDH Certification Capacity Enhancement Project (CCE) was discussed in Chapter 2 and aims to align and develop a common farmer training curriculum for all three major certifications in order to streamline farmer requirements. In Ghana, the WCF is involved in this project as are **Mars, Lindt, Nestlé** and **Armajaro** (IDH: CCE, 2013). **Nestlé** is working with farmers in Ghana to enable achievement of UTZ certification under the Nestlé Cocoa Plan (Nestlé Cocoa Plan Ghana, 2013). **Ferrero** has committed to sourcing only certified cocoa by 2020 and is utilizing UTZ, Rainforest Alliance and CCE (Sustainable Agriculture Practice, 2011).

Driver: Certification is recognized by chocolate manufacturers one of the best tools that currently exists on the market to ensure sustainable cocoa production.

Key Partners: UTZ, Rainforest Alliance, Fairtrade, IDH CCE, Source Trust

Principal Intervention Points: Access to materials/inputs; Capability building; Market incentive for smallholder upgrading

Constraints Addressed: Poverty & limited livelihood alternatives

Opportunities Leveraged: N/A

Holistic Community Development Initiatives

Companies: Most international chocolate manufacturers

Most international chocolate brands have recognized the grave social challenges that impact Ghanaian cocoa farmers. As discussed in Chapter 4, these include a very low standard of living, low literacy rate and inhumane labor conditions. Major brands are attempting to take a holistic approach to address these issues and many strategies outlined above are intended to, in part, address these challenges. We will not list companies' community development and empowerment strategies, but rather take note of this work.

The WCF is a major convening body that aims to streamline company interventions and align the work in West Africa, through three flagship programs. This work will not only train farmers, but is working towards “enhancing education, investing in families, and improving community health and welfare” (WCF Programs, 2013). Two programs were discussed above, the Cocoa Livelihoods Program and WCF African Cocoa Initiative. The third is WCF ECHOES which stands for Empowering Cocoa Households with Opportunities and Education Solutions and aims to “strengthen cocoa-growing communities by expanding opportunities for youth and young adults through education” (WCF ECHOES, 2013). WCF Echoes intends to be a scalable rural education program model and serves 41 communities in Ghana (WCF ECHOES, 2013).

Ghana is a priority country for the three flagship WCF projects and most major chocolate manufacturers are involved in some capacity. In particular, major chocolate manufacturers and processors are ubiquitously working with WCF and the Ghanaian government on their National Plan for the Elimination of the Worst Forms of Child Labor (WFCL) (WCF Programs, 2013).

Driver: In order to ensure cocoa supply, chocolate manufacturers must holistically address challenges at the village and/or community-level.

Key Partners: Multiple

Principal Intervention Points: Community development & empowerment

Constraints Addressed: Severe labor concerns; social & health challenges at the community-level

Opportunities Leveraged: Government interest in sector improvements with some success

IV. Dominican Republic Sustainable Cocoa Sourcing Strategies

Third-Party Direct Trade Certified

Company: Taza Chocolate

Description: Taza Chocolate (Taza) is a for-profit chocolate manufacturer that produces stone ground, organic chocolate products. The company also sells cocoa to other craft chocolate makers as well as wholesale chocolate products and ingredients to restaurants and retailers. In 2010, Taza developed an independently verified Direct Trade Certified Cacao program and maintains this trade relationship with each of their cocoa bean producers. The program is based on five principles which are as follows, 1) Taza sources only from USDA Certified Organic farms that practice sustainable agriculture; 2) A premium of at least 500 USD per metric ton above the NY International Commodities Exchange (NY ICE) is paid to the farmers based on the date of the invoice; 3) Taza visits the farmer or cooperative once a year; 4) Cocoa producers must ensure humane and fair work practices; and 5) producers must not use child or slave labor (Taza, 2013). Taza's claims are verified each year by Quality Certification Services, a certifier based in the United States. Taza partners with Root Capital, a rural finance company that offers pre-harvest financing to producers (Taza, 2013).

Taza sources dried and fermented cocoa beans directly from La Red, a small-scale cooperative with a drying and fermentation operation, and from Finca Evesia, a medium-sized, independent and organic certified cocoa farm. Finca Evesia has an on-farm bean drying and fermenting operation and the capacity and size to hire and house workers (Taz, 2013). Finca Evesia also hosts farming workshops and has renewable energy projects on-site (Dagoba, 2013). Between September 2012 and September 2013, Taza purchased 165.2 tons of cocoa. In 2013, Root Capital offered La Red a USD \$100,000 in pre-harvest loan during a particularly tough time (Taza, 2013).

Driver: Taza is a for-profit social enterprise committed to organic and sustainable cocoa sourcing. The company sources directly from Finca Evesia and La Red because these producers can supply dried and fermented cocoa, in-part due to continued support and financing from Taza (particularly for La Red).

Key Partners: Atlantic Cocoa (ECOM) is Taza's import partner but also helps with on-the-ground relationship building.

Principal Intervention Points: Access to Long-Term Capital

Constraint addressed: Limited ability to improve farming practices, dry and ferment beans

Opportunity Leveraged: Natural agro-ecological conditions → organic & high-quality beans

Establish Local Trader Relationships

Company: Taza Chocolate

Description: Through on-the-ground research Taza identified the supplier, Oko Caribe, which is a “mission-driven” sourcing, processing and export company operating in the DR (Taza, 2013). Oko Caribe was established in 2006 by two former CONACADO technicians. The company purchases wet cocoa beans directly from smallholders who do not have the capacity to ferment and dry themselves. Oko Caribe primarily sources beans from three farmer organizations that are each UTZ and organic certified; San Isidro, Alta Gracia and Union y Progress. Each of the farmer associations do not produce enough volume to source directly to Taza. Oko Caribe then dries and ferments the beans and exports to premium cocoa buyers in the US and Europe. Oko Caribe’s goal is to “raise quality standards for cacao to serve these growing global markets, while maintaining environmentally and socially responsible operations” (Taza, 2013). Taza identified the partnership and began sourcing from Oko Caribe in 2013 (Taza, 2013).

Driver: Taza is a-profit social enterprise committed to organic and sustainable cocoa sourcing. Taza engaged with Oko Caribe because of their ability to reach additional farmers and social mission.

Key Partners: Oko Caribe, Atlantic Cocoa (ECOM) is Taza’s import partner but also helps with on-the-ground relationship building.

Principal Intervention Points: Reach underrepresented smallholders

Constraint addressed: Concentrated domestic actors for high quality exports (oligopoly)

Opportunity Leveraged: Sustainable & quality-control chain infrastructure & upgrading projects

Direct Sourcing from Cooperatives

Company: Mars (Seeds of Change Brand)

In 1997, Mars acquired an organic food company, Seeds of Change. Seeds of Change sources 100% of its cocoa from CONACADO for use in premium chocolate bars. The company is working through CONACADO on farmer training and education in order to improve producer incomes. More specifically, Seeds of Change is working with CONACADO to address disease and pest challenges, enabling farmers to receive a higher price for their crop and through technical assistance and education to farmers (Seeds of Change, 2014). Further, the Seeds of Change 1% Foundation ensures that 1% of net sales is used to “advance the cause of sustainable organic agriculture and biodiversity worldwide” (Seeds of Change, 2014).

Driver: Seeds of Change is a high-end, organic chocolate brand with a social and environmental mission.

Key Partners: CONACADO

Principal Intervention Points: Capability Building

Constraint addressed: Limited ability to improve farming practices, dry and ferment beans

Opportunity Leveraged: Sustainability & quality-control chain infrastructure & upgrading projects;
Natural agro-ecological conditions → organic & high-quality beans

Sustainable Certification

Company: Hershey (Dagoba Brand)

Description: In 2006 Hershey acquired the artisan organic chocolate brand, Dagoba, and as such 'inherited' the cocoa purchasing policies for Dagoba-branded products. Dagoba directly sourced all cocoa from CONACADO for use in the former product, the CONACADO Bar. However, it appears that Dagoba no longer produces this bar. As of 2012, the brand committed to sourcing Rainforest Alliance certified cocoa for its entire product line. Dagoba sources dried, fermented, organic Rainforest Alliance cocoa from the Dominican Republic farm, Finca Evesia, from which Taza also sources (Dagoba, 2013).

Driver: Certification is recognized by chocolate manufacturers as one of the best tools that currently exists on the market to ensure sustainable cocoa production. Dagoba is a high-end, organic chocolate brand.

Key Partners: Rainforest Alliance

Principal Intervention Points: Capability Building

Constraint addressed: N/A

Opportunity Leveraged: Constraint addressed: Limited ability to improve farming practices, dry and ferment beans

Opportunity Leveraged: Sustainability & quality-control chain infrastructure & upgrading projects;
Natural agro-ecological conditions → organic & high-quality beans

**Note: Because the Dominican Republic dominates the industry for organic and sustainable certified cocoa, it is clear that other brands are sourcing sustainable certified cocoa from the country. However, in our research, we did not identify any other manufacturer strategies that explicitly source certified cocoa from the DR other than Hershey.*

V. Côte d'Ivoire

Note: Relevant examples for Côte d'Ivoire are dispersed throughout this chapter. Please see the Côte d'Ivoire section in Chapter 6 for references to additional benchmarking examples.

Direct Sourcing from Cooperatives

Company: Nestlé (The Nestlé Cocoa Plan)

Description: Nestlé has a direct sourcing relationship with one FairTrade certified cooperative, in addition to 35 cooperatives via its Tier 1 suppliers (FLA, 2012). Through The Nestlé Cocoa Plan (TNCP) in which Nestlé has committed CHF110MM over 10 years, Nestlé can trace purchased cocoa to the individual farmer and can target social programs to address specific needs of the members of the cooperatives. Twenty percent of the cocoa Nestlé procures from Côte d'Ivoire is sourced under TNCP. Compared to 80% from the "standard supply chain," which is currently not transparent and is unstable and contains several layers of middlemen (cooperatives, *traitants*, SARLs and *pisteurs*) who do not necessarily source based on quality of the bean (FLA, 2012).

Nestlé selects cooperatives based on those who have participated in sustainability programs of its Tier 1 suppliers. Most are already certified by UTZ, Rainforest Alliance or Fairtrade or are in the process of becoming certified. Nestlé's Tier I suppliers claim they train *traitants* on sustainability issues with a view towards certification (FLA, 2012).

Driver: Lack of an organized value chain: 80-85% of cocoa procurement in Côte d'Ivoire is through actors other than cooperatives; cooperatives are not well organized for Nestlé to purchase 100% of its cocoa from cooperatives and existing supply chains are unstable.

TNCP motivates farmers to form and join cooperatives and builds trust among them. It also allows Nestlé to define who its cooperatives are. One key challenge is TNCP supply chain and the standard supply chain are sometimes comingled, which means transparency does not always extend to the *pisteurs* and farmers and reduces monitoring compliance of labor standards (FLA, 2012).

Key Partners: Third party certifiers; most training is conducted by ANADER (l'Agence Nationale d'Appui au Développement Rural) in Farmer Field Schools.

Key Intervention Point: Market Incentive for Improved Quality; Capability Building; Quality Control: Collaboration with all Partners to Promote Quality.

Constraint addressed: Low farmer incomes; low productivity.

Opportunity Leveraged: Increased political power of chocolate manufacturers.

Direct Interventions/Extension Services

Description: Mars' Vision for Change (V4C) is a multi-stakeholder Collective Impact initiative that combines pre-competitive investments in public goods with investments in the supply chain. V4C works with cocoa farmers in Côte d'Ivoire to improve the quantity and quality of cocoa beans produced, with a goal to reach 150,000 farmers and to triple yields up to 1.5 tonnes per hectare by 2020. (V4C) works in 4 areas: farmer productivity, community development, monitoring/evaluation, and coalition building (Mars Invested in Cocoa's Future, 2012).

In 2010, Mars signed an MOU with the Ivorian Government "to develop a common vision, strategy and business plan to revitalize the cocoa industry in Côte d'Ivoire" (Cocoa Sustainability MOU, 2010). Through the MOU, Mars can work directly with the government on projects with farmers to improve productivity. A central "direct intervention" within V4C is technology transfer to farmers through Cocoa Development Centers (CDC). Through this model, farmers learn grafting and pruning techniques to cultivate higher-quality yields (see Indonesia section for introduction to CDCs) utilize better planting materials. In contrast to the CDC model in Indonesia where CDCs work with individual entrepreneurs, CDCs in Côte d'Ivoire are organized in the village setting. Mars has signed MOUs with industry partners, Barry-Callebaut and ECOM, for expansion of the program in Côte d'Ivoire. As the first on-the-ground supplier to build a CDC in Côte d'Ivoire in 2010, ECOM was responsible for identifying farmers from cooperatives and ECOM workers to visit Mars' CDC operations in Indonesia (van Grinsven, 2012). Farmers can then leverage their knowledge to establish Village Cocoa Centers (VCC) or local nurseries where farmers can witness best practices in action, purchase superior plant seeds, and seek advice or hire experts. In 2012, 17 CDCs have been built in Soubré. Of these, four are Franchise CDCs built by partners ECOM and Barry Callebaut (Toledano, 2013). Individuals are also selected to act as operators for the CDC nurseries.

Mars is in the process of developing methodology for monitoring and evaluating the effectiveness of these direct interventions. As of 2012, baseline data have been collected from the first group of CDCs (Toledano, 2013). Mars only partners with suppliers that meet their sustainability and certification companies' requirements for certification, after which an MOU is drawn.

Driver: The CDC and CVC model focuses on "putting farmers first" and relies on the reach of partner organizations on the ground to facilitate the "direct intervention" to help farmers improve cocoa quality and yields to ensure long-term cocoa supply. The Ivorian government relies on Mars' financing for the development of a healthy and productive cocoa sector and securing an important national revenue stream (van Grinsven, 2012).

Key Partners: Côte d'Ivoire Minister of Agriculture, national agricultural institutions, the World Agroforestry Centre (ICRAF), ECOM and Barry Callebaut, FSG

Intervention Point: Quality control: collaboration with all partners to promote quality; Access to materials; Capability building

Constraints addressed: Low productivity; aging and declining cocoa tree stock; low farmer incomes; low bean quality

Opportunity Leveraged: Strong trader relationships; high production potential

VI. Brazil

Note: Relevant examples for Brazil are dispersed throughout this chapter. Please see the Brazil section in Chapter 6 for references to additional benchmarking examples.

Extension Services/Investment in Innovation at Origin

Note: We introduced the concept of Extension Services in the Indonesia benchmarking section of this chapter, please refer to that section for a description and definition.

Company: Mars, Inc.

Description:

The Mars Center for Cocoa Science (MCCS) in Bahia, Brazil is a hub for world-class scientists to research and collaborate on issues such as advancing cocoa breeding, agroforestry systems, flavanols, understanding fungal plant diseases, pest control and finding new solutions to protect the cocoa crop from future diseases. MCCS sets up greenhouses that recreate the optimal ecological conditions for the cocoa tree to grow, with the goal of sharing findings with Brazilian partners to aid in the revival of the local cocoa industry. The public release of the sequence of the cocoa genome will enable scientists around the world to experiment with developing more resilient cocoa crop (Mars' initiatives in Latin America, 2011).

Driver: Ensure the sustainability and longevity of Mars' cocoa supply. As described in the Côte d'Ivoire section of this chapter, Mars' Vision for Change (V4C) program is rooted in technical research and science, and Mars will only partner with suppliers that meet its sustainability and certification companies' requirements, upon which an MOU is drawn.

Key Partners: IBM, United States Department of Agriculture's Agricultural Research Center

Intervention Point: Capacity Building; Access to Materials/Inputs

Constraints addressed: Low incomes; low productivity; limited government attention

Opportunity Leveraged: Increasing domestic demand for cocoa

VII. Additional Sourcing Strategies

In addition to sourcing strategies implemented in the five origins of interest, our research identified noteworthy adaptations of conventional sourcing models for cocoa outside of the origins of interest. We also researched manufacturers' sourcing approaches for other agriculture crops. Noteworthy examples are highlighted below with contextual information regarding the crop and/or origin. We do not list constraints addressed, opportunities leveraged or intervention points because we did not complete GVC analyses for the respective origins or crops.

I. Crop rejuvenation leading to direct sourcing

Company: Nestlé	Crop: Cocoa	Origin: Ecuador
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Description: Ecuador is the only origin in the world to produce Arriba flavor cocoa beans, one of the most desired cocoa beans of the *Nacional* variety. Witches Broom destroyed many cocoa plantations throughout Ecuador and especially the native *Nacional* cocoa trees. For resiliency, cocoa farmers transitioned to heartier cocoa breeds, however these breeds do not produce as fine a flavor as *Nacional*. As a result, the Arriba flavor bean supply was threatened (Arriba!, 2012).

As part of the Nestlé Cocoa Plan, Nestlé has directly invested in communities in Ecuador by bringing together international and local experts, botanists, farmers, businesses and the national government in order to rejuvenate the *Nacional* variety. The aim is for Ecuador smallholders to produce enough Arriba cocoa at the commercial volume needed for Nestlé's supply. Nestlé follows the hub-and-spoke extension services model with 19 demonstration plots and teaches good agriculture practices along with drying and fermentation techniques. Nestlé offers access to solar dryers and encourages crop diversification (Arriba!, 2012).

There are roughly 100,000 small scale farmers in Ecuador and Nestlé is aiding in the development of farmer cooperatives and strengthening of existing cooperatives. The intent is to build long-term relationships and eventually directly source from the cooperatives. In 2010, Nestlé purchased 15% of Ecuadorian cocoa directly from farmer cooperatives representing 2,000 farming families. Nestlé projects that by 2014 an additional 700 tonnes of Arriba cocoa will be produced under the Nestlé Cocoa Plan (Arriba!, 2012).

Nestlé sets a guaranteed weekly cocoa price paid to cooperatives to reduce daily price volatility risks for farmer and enable the cooperative to invest in fermentation and drying capabilities in order to meet Nestlé's high standard. The company offers better prices than the other village buyers as well as quality and flavor premiums. To hedge against theft or other disruptions, Nestlé offers access to credit and insurance with no interest (Arriba!, 2012).

Nestlé has a regional warehouse in Guayaquil, Ecuador and conducts thorough quality checks at the warehouse. Here, farmers are encouraged to watch the quality assessment. Beans are then shipped to Amsterdam for more quality checks and then shipped by train directly to Switzerland to be processed and made into chocolate (Arriba!, 2012).

Key Partners: None Identified

Driver: This is a business imperative as Nestlé needs a secure supply of Arriba beans to meet demands for chocolate products derived from fine flavor cocoa.

Company: Hershey	Crop: Cocoa	Origin: Mexico
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Description: In June, 2012 Hershey announced the Mexico Cocoa Project, a 10-year, USD \$2.8 million project aimed to reintroduce cocoa farming in the south of Mexico. The cocoa industry was ravaged by disease, mainly Moniliasis (frosty pod rot) over the last decade. In partnership with AMCO, the leading cocoa processor in Mexico which is owned by ECOM, the project intends to help restore the industry through Good Agriculture Practices (GAP) training and distribution of hundreds of thousands of disease resistant varieties on 1000 hectares of cocoa farmland (BusinessWire, 2013). The end goal is for Mexican cocoa farmers to produce enough cocoa to supply all of Hershey Mexico chocolate products (A. McCormick, personal communication, February 24, 2014). Several government agencies are supporting the project along with a local NGO (BusinessWire, 2013).

Key Partners: AMCO/ECOM, government agencies, local NGO

Driver: Supply security. Hershey has recently launched international expansion so there is interest in securing supply for the Central and South American markets.

II. Direct Sourcing with Collective Price Setting

Company: L'Occitane	Crop: Shea	Origin: Burkina Faso
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Note about shea and its similarities to cocoa: The shea value chain has a few key similarities to the cocoa value chain. Shea nuts are produced on trees in the same region of West Africa as cocoa and aged trees have passed their production potential. There has been little investment in the sector and cultivation is characterized by a labor-intensive post-harvest processing. Producer communities generally live around the poverty line relying on shea for a significant share of income. Shea fruit has a variety of end-uses but the most prominent market is its confectionary market in its use as a substitute for cocoa butter which compromises 90% of exports. The second market is cosmetics. Shea is traditionally processed into butter in Europe or Asia, which means little value is captured in producing countries. A key difference is that there does not appear to be a well-established value chain in producing countries (e.g. no multinational processors like cocoa (Kamara, 2012).

Description: Shea butter is the trademark ingredient for L'Occitane and is used in over 100 of the company's cosmetic products. L'Occitane has invested heavily in the company's shea butter supply chain over the last 20 years in order to source high-quality shea butter directly from producers who utilize semi-traditional shea butter production methods (Kamara, 2012).

L'Occitane develops shea cooperative capabilities to enable producers to process shea nuts into shea butter at the quality required by the company. This product upgrading enables producers to capture more value rather than supplying raw shea nuts (Kamara, 2012).

L'Occitane has a dedicated team within its Sustainable Ingredients Department that develops strategies to work directly with shea producers and manages supply chain activities. The team arranges technical support and visits the shea producers three times each year. Two local Burkinabé staff are employed on-the-ground to manage necessary on-site follow up (L'Occitane, 2013) and offer insights into local needs. In 2007, L'Occitane built a 400 square meter production site which provides necessary storage conditions as well as a laboratory to analyze shea butter (Kamara, 2012).

L'Occitane calls its inclusive business model 'Joint Development' and the company centers around a philosophy to "build long-term partnerships with high added value, built on trust and respect" (Kamara, 2012). Once shea producer groups are identified, a three year MOU is developed which outlines the minimum quantities and price for the three year period. Each year, L'Occitane and its producer groups sign a contract with the exact price and quantity to be produced and purchased for the year. The order is placed in July or August and L'Occitane offers 80% down payment on orders before the harvest to provide 'working capital' to the cooperatives (Kamara, 2012).

Historically L'Occitane used average market prices to determine price paid to shea cooperatives. Since 2009, L'Occitane has provided support for its producing cooperatives to acquire Ecocert Fair Trade certification in order to pay a "fair price" to cooperatives. This price is determined annually by producer representatives and the L'Occitane team and covers the costs of production as well as social and environmental costs identified. L'Occitane helps producer groups calculate the "true cost" of production by providing trainings and business software (Kamara, 2012). This price is general 3.5 times higher than the local market price. L'Occitane commits to purchasing shea at a fair trade price while the cooperative is working toward certification. L'Occitane also covers shea butter transportation costs to the Netherlands where the shea butter is further processed to meet company standards (Kamara, 2012). See Figure 21 for this chain.

Three percent of the price paid by L'Occitane is "transferred to a community development fund which helps to finance social and technical development initiatives" (L'Occitane, 2013). The remaining is used to cover overhead and production costs (Kamara, 2012). L'Occitane has also created a foundation to align their philanthropic activities to support communities in Burkina Faso and offers micro-financing to communities for non-shea activities. This indirectly benefits producers and provides more stable livelihoods and a higher standard of living (Kamara, 2012).

L'Occitane is willing to heavily invest to develop these relationships which benefit L'Occitane and the producer. After an intensive investment and relationship building period, cooperatives are now mature and stable enough for the supply chain to operate efficiently. L'Occitane seeks support from local NGOs as needed when issues arise, such as environmental or health concerns. Currently the supply chain functions properly with just the L'Occitane Sustainable Ingredients staff, the two part-time local staff, and the producer cooperatives (Kamara, 2012).

It is estimated that the costs of the Burkina Faso procurement is roughly 20-30% more expensive than conventional procurement which is to purchase refined shea butter from processors in Asia or western markets (Kamara, 2012). This cost increase is linked to transportation costs from Burkina Faso to the Netherlands and the Netherlands to France; shea butter loss from further refinement in Europe (on average 8% loss); Fairtrade certification costs, and the administrative costs of managing the supply chain and relationships (Kamara, 2012). However if done properly, the semi-traditional production process provides a superior product relative to the highly mechanized process of most cosmetic companies (Kamara, 2012).

In 2013, L'Occitane purchased 660 tons of shea butter from five producer groups of 15,000 women (Kamara, 2012). Now that production is efficient, the producers and L'Occitane have identified three, three-year objectives to address future constraints. These include a mechanization project for production centers to improve working conditions (particularly to attract younger generations of producer women since average age is 40) and efficiency while still maintaining traditional production

methods. Second includes environmental initiatives such as 100% organic certified and projects to address environmental impacts of processing. The third is added value project which involves filling in “missing links in the supply chain locally so that 100% of the added value can go back to Burkina Faso.” Two staff have been recruited to oversee these three-year objectives (Kamara, 2012).

Drivers: The altruistic personality of L’Occitane has driven the company’s business model and culture which includes a commitment to social and environmental responsibility. L’Occitane’s shea butter purchasing model ensures high quality ingredients and traceability while being aligned with the company’s social objectives (Kamara, 2012). Further, shea butter is a trademark ingredient with its best seller being their 100% shea butter product. The sourcing commitment and relationship with Burkina Faso is now a significant component of the company’s brand image and has “contributed to the company’s commercial success” (Kamara, 2012).

Key partners: Local NGOs for capacity building, Ecocert Fairtrade certification, Burkina Faso cooperatives

Company: The Body Shop	Crop: Shea	Origin: Ghana
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Description: As discussed, The Body Shop directly sources critical ingredients from producing communities as part of the company’s Community Fair Trade (CFT) program. For the last 17 years, the company has been purchasing shea butter directly from the Tungteiya Women’s Shea Butter Association in Ghana. Like L’Occitane, The Body Shop uses collective price setting and the CFT program is verified by a third-party. As of 2011, the partnership and development fund has enabled the shea community to build 11 schools, 5 health clinics, 8 teachers’ quarters, and other infrastructure projects (The Body Shop, 2011). In 2011, the Body Shop developed The Global Shea Alliance, which is a non-profit shea industry association headquartered in Ghana. The alliance is composed of international brands, NGOs, women’s producer associations, local businesses and suppliers. The mission is to “design, develop, and deliver strategies that drive a competitive and sustainable shea industry worldwide, improving the livelihoods of rural African women and their communities” (History and Mission, 2013). The Body Shop Director of Community Fair Trade is the Vice President of the Shea Alliance.

Drivers: The Body Shop was founded with the philosophy that business can be a force for change and for good and its core values support programs like the CFT. Further, CFT ingredients are vital for The Body Shop’s products and the program is a core part of the company’s brand image.

Key Partners: Tungteiya Women’s Shea Butter Association

III. Direct Sourcing Through an Alliance

Company: Nestlé	Crop: Cocoa	Origin: Venezuela
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Description: Over twenty years ago, Nestlé founded Aprocao, an alliance used to directly source cocoa from smallholders in Venezuela. The company purchases beans at a price above the market price and through this method, Aprocao purchases roughly 40% of all Venezuelan cocoa. In 2007, Aprocao and Nestlé developed the Farmer Assistance program which resulted in an increase in yields for farmers from 250kg to 600kg (ven der Kooji 2013). As of 2013, Nestlé Venezuela is managing the program with

the support of the local NGO, Fundación Proyecto Paria, which intends to train 960 farmers annually on best agricultural practices (Nestlé Cocoa Plan Venezuela, 2013).

Driver: Venezuela produces a Fine Flavor cocoa profile, *Criollo* which is only 1% of global production only grown in a few countries (Nestlé Cocoa Plan Venezuela, 2013). This is a business imperative as Nestlé needs this bean for its high-end products.

Key Partners: Aprocao, local NGO

IV. Investment in Innovation at Origin

Company: Natura	Crop: Various	Origin: Brazil
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Description: Natura is a R\$6.3Bn, publicly held cosmetics company listed on the São Paulo Stock Exchange (BM&FBovespa) and currently the leading Brazilian cosmetics and toiletries player, surpassing Unilever and Avon, with 23.2% market share, household penetration of 62% and brand recognition of almost 100% (Hashiba, 2012). Natura was founded as an antidote to the traditional cosmetics industry. The company seeks to grow its sustainable sourcing from the Amazon, and has pledged to purchase 30% of its raw materials from the region (Balch, 2013) in hopes to reverse the environmental destruction of the Amazon. Currently its business volume in the Amazon amounted to R\$122MM (Natura Annual Report 2012, 2012).

Natura launched the Ekos line in 2000 as the first product line to center on the use of natural ingredients sourced from traditional communities (Hashiba, 2012). The key objectives included raising consumers’ awareness of Brazil’s biodiversity, preserving and disseminating cultural heritage, and developing economic, social and environmental management systems and starting inclusive businesses within local extractive communities. Natura developed an Active Ingredient Certification Program, which included rigorous social and environmental standards, certification inspections, identification of challenge areas for potential suppliers. The program resulted in 15 ingredients being certified by 2006. Natura trained the participating farmers in sustainable agricultural practices and helped them set up formal associations and cooperatives to secure stability of supply. Other characteristics of this model include establishing an “open value chain” in which costs and profits were made transparent to all stakeholders (producers, suppliers, consultants) along the chain to enable them to appropriately price their goods (Hashiba, 2012)

Natura’s strategy is threefold:

1) Invest in science and research: In 2012 Natura established a Natura Knowledge and Innovation center in Manaus in the Amazon with the goal of building an interdisciplinary network of over 1,000 Amazon-focused researchers by 2020. Although the center’s main focus is internal research for Natura, by Brazilian law, Natura must share any non-competitive findings with any interested party (Hashiba, 2012). To guard against “biopiracy,” or the “unethical commercialization of the region’s genetic and cultural heritage” (Hashiba, 2012). Natura has signed individual agreements with its 2,500 small suppliers to safeguard these commitments.

2) Building capacity in the supply chain: Natura has been “working with 120 small cocoa growers along the Transamazônica highway in Southeastern Pará” (Balch, 2013) to provide training on organic production and has pledged to engage 10,000-12,000 small producers along its supply chain.

3) Education and entrepreneurship: Natura recognizes that developing business leaders from within the Amazonian communities is key to persuading talent to stay local instead of migrating to the cities. Natura has pledged to invest one billion Reals in the region to fund these initiatives. Natura established an “open value chain” in which costs and profits were made transparent to all stakeholders along the chain to enable them to properly price their goods and help them understand the value of their labor.

In terms of sales and distribution, Natura uses a unique direct-sales business model, in which all sales are made direct to the consumer through a network of 1.5 million consultants. This model serves to raise awareness of the benefits of the brand and of the Amazon as a natural resource.

While there are major differences between the cocoa value chain and Natura’s value chain, one of the key differences is the higher margins in the cosmetics industry, and the ability for Natura to afford these margins. Natura uses a small quantity of cocoa butter, however because of the small scale requirements they do not purchase beans; instead they purchase the cocoa butter directly from a cooperative. For other raw materials that do not yet have established supply chains, Natura develops these supply chains from the ground up. (Mondelēz, Personal Communication, January 13, 2014)

Driver: Natura was founded as an ethical cosmetics company that maximizes the interests of all stakeholders, including customers, local producers, employees, and the natural environment. Since Natura’s beginnings, innovation around well-being is at its core. The company uses the biodiversity of the Amazon as a “technological platform” for research and development and source for its raw ingredients. Natura’s sourcing model is well aligned with its sales and distribution model and branding strategy.

Key Partners: Natura received tax incentives through partnerships with organizations such as FINEP, BNDES, NCPq and FAPs. These incentives amount to more than R\$ 11 million in funding in 2011.

V. Landscape approaches

Company: Starbucks	Crop: Coffee	Origin: Brazil, Indonesia
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Description:

Starbucks partnered with Conservation International (CI) to develop the C.A.F.E. standards in 1998, but realizing that this is not sufficient to account for the potential climate change impacts on their growing communities, the partnership developed other modes of interventions using a landscape approach (Kissinger, Brasser, & Gross, 2013). In Chiapas, Mexico, where climate change impacts threaten the supply of coffee in this region, Starbucks and CI launched an initial three-year program to encourage coffee growers to continue growing coffee using the communities’ traditional agroforestry methods of coffee growing. Similar projects were also launched in Aceh, Indonesia and the next step is for Starbucks to apply learnings to coffee production in Brazil. In particular, Starbucks is interested in PES opportunities that link coffee production with forest conservation, restoration and reforestation.

Regional producer support: Agronomy and access to capital:

In Aceh, Indonesia, technical assistance included landscape elements; for example, CI field staff provided training on C.A.F.E. practices for farmers in the region, and not just those whom Starbucks purchases from. Starbucks was also one of the first investors in Verde Ventures Fund, an investment fund launched

in 1998 and managed by CI to provide farmer cooperatives and small and medium size enterprises with access to capital (Kissinger, Brasser, & Gross, 2013). Starbucks has since invested in other funds in addition to Verde Ventures, including Root Capital and the Calvert Foundation, reaching US\$14.7 million in funds disbursed by 2011, and benefitting 45,000 coffee farmers across seven countries (Kissinger, Brasser, & Gross, 2013). Starbucks plans to increase the portfolio to US\$20 million by 2015. One of the criticisms of this approach is that currently there is no direct link between the investments and the priority areas of focus in Starbucks' landscape approach.

Carbon finance: In Chiapas, CI's local partners Ambio, CIAT and others, offered financial incentives for farmers to pay farming communities in exchange for commitments to reforestation. The carbon value was then sold on the voluntary carbon market and payments were made back to farmers as an alternative source of income without resorting to clearing land for growing coffee. The CI partnership has also helped bring the dialogue on climate change vulnerability, mitigation and adaptation into regional and national-level policy-making. 110 farmers are participating in the coffee + climate carbon program (Kissinger, Brasser, & Gross, 2013).

Partnership: Core to Starbucks' landscape approaches is its partnership with Conservation International. CI brings expertise in technical assistance, extensive network of local relationships, and capabilities for carbon finance and regional producer support. In Chiapas, Mexico and Sumatra Indonesia, research partners carried out assessments on coffee suitability, risks and solutions, before sharing the knowledge in multi-stakeholder workshops with local producers and cooperatives. These workshops helped inform regional governmental climate change action plans.

Driver: To ensure a long-term supply of high quality coffee that is ethically sourced, Starbucks must support and cultivate thriving coffee growing communities.

Key Partners: Conservation International, Ambio (Mexico), CIAT (Mexico)

Intervention Point: Access to Materials/Inputs, Capability Building, Enhancing stakeholder relationships, Payment for ecosystem services.

VI. Towards Vertical Integration

Company: Theo Chocolate	Crop: Cocoa	Origin: Democratic Republic of Congo, Ecuador, DR, Costa Rica and Peru
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Description: Founded in 2006, Theo is a niche chocolate manufacturer with revenues of \$12m in 2013. It is also the first Organic and Fairtrade fair for life "bean-to-bar" chocolate factory in North America. The company owns and controls its own chocolate factory in Seattle, where it sources its own beans and processes its own cocoa beans and manufactures them into chocolate bars which are sold by over 4000 retailers. This vertically integrated model enables it to preserve higher margins and pay farmers higher prices, which are more than 6x the premiums of organic and Fairtrade cocoa (Theo Chocolate, 2012). A big part of the company's vision is to influence consumers' attitudes towards chocolate. It partly accomplishes this through the factory which is open to the public and receives 60,000 annual visitors (Theo Chocolate, 2012). The factory serves to educate the public on Theo's mission and the cocoa value chain, drive brand awareness and influence consumers' purchasing behavior. The level of transparency at Theo is unique among chocolate manufacturers we have surveyed; the company's pricing structure

and specifications are publicly available on their website to give consumers confidence as to where their dollars are going (Theo Chocolate cocoa pricing specifications, 2012).

Theo is partnering with Ben Affleck and the Eastern Congo Initiative to source and produce a series of chocolate bars that are organic and Fairtrade certified and made from 100% Congolese cocoa (Theo Chocolate, 2012). A portion of the proceeds will benefit the livelihoods of more than 20,000 people living in Eastern Congo, where only 2% of the 300,000 square miles of farmable land is being cultivated due to ongoing conflict (Theo Chocolate, 2012). While Theo is not the only chocolate company sourcing from the DRC, it is the largest buyer. Theo is partnering with Green House to develop training programs for the farmer co-ops. Theo sources more than half of their cocoa beans from the Eastern Congo. Theo benefits from higher buying power as it demands that farmer co-ops and export partners demonstrate full transparency in their respective supply chains. This harvest season Theo is shipping 640 tonnes of cocoa, which is equivalent to 9 million chocolate bars.

Founder and CEO Joe Whinney references transparency and supply chain integrity as the newest trend – one in which brands are increasingly taking ownership of their own brand and sourcing story instead of relying on third party certifications (Joe Whinney, personal communication, April 13, 2014).

Driver: full transparency of supply chain, vertical integration to prevent dilution of margins and greater control over the brand and the supply chain

Key Partners: Eastern Congo Initiative, Jane Goodall Institute, World Bicycle Relief, PCC Farmland Trust.

VII. Innovative Financing Schemes

Company: LA Salad Company & Costco	Crop: French Beans	Origin: Guatemala
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The below highlight two innovative financing schemes for sustainable sourcing that we identified in our research.

Risk Sharing Fund

Description: In addition to income concerns for smallholder producers, there are key risks associated with production. These include price volatility, demand fluctuations or damage and theft in transport. Generally producer groups bear this risk, though this may vary based on value chain governance. The Los Angeles Salad Company and a farming cooperative in Guatemala called Cuatro Pino each continuously contribute to a risk sharing fund. A risk sharing fund offers a “safety cushion” and is an alternative to government subsidies, relief funds, or third-party insurance. The process works as follows; during times of steady sales, supply chain actors contribute an agreed upon percentage to the risk sharing fund. In extenuating circumstances that cause losses, money is pulled from this revolving fund to cover needs. A key characteristic of a risk sharing fund is that the fund is jointly managed by chain actors. The Los Angeles Salad Company and Cuatro Pino together contribute a total of 10% of the sale price of every box of French beans to the fund. This type of solution is appropriate in regions that lack alternative financing solutions and for products that require more incentive to source from farmers more directly (Jay et al, 2008).

'Collaborative Foundation' for Upgrading

Description: A 'collaborative foundation' is jointly established, continuously funded and managed collaboratively by value chain actors. The purpose of the foundation is similar to other foundations discussed in this chapter in that it addresses economic, social and environmental concerns at the producer community level (e.g. community development, poverty alleviation, environmental projects). Key differences of a collaborative foundation are that 1) it is continuously funded through a percentage of revenues from the economic activity of the value chain rather than a one-time contribution; 2) all actors in the value chain contribute and not just the buyers, 3) it is jointly governed by members of the chain. In this sense the foundation is "an integral part of the value chain, ensuring the longevity of its services and the need for ongoing collaboration among supply chain actors" (Jay et al, 2008). The intent is for the foundation to receive non-profit status and be governed through a board of directors that represent the value chain actor entities and communities in which the value chain operates. The LA Salad Company, Costco and the Cuatro Pinos cooperative jointly manage the Juan Francisco Comparini Foundation. The foundation is funded based on profit per case of product sold. The value chain actors do not consider the foundation charitable contribution but rather "an additional service provided as part of the supply chain" (Jay et al, 2008).

Key Partners: Cuatra Pino, producer cooperative

Driver: LA Salad Company is a supplier of Costco and needs to secure consistently, high-quality French beans in high-volume. Costco must have these products on the shelf in order to meet customer expectations.

VIII. Other Notable Observations

Throughout our research, we came across notable observations regarding sustainable sourcing approaches that did not align with the above benchmarking categories. These are highlighted below.

Support of Producers to Create Social Enterprises

In 2009, SAP, a business software provider, and PlanetFinance, a global development and microfinance organization, established the StarShea Network in northern Ghana. The StarShea Network is a "federation of rural women's groups" that harvest and process shea nuts and shea butter (StarShea, 2012). The northern Ghana region is the poorest in the country and the network aims to alleviate producer poverty through providing "large volumes of high-quality shea products directly to large buyers, at fair market prices." (StarShea, 2012). SAP and PlanetFinance are attaining this goal through microfinance, business training and mobile technology (StarShea, 2012).

In 2012, SAP financed StarShea Ltd, a for-profit social enterprise to commercialize the shea products of the StarShea Network (StarShea, 2012). SAP developed a traceability system for the company. As of November 2013, there were 10,000 women associated with StarShea Ltd. and the company has emerged "as one of the worldwide market leaders of organically produced and fairly traded hand-crafted shea butter" (SAP, 2013). It is currently one of the top four shea butter exporters in Ghana, having exported 62 metric tons in 2012. StarShea Ltd is now self-sufficient and does not rely on donations. It is expected to be profitable in a few years (SAP, 2013). SAP is also involved in a cashew project in Africa as the industry has similar challenges (GIZ, 2013).

Multinational Buyers Are Key Partners

In most origins, multinational buyers like Cargill, Armajaro/ECOM and Barry Callebaut, are key partners for chocolate manufacturers' sustainable cocoa sourcing. While the predominant driver for multinational buyers to invest in sustainable cocoa sourcing is the sustainable cocoa commitments of their customers, major chocolate manufacturer, noteworthy supplier programs, partnerships and approaches are below:

Olam: In 2011, Olam, in partnership with the Rainforest Alliance started the "Climate Cocoa Partnership for REDD+ Preparation" project in the Bia/Juabeso in West Ghana. The project aimed to "break the link between cocoa production and deforestation" (Kissinger, Brassler, & Gross, 2013) by building resilient agroforestry ecosystem where cocoa production is intermixed with forest lands, enabling the crop to be more resilient to changes in moisture and temperature levels. Goals of the project include bringing a new "climate friendly" cocoa to market, establishing climate resistant cocoa supply chains and providing higher levels of income for farmers.

In addition to regular cocoa certification and training on the farm level, farmers are certified under the Sustainable Agriculture Network (SAN) standard, and receive training on the additional climate module (SAN, 2010). This integrated cocoa-forestry intervention at the landscape level ensures that cocoa production achieves not only better isolated farming practices but also benefits at the landscape level in the form of heightened awareness and education on climate change and engagement in REDD+ projects (Kissinger, Brassler, & Gross, 2013).

Farmers benefit from higher revenues from increased volume from Good Agricultural Practices (GAP) and Integrated Pest Management (IPM), and higher selling price for higher quality "climate-friendly" certified cocoa, despite price fixing by the COCOBOD (Kissinger, Brassler, & Gross, 2013). Olam may also negotiate a higher premium for climate friendly farms (an increase of US\$50 since 2012) on top of the premium paid for SAN certified beans (approximately US\$150/tonnes), which would add approximately an additional \$600,000 in value. Supplementary income from activities such as intercropping and maintaining carbon stocks would also result in future payments under REDD (Kissinger, Brassler, & Gross, 2013). The added revenue stream also serves as incentive for farmers to not expand production and exacerbate deforestation. The farmer organization is also strengthened as the certification belongs to the farmer, rather than on a Licensed Buying Company.

Olam's landscape approach takes into account both on-farm management and off-farm management. The project incentivizes on-farm production by rewarding management for increases in carbon stock through enhanced soil management and other improved agricultural practices; off-farm practices include exploring potential devolvement of ownership rights to private and public landowners of forested lands to turn into sustainable forest management and REDD+ projects.

As of 2012, 833 farmers and 1259 farms have been certified under the SAN standard, yielding an estimated 1,295 metric tons of certified beans, and sold for a value of US\$2.4 million (Kissinger, Brassler, & Gross, 2013). The yield is expected to increase to 3000 metric tonnes by 2014 and continue to increase over time (Kissinger, Brassler, & Gross, 2013). The project costs twice as much as a regular business program, which is about US\$425,000 for Olam, however, the company expects costs to reduce as the project matures (Kissinger, Brassler, & Gross, 2013). If successful, Olam can use the project as a learning model and apply learnings to farms in other regions and for other crops such as coffee.

Driver: The partnership enables Olam to be the first to market in the new “climate-friendly” niche market while enabling the company to mitigate operational risks in supply chain. National initiatives (National REDD+ platform) and a \$3.4mm Forest Carbon Partnership Facility grant from the World Bank helped prepare the country for REDD+ readiness.

Key Partners: Rainforest Alliance, Forestry Commission, Traditional authorities and private concession holders, local NGOs, local communities.

Mars & Cargill Vietnam Partnership: Mars has partnered with Cargill in developing the Vietnamese cocoa sector. Both companies have recognized the ideal agronomy conditions for growing cocoa in Vietnam. For more than a decade, Cargill has been establishing supply chain infrastructure in Vietnam and Mars has been providing technical assistance and capability building. Cargill plans to develop buying stations close to farmers and ensure traceability in the system (Terheijden, 2012). In 2011, a letter of intent between Cargill, Mars, Rabobank, and the Vietnamese and Dutch ministries of agriculture was crafted and signed (van Grinsven, 2011).

Processors Cargill & Barry Callebaut in Indonesia: Cargill and Barry Callebaut have engaged in cocoa extension services in Indonesia after announcing development of new processing facilities. Extension services are offered within Barry Callebaut’s Cocoa Horizons Program and Cargill’s Cocoa Promise program. Cargill owns two buying stations in Indonesia and plans to double Indonesian cocoa purchased. Cargill is engaging in farmer productivity and quality upgrading training in order to meet this demand target (Reuters, 2013).

Unilever & Barry Callebaut: Unilever established a long-term partnership with Barry Callebaut in 2012 and has identified the company as its “strategic global supplier and innovation partner of choice” for their cocoa and chocolate needs. Unilever intends to source from Barry Callebaut nearly 70% of its cocoa and chocolate products and is relying on the processor to enable Unilever to meet its 100% Rainforest Alliance certification goal. Barry Callebaut has committed to investing USD \$24 million “in its worldwide factory network in order to prepare the capacity needed to fulfil the long-term partnership agreement” (Barry Callebaut, 2012).

Armajaro Key Player: Armajaro consistently arose as a key partner for sustainable cocoa sourcing throughout the major cocoa production origins (West Africa and Indonesia). In Indonesia, Armajaro has built up-country warehouses in many locations to serve as buying stations, invests in cooperatives to build collective marketing, offers fees for high-quality cocoa (of IDR 100 per kg in 2007) and guarantees for cooperatives to have access to credit. Armajaro is working towards more direct sourcing from farmer cooperatives and aims to source 50-100% of total volume this way by 2020 (VECO, 2011). Armajaro and its established NGO, Source Trust, is active on-the-ground in West Africa. In the summer of 2013, Armajaro built a cocoa warehouse in Ghana for sustainable cocoa supply storage. The warehouse is over 20,000 square meters and can store 50,000 tonnes of cocoa. The warehouse has been named the “COCOBOD-Armajaro Sustainable Cocoa Warehouse” and it is the first of its kind in Ghana (Armajaro, 2013).

Armajaro sources certified cocoa when there is a customer and requires an MOU to be drawn up with the customer in order to do so (VECO, 2011). In May 2012, the International Finance Corporation of the World Bank (IFC) invested USD \$55 million for Armajaro to implement on-the-ground projects to ensure traceability and sustainability of cocoa farming and to offer “long term supply agreements and price risk management” (IFC, 2012). The objective is to get closer to the farm gate. Given the recent ECOM

acquisition, it is unclear the status of this investment but the company still claims to be the leader in sustainable cocoa (ICF, 2012).

VIII. Conclusion: Benchmarking

Key themes and takeaways derived from our benchmarking research are discussed below.

1. Company Business Model Key Driver for Sourcing Approach

As would be assumed, a company's business model is a key driver for sourcing approaches to address sustainability challenges. By business model, we mean a firm's core competency, size, scope, history and culture.

Global Chocolate Brands

A global chocolate brand's core competency is the manufacturing and marketing of chocolate products. These firms tend to rely on conventional suppliers (multinational buyers) for a majority of sourcing needs as global brands require consistency and reliability due to their massive scale of operations. Rather than sourcing directly from smallholder or communities, large global manufacturers invest heavily in extension services to raise-the-floor of cocoa farming communities. They rely on identified on-the-ground implementation partners with geographic and subject matter expertise. A company's regional and historical factors are also a key influence for sourcing approaches. For example, Mars' regional business model in Indonesia enables more direct interventions on-the-ground. The company is vertically integrated in Indonesia as it owns a processing facility and has had on-the-ground presence in the country for nearly two decades. Cocoa science and research is at the core of the company's business and culture with one of their cocoa research centers, SymbioScience, based in Indonesia which has enabled the company to pioneer technical assistance and training through the hub-and-spoke model (CDCs and CVCs). In other origins, Mars relies more heavily on suppliers, implementation partners, and third-party certification schemes. Certification coupled with extension services has emerged as a key, practical market tool to ensure sustainability for large global brands. Large brands engage in more direct sourcing when specific product requirements must be met, this is discussed below.

Artisanal and Premium Chocolate Brands

Artisanal and fine chocolate brands, such as Taza, and Hershey's Dagoba and Scharffen Berg tend to have more direct sourcing approaches at the farm or cocoa community level. These smaller brands rely on strong relationships with producer communities to ensure continued supply. This type of sourcing model also supports and sometimes defines the brand for consumers and is usually one of the core philosophies of the company. These chocolate products are generally sold at a premium to consumers and the brand captures larger margins than chocolate products from conventional cocoa. The investment costs required to adapt conventional sourcing approaches can be absorbed in this margin. Brands are incentivized to invest in direct sourcing interventions to procure ingredients that are critical to the company's brand.

Cosmetic Companies

The cosmetic market and a cosmetic brand's business model enables companies to invest in sourcing strategies to implement social, economic and environmental upgrading. Cosmetic products have a significantly higher margin than food so the premium can more easily be passed onto the consumer. Additionally, the cosmetic brands we identified are high-end cosmetics brands whose product lines are centered on natural ingredients. Social and environmental initiatives are key elements of their brand image. However, there are innovative approaches to sourcing and ensuring producer viability which can apply to chocolate manufacturers. These will be discussed in Chapter 6 in the application to Mondelēz.

2. Capability Building with Local Expertise a Key Theme

All brands discussed were involved in producer capability building, in some capacity, in an effort to ensure economic, social and/or environmental upgrading. The goal of capability building is to ultimately improve farmer livelihoods, in terms of both economic needs like income and social needs like community resources, in order for brands to ensure a continued cocoa supply at the quality and volume desired. Often times this is coupled with brands providing farming communities with access to materials and inputs. The global brands discussed are supporting farming communities through extension services, often in order to meet specified sustainability requirements (third-party certification, etc.). Regardless of the strategy, a common theme among all benchmarking cases is the need for companies to engage with local stakeholders. Some companies employ local staff directly, like The Body Shop in Ghana or Mars in Indonesia. Others engage and partner with local NGOs and government agencies.

3. Financing Schemes for Chain Upgrading

Revolving Funds/Foundations

Rather than investing in one-time upgrading projects, some value chains have adopted a revolving fund that is financed with a percent of sales contribution. This took form in this chapter as price premiums invested in development funds, development foundations or through a collaborative foundation. In some value chains, the lead firm (e.g. The Body Shop) donates a premium to the fund and in others chains all actors along the chain contribute, including the producers. The foundation governance varies where some funds are jointly governed and others are managed by one value chain actor. However, the models' intents are the same in that the foundation or fund is revolving to ensure continued investment and the funds are used for chain upgrading.

Risk Hedging –Price, Volatility & Unexpected Circumstances

Some brands implement novel price setting strategies as an alternative to using the market price to determine cocoa price paid to the producers. Collective price setting uses social, environmental and economic costs in determining price paid. Weekly price setting reduces risks of daily price volatility. A risk sharing is a tool to hedge against unexpected circumstance. Other approaches included down payment on orders, guaranteed minimum orders, and 0% interest loans. These schemes offer stability which is a critical element for farmer's economic viability given slim margins and the volatile nature of cocoa farming.

4. Third-Party Certification & Traceability as Means to an End

Many brands recognize that sustainable certification is not the answer in and of itself. For example, Mars, considers certification the best tool that currently exists in the industry that can offer farmers

across all origins "consistent and continued support" (Our Supply Chain Cocoa, 2013). Certification is seen as a tool for all cocoa suppliers and chocolate manufacturers to establish an industry-wide adoption of sustainability criteria and offers a methodology to train farmers and receive third-party validation of their sourcing commitments. Certification alone will not ensure sustainability and rather must be coupled with extension services to offer farmer and community benefits. Many brands are using certification as piece of their strategy, not the only component, and brands are working with certification bodies to expand coverage areas of the certification schemes. Mars, for example, plans to go beyond requirements in certification and is working with certification organizations to incorporate farmer productivity and profit into standards (Pathways, 2011).

Of the companies that are not using sustainable certification in their sourcing approach, many have opted for third-party verification of their company sourcing claims and to verify traceability of supply chains. Third-party certification has been a key driver in enabling value chain actors to implement traceability systems in order to differentiate cocoa.

5. Intervention Points Not Addressed

A few key intervention points that we identified for the five cocoa origins have not been addressed by company sourcing strategies. While this could be a result of research gaps, they are worth highlighting. Most notably, many of the Dominican Republic intervention points were not addressed. We did not find any company strategies which discuss addressing the oligopolistic nature of the DR sustainable cocoa value chain nor the trust challenges within the chain. Brands are working through CONACADO on community development projects but they may be missing communities that are not represented by CONACADO in both the sustainable and conventional cocoa value chain. Further, no strategy incorporates or highlights the potential to capitalize on cocoa production ecosystem services to provide additional revenue for Dominican Republic cocoa farmers. Finally, alignment with government and industry peers could be enhanced in most origins.

CHAPTER 6

Mondelēz Sourcing Strategies: Key Takeaways of Internal Mondelēz Interviews & Recommendations

I. Mondelēz' Sourcing Situation and Cocoa Life

Cocoa Life Commitment

Cocoa Life is a \$400 million, 10 year commitment by Mondelēz “to improve the livelihoods and living conditions of more than 200,000 cocoa farmers and about one million people in cocoa farming communities around the world” (Mondelēz, 2013).

The Cocoa Life program recognizes that third party certification partners are key to building credibility and branding, but acknowledges that the program needs to go beyond certification. The rationale is based on Mondelēz perspective that certification is about inputs and some outputs but not necessarily measuring impacts. Mondelēz' approach focuses on driving cocoa sustainability through **three principles**: holistic farmer-centered approach, partnership, and supply chain stewardship (Cocoa Program Review, 2013).

A holistic farmer-centered approach is one that addresses economic as well as non-economic issues. Cocoa Life measures and evaluates its programs through 5 key areas defining thriving communities: Farming, Communities, Livelihoods, Youth, and Environment (Cocoa Program Review, 2013).

Expected Cocoa Life outcomes include:

- Increased availability of cocoa in the market available to Mondelēz
- Ability to invest in new markets
- Brand enhancement

Cocoa Life and Current Sourcing Models

Cocoa Life is being implemented at different stages in different regions, partly driven by the existence of sustainability infrastructure in the supply chain and drivers of the cocoa value chain specific to each region. In the past sustainability programming at origin and sourcing decisions were kept separate; with Cocoa Life, the intent is to create a direct link between the two to achieve supply chain stewardship. (Mondelēz, personal communication, January 15, 2014).

Currently, Mondelēz does not engage in commercial discussions with farmers; all relationships further downstream from its suppliers and traders are owned by suppliers. The benefit of the current model of working closely with suppliers is high levels of liquidity in the system. Traders help with maintaining this liquidity. A key challenge is risk management surrounding single origin beans. From a commercial

perspective Mondelez would like to diversify sourcing to multiple origins to reduce supply risks, however it needs to figure out how to do so without lowering the quality of the beans. Mondelez currently does not trace from bean-to-bar, however it can trace from the farmer to the supplier to the trader/exporter. It will need to identify alternate solutions to sustainable sourcing without full traceability.

Criteria for Selecting Suppliers

For both exporters and local players, Mondelez assesses the financial viability of the company, track record, ethic of doing business. In Côte d'Ivoire, whether they have a sustainability program and whether they plan to engage with Cocoa Life (important in Côte d'Ivoire) is also a point of consideration. In the DR and Brazil, sustainability is not considered in the supplier selection decision. Exhibit 2 displays a summary of critical issues in each origin from Mondelez' perspective.

Exhibit 2: Summary of critical issues in each region from Mondelez' perspective

DR	CDI/Ghana	Brazil	Indonesia
Long-term supply risk due to socio-economic issues e.g. lack of credit, land titles, urban migration, youth uninterested in cocoa production	Low yields due to aging trees and poor farming practices	Low yields due to diseased, aging trees	Majority of beans unfermented, affecting cocoa quality
Low productivity due to insufficient resources for farmer training/access to seeds	Low farmer returns (especially in Côte d'Ivoire < 20% of world prices)	Farmers lack commitment to cocoa – attractiveness of cocoa production relative to other crops unclear	Attractiveness of cocoa production relative to other crops unclear
Limited drying infrastructure and poor roads	Aging farmers; youth disinterested in cocoa production		
	Lack of community/farmer organization to drive change		
	Politically uncertain post-conflict situation in CDI		

Source: Mondelez Dominican Republic Sustainable Cocoa Update, 2013

II. Summary of Findings and Recommendations by Origin

Based on our conversations with internal contacts at Mondelēz and our analysis of key learnings from the peer benchmarking in Chapter 5, we present below our findings on the drivers, benefits and challenges of Mondelēz' sourcing models across the five regions, and our recommendations for Mondelēz.

III. Indonesia

Benefits and Challenges of Current Sourcing Model

In Southeast Asia, Mondelēz currently sources cocoa products from India, China, Singapore, Indonesia, Thailand and the Philippines. They usually buy 6-12 month forwards from international traders, Armajaro, Cargill, ADM, as well local exporters specifically for Indonesia. Unlike in West Africa, Indonesian farmers do not ferment beans on the farm after harvesting. Mondelēz only buys fermented beans, thus it relies on middlemen to ferment and dry them before procurement. Mondelēz foresees future pressure on suppliers for fermented beans. In India, Mondelēz relies on a network of service providers to source directly from farmers, however in Indonesia Mondelēz does not have the network to replicate the India model. This presents a risk of bean supply availability in Indonesia (Mondelēz, personal communication, January 14, 2014).

There are currently more than 400,000 tonnes of beans in Indonesia available for sourcing (Mondelēz, personal communication, January 14, 2014). Mondelēz will need to work on increasing volume of fermented bean purchased.

Unlike in West Africa where farmers are 100% dependent on cocoa for their livelihoods, in Indonesia switching costs are low; farmers have the option to switch crops and secure another source of income. This presents a challenge for Mondelēz to entice the cocoa farmer to stay in the industry, especially in competition with the rubber and palm oil industries. Deforestation is not a huge issue, though there are concerns to maintaining soil health.

Mondelēz has considered the following alternative sourcing strategies (Mondelēz, personal communication, January 14, 2014):

- 1) Direct sourcing from smallholders – not a viable option.
- 2) Sourcing from farmer groups or cooperatives – presents concern of price-risk management.
- 3) Doing business with middleman whereby the trader sells directly to Mondelēz. This raises the issue of consistency and risk of quality of supply.
- 4) Buying from processors – Mondelēz does not see any value from processors selling us beans.
- 5) Integrated supply chain – supplier takes ownership of entire supply chain and sell to Mondelēz in just-in-time basis. The benefit is that the supplier carries all of the risk, however, Mondelēz has evaluated this process and deemed the cost of doing business is higher than the current model.

Cocoa Life in Practice

Mondelēz launched Cocoa Life recently in Indonesia in October 2013. Through the program, Mondelēz reaches farmers through the work of its suppliers to ensure they are able to generate fermented beans in the program and increase production and productivity. This is not a requirement in West Africa since beans are fermented there. The first of its programs will target reaching 10,000 farmers in Papua over 10 years. Mondelēz Indonesia is focused on increasing farmer and farm income levels, productivity levels.

Relevance and Application of Peer Benchmarking to Mondelēz

Exhibit 3: Indonesia

Benchmarking Example	Intervention Points	Lessons Learned and Recommendations for Mondelēz
Mars - Establish Local Trader Relationships	Market Access, Leverage Trader Relationships	<ul style="list-style-type: none"> • Mars differs from Mondelēz in that the former has in-country processing capabilities. • Mondelēz can engage with an NGO to conduct a network analysis to determine traders with strong social networks with whom to partner. • Can be coupled with extension services to ensure consistent bean quality/fermenting.
Mars - Construct & Manage Buying Stations Close to Producers	Market Access, Market Incentive for Quality Upgrading	<ul style="list-style-type: none"> • Mondelēz can ensure quality of cocoa sourcing by purchasing closer to smallholders. • May be a long-term strategy based on Mondelēz in-country processing capabilities and farmers' ability to meet minimum quantity and quality requirements. • Consider co-owning with processing/trading partners given their increasing infrastructure on the ground. • Couple with extension services to ensure consistent bean quality/fermenting.
Mars, Hershey, Nestlé – Extension Services	Access to materials/inputs; Capability building; Government & Industry group	<ul style="list-style-type: none"> • The hub-and-spoke model reaches over 50% of cocoa farmers, but the challenge is repeat interactions. • While Mondelēz is already engaging in technical assistance and capability building through Cocoa Life, there may

	alignment (depends on project)	be opportunities to better align with competitors such as co-owning farmer field schools.
Starbucks – Landscape approaches	Access to Materials/Inputs, Capability Building, Enhancing stakeholder relationships, Payment for ecosystem services	<ul style="list-style-type: none"> • Similar to Mondelēz and Cocoa Life, developing thriving communities for its producers is core to Starbucks’ business model. • Timeline for investment in landscape approaches is in years, since planning for long-term risks like climate change adaptation takes time. • Key to the success of Starbucks’ landscape approaches is its partnership with Conservation International. Finding a suitable conservation partner with expertise in technical assistance, extensive network of local relationships, and capabilities for carbon finance and regional producer support in Mondelēz’ key sourcing regions is critical. • In Aceh, Starbucks also partnered with the University of North Sumatra, the Aceh Tengah government, and other local cooperatives. Mondelēz can explore some of these potential partners. • Look into Conservation International’s Verde Ventures Fund. 80% of investments are in the coffee sector and only 4% so far are in cocoa.
Starbucks – Landscape approaches	Payment for ecosystem services	<ul style="list-style-type: none"> • For Starbucks, investing in climate change adaptation strategies in key sourcing regions is considered a cost of doing business – it is an investment in securing a long-term supply of quality beans. • Carbon finance as a means to diversify farmer income, and attract coffee farmers to stay in the sector, promoting climate change mitigation and adaptation solutions. • In the short-term, Mondelēz can certify farms according to the Sustainable Agriculture Network (SAN) standard to promote climate resiliency awareness and training to farmer groups.

		<ul style="list-style-type: none"> • Mondelēz could also partner with Starbucks on income diversification opportunities for farming groups within agroforestry systems
Nestlé, Mars & Hershey – Sustainable Certification	Market incentive for quality upgrading; Capability building; Access to materials/inputs	<ul style="list-style-type: none"> • Indonesian farmers will be organizing themselves into groups with the support of Mars (Nestlé or Hershey) since they want to meet certification requirements but cannot accomplish this on an individual farm level due to prohibitive costs. Mondelēz can help form these groups, or take advantage of groups forming to partner with them. • While Mondelēz does not rely on third party certifications, it can consider the Certification Capacity Enhancement Project (CCE), which aims to align and develop a common farmer training curriculum for all three major certifications in order to streamline farmer requirements.

General Insights and Key Takeaways

As Indonesia expands its domestic processing capability, the landscape of actors will also change. We expect to see more co-ownership & collaboration opportunities and more collaboration with the government. We recommend Mondelēz to be actively engaged with the Cocoa Sustainability Partnership (CSP) given its potential to become a convening cocoa body to align cocoa sector initiatives. SIKAP and JANTAN have been organizing fermenting and drying of cocoa beans for sale to large buyers and are potential suppliers to direct-source from. We also recommend that Mondelēz partner with BPTP, VECO and SwissContact. As discussed in the GVC Analysis in Chapter 4, we identified these actors as key sustainability actors in Indonesia.

Another challenge is how to integrate climate resiliency approaches with existing technical assistance and capability building. This presents many opportunities to partner with producers of other crops in intermixed agroforestry systems with benefits for income diversification for farmers, and conservation of land and climate change mitigation and adaptation.

IV. Ghana

Benefits and Challenges of Current Sourcing Model

Mondelēz sources both beans (40% of volume) and cocoa product (60%) from Ghana (Mondelēz, personal communication, January 24, 2014). Beans are either processed in country or at processing facilities in Europe. Mondelēz' sourcing model in Ghana is similar to that of Côte d'Ivoire, the main difference is the existence of the COCOBOD in Ghana and the closed market structure that comes with price fixing and other COCOBOD requirements. In Ghana, farmers usually sell to purchasing clerks (PCs) who then sell to Licensed Buying Companies, who buy on behalf of the Cocoa Marketing Company (CMC) who is owned by the state. The CMC books contracts with multinational processors.

Besides the macroeconomic factors described in the Introduction section, there are several drivers for Mondelēz' current sourcing model: maintaining quality, cost and mitigation of financial risk. It is important to note that Ghana already enjoys high-quality cocoa; the main issue in Ghana is yield not quality (Mondelēz, personal communication, January 24, 2014).

Cocoa Life in Practice

Ghana benefits from the learnings of the 2008 Cadbury Cocoa Partnership, a \$70million, 10-year global partnership aimed to catalyze development and enhance the welfare of small-holder Ghanaian farming communities while increasing cocoa yields and securing the supply of quality cocoa (Osei, 2008). Of the five Cocoa Life pillars, the company has identified Farming to be a priority intervention point in West Africa. The rationale is that by working with suppliers to improve farmers' ability to produce higher volume and higher quality crop at a reasonable cost ("more with less"), farming incomes will follow. Mondelēz also recognizes the need to concurrently address the region's critical social and environmental issues such as labor and gender issues through community development and education and training of its suppliers. Mondelēz aims to source an increasing amount of beans through Cocoa Life.

Compared to Côte d'Ivoire, Ghana has a legacy of cocoa sourcing with Cadbury's already has a good idea of how Cocoa Life works, including estimates on the P&L of a well-managed farm based on assumptions. They are in the process of putting in place demonstrations to verify these numbers and to facilitate scalability.

Relevance and Application of Peer Benchmarking to Mondelēz

Exhibit 4: Ghana

Benchmarking Example	Intervention Points	Lessons Learned and Recommendations for Mondelēz
Lindt & Sprüngli (Lindt) - Develop Segregated Value Chain for Specified Cocoa	Market Access, Market Incentive for Quality Upgrading, Leverage Quality Attributes	<ul style="list-style-type: none">Mondelēz should consider partnering with Armajaro on-the-ground in Ghana as the company determines how to source Cocoa Life cocoa from communities as they will have a viable and proven separate value chain system

		<p>and approach.</p> <ul style="list-style-type: none"> • Mondelēz should consider training farmers aligned with the CCE program. • If Mondelēz traces cocoa to community, consider paying premium for a foundation.
Divine Chocolate - Direct Trade with Cooperatives	Market Access, Market Incentive for Quality Upgrading	<ul style="list-style-type: none"> • While Divine is a niche, high-end chocolate bar and the unique business model is central to the brand’s value proposition, some concepts can be applied to Mondelēz’ brands, particularly the fine chocolate brands Côte D’Or, Alpen Gold, Suchard, and Green & Black’s. • Some questions for Mondelēz to consider: <ul style="list-style-type: none"> • Is there a creative way to provide cooperative members or growing communities a share of Mondelēz profits? • Will Mondelēz pay a Cocoa Life premium to the communities if there is traceability?
The Body Shop	Market Access, Market Incentive for Quality Upgrading, Leverage Quality Attributes	<ul style="list-style-type: none"> • Parts of business model could work for Mondelēz, including developing capabilities on the ground and identifying processors to source directly from cooperatives. • Having an internal specialist buyer team whose role is to seek potential producer groups without access to international markets may be costly for Mondelēz especially given single commodity vs. The Body Shop’s multi-ingredient model. Perhaps a similar concept of having a specialist/non-profit partner to identify producer groups can be built into the cost of the product across Mondelēz’ premium brands. • Cost of the segregated supply chain a key barrier in cocoa → mass balance approach

		<ul style="list-style-type: none"> • Price setting may be a useful approach for Mondelēz’ premium chocolate brands • Costs can be absorbed in cosmetic industry due to higher margins. Can Mondelēz spread costs across its brands’ margins?
Hershey/Ghana Fine Flavor Cocoa (FFC) Project – Develop separate value chain for specified cocoa	Market Access, Market Incentive for Quality Upgrading, Leverage Quality Attributes: Bean & Infrastructure; Capability Building	<ul style="list-style-type: none"> • By participating in such a cross-industry collaboration, Mondelēz can leverage Ghana’s competitive advantage in high natural bean quality and COCOBOD’s rigorous quality control and traceability system to tap into the higher value FFC market. Other chocolate manufacturers who have joined the industry research council as a means to access knowledge about quality cocoa through small-scale farmers include Mars, Guittard Chocolate and Tcho Chocolate.
Hershey/Ferrero – Extension Services	Access to materials/inputs; Capability building	<ul style="list-style-type: none"> • Hershey’s Learn-to-Grow program using technology & GPS capabilities and the Hershey Cocoa-Link use of messages over cell phones suggest mobile to be a ripe area for more direct communications (albeit through the COCOBOD) with farmers.
Lindt, Mars, Nestlé, Ferrero – Sustainable Certification	Access to materials/inputs; Capability building; Market incentive for smallholder upgrading	<ul style="list-style-type: none"> • While Mondelēz does not rely on third party certifications, it can consider the Certification Capacity Enhancement Project (CCE), which aims to align and develop a common farmer training curriculum for all three major certifications in order to streamline farmer requirements.

General Insights and Key Takeaways

Initiatives like the Certification Capacity Enhancement Project (CCE) or participating in pre-competitive collaborations like the Ghana Fine Flavor Cocoa Project are ways in which Mondelēz can help build up the cocoa sector overall by giving farmers incentive to improve their quality and yields to meet demand for certified cocoa and/or fine flavor cocoa, and the option to sell to other chocolate manufacturers.

All major brands and traders have extension service flagship programs, while some companies like Hershey are utilizing mobile technologies to send targeted agronomy and social-themed messages that

reach the more than 65% of Ghanaians in rural communities with access to cellphones. A key NGO partner identified from our benchmarking study is Source Trust, known for its work on traditional extension services support and traceability, as well as more innovative projects utilizing GPS mapping.

In the companies we examined working in Ghana, there was little mention of strategies to mitigate or adapt to climate change impacts. According to CIAT (2011), expected increases in temperature will result in a large decline in cocoa production by 2030 in Ghana, so climate resiliency is a factor that chocolate manufacturers like Mondelez should prioritize. A climate inclusive model has already been developed in “The pathway towards a climate smart cocoa future in Ghana” (Kissinger, Brassler, and Gross, 2013). Recommendations by the Sustainable Tree Crop Programme include increased shade cover of 40-50%, and lead to combined benefits of higher productivity per area unit and increased climate resiliency of the cocoa crop (Kissinger, Brassler, and Gross, 2013). This would address the low productivity constraint we identified. We recommend that Mondelez begin to build climate resiliency into their cocoa sourcing strategies.

V. Côte d'Ivoire

Benefits and Challenges of Current Sourcing Model

Mondelēz sources both beans (40% of volume) and cocoa product (60%) from the West African countries of Ghana and Côte d'Ivoire (Mondelēz, personal communication, January 24, 2014). Beans are either processed in country or at processing facilities in Europe. Mondelēz works with its key suppliers Barry Callebaut, Cargill, ADM and also source beans from traders Olam, ICAM, Armajaro, Noble, Touton. The way Mondelēz' current supply chain is organized, the company does not work directly with farmers; instead they conduct most of their Cocoa Life sustainability initiatives through close collaboration and partnership with their suppliers. In part because of the loosely structured supply chain in Côte d'Ivoire, Mondelēz leverages their suppliers to introduce them to the cocoa farming communities. Cocoa Life initiatives including technical training and community action plans are carried out through their suppliers (Mondelēz, personal communication, January 24, 2014).

Besides the macroeconomic factors described in the Introduction section, there are several drivers for Mondelēz' current sourcing model: maintaining quality, cost and mitigation of financial risk. In Côte d'Ivoire, traders and *traitants* sometimes pre-finance farmers at the start of the planting season and bear the financial risk of making loans that may not be repaid. For example, the cocoa trader ICAM provides financing to a *traitant*, who then makes a loan to a *pisteur* who sources beans directly from farmers. In Côte d'Ivoire where there is a competitive market of suppliers (especially *pisteurs* and *traitants*), providing pre-financing is one way for suppliers to build loyalty among farmers. Having suppliers own the financing system is a major benefit to Mondelēz. Other high priority issues for Mondelēz include keeping sourcing costs low and building loyalty with producers and suppliers in Cocoa Life; price paid to producers is often a determinant in driving loyalty (Mondelēz, personal communication, January 24, 2014).

A broader challenge is the lack of physical infrastructure, from vehicles for transporting beans to warehouses and lack of strong data systems and transparency of information through the system.

Cocoa Life in Practice

Of the five Cocoa Life pillars, the company has identified Farming to be a priority intervention point in West Africa. The rationale is that by working with suppliers to improve farmers' ability to produce higher volume and higher quality crop at a reasonable cost ("more with less"), farming incomes will follow. Mondelēz also recognizes the need to concurrently address the region's critical social and environmental issues such as labor and gender issues through community development and education and training of its suppliers. Mondelēz aims to source an increasing amount of beans through Cocoa Life (Mondelēz, personal communication, January 24, 2014).

Relevance and Application of Peer Benchmarking to Mondelēz

Exhibit 5: Côte d'Ivoire

Benchmarking Example	Intervention Points	Lessons Learned and Recommendations for Mondelēz
Nestlé: Direct Sourcing from Cooperatives	Market Access; Incentive for	<ul style="list-style-type: none">Mondelēz can incentivize key suppliers to provide training on social and environmental issues for the

	Improved Quality; Quality Control: Collaboration with all Partners to Promote Quality	<p>‘unorganized sector’ just as several of Nestlé’s Tier 1 suppliers have done for the <i>traitants</i> they work with.</p> <ul style="list-style-type: none"> • Provide market incentives for cooperatives to conduct quality control checks before accepting beans from <i>traitants</i> and <i>pisteurs</i>. • Leverage the trend of certification of cooperatives by encouraging the formalization of cooperatives through certification of cooperatives using the Cocoa Life brand.
Leveraging Trader Relationships - some multinational processors involved, e.g. Barry Callebaut	Capability Building	<ul style="list-style-type: none"> • Work with multinational processors who are engaging farmer cooperatives in advanced fermentation techniques, in order to help establish drying and fermentation capabilities within cooperatives.
Nestlé: Direct Sourcing from Cooperatives	Market Access	<ul style="list-style-type: none"> • Encourage the formalization of cooperatives through certification of cooperatives using the Cocoa Life brand.
Investment in cocoa science – See example of Mars’ Center for Cocoa Science in Brazil	Market Incentive for Improved Quality	<ul style="list-style-type: none"> • Investment into renewing the cocoa tree crop can help address the long-term productivity of Ivorian cocoa.

General Insights and Key Takeaways

One of the major barriers facing Mondelēz in Côte d’Ivoire is lack of an organized value chain; this is a major barrier to controlling bean quality. Mondelēz must build financial incentives into its downstream informal supply chain to ensure delivery of high quality beans and cocoa products. One mechanism is to leverage the trend of certification of cooperatives and certify cooperatives using the Cocoa Life brand. Another is to train the middlemen in the ‘unorganized’ sector on social and environmental issues. There are also several cases in which multinational processors are teaching fermentation techniques to farmer cooperatives.

In the companies we examined working in Côte d’Ivoire, there was little mention of strategies to mitigate or adapt to climate change impacts, and yet according to the Consultative Group on International Agricultural Research (CIAT), certain regions in Côte d’Ivoire will become less suitable for cocoa production (Lagunes and Sud-Comoe in Côte d’Ivoire) (CIAT, 2011); farmers will have to switch to alternative crops, and there will also be areas that have no cocoa production today but will become suitable for production in the future (18 Montagnes in Côte d’Ivoire) (CIAT, 2011). We recommend that Mondelēz begin to integrate climate resiliency into its cocoa production and sourcing strategies.

Other potential interventions that were not identified in the benchmarking study that would warrant attention from Mondelēz is the need for strong data systems and transparency of information. The region is also lacking in physical infrastructure, from vehicles for transporting beans to warehouses. Partnership with local partners and government to address some of these community development infrastructure issues would contribute to building thriving cocoa communities.

VI. Brazil

Benefits and Challenges of Current Sourcing Model

Mondelēz sources finished cocoa products (cocoa powder, butter, liquor), not beans locally from three key suppliers, Barry Callebaut, Cargill, and ADM. All three have local entities in Brazil (Mondelēz, personal communication, January 20, 2014).

In selecting suppliers, Mondelēz is concerned about quality and the ability to deliver volumes. While sustainable sourcing is clearly important to Mondelēz' Brazil team, sustainability is not a criteria in selecting its suppliers. The team does not anticipate stepping into the supply chain to manage sustainable sourcing without on-the-ground partners, whether in the form of suppliers or NGOs. Regional expertise and history plays a role too. Unlike in Southeast Asia where Mondelēz has processing facilities, processing is not an expertise Mondelēz has in Brazil. Nestlé on the other hand has built up the expertise of processing beans over the years (Mondelēz, personal communication, January 20, 2014).

Cocoa Life in Practice

Mondelēz is in the process of developing its technical roadmap for Brazil, that is, it is identifying the steps and tools needed to meet its volume commitments under Cocoa Life. This is top priority for the company – to guarantee volume increases by 2020 to support expected increase in demand. Of the five Cocoa Life pillars, farming is the most important. Mondelēz is using the other pillars to support and drive this technical pillar. From a sourcing standpoint, this secures supply and limits the need to import cocoa beans. Mondelēz will be developing the roadmap with its trading partners and plans to share with them findings from the two projects (Mondelēz, personal communication, January 20, 2014):

Renova Cacau Project – Cocoa Plantation Rejuvenation Methods with University of Santa Cruz

In 2014, Mondelēz began partnering with the University of Santa Cruz to test various methods of renovating cocoa plantations in Bahia by experimenting on demonstration farms. The objective is to tackle one of the major structural constraints facing cocoa production Brazil – low productivity. Findings will be shared and recommended to farmers.

Partnership with Gandu Coop

Gandu Cooperative has been established for 26 years, has 900 associates, 300 of them are active in delivering cocoa. Mondelēz worked with the Cooperative and Instituto Cabruca to launch a pilot program to certify farmers. 75 farmers are already on the pilot. Mondelēz also works with an NGO partner to provide technical assistance to farmers on agricultural practices. The objective is to increase productivity, promote good agricultural practices and improve cocoa quality.

The strategic and Administration Execution partner for both projects is Instituto Cabruca.

Relevance and Application of Peer Benchmarking to Mondelēz

Exhibit 6: Brazil

Benchmarking Example	Intervention Points	Lessons Learned and Relevance to Mondelēz
Olam Cocoa and Forest REDD+ Initiative	Market incentive for quality upgrading, Market access, capability building, Payment for ecosystem services	<ul style="list-style-type: none"> • Mondelēz can take one of three entry-points to a landscape approach: “1) introduce its own landscape approaches/supply chain interventions, 2) join multi-stakeholder platforms, 3) intervene at the producer level to introduce landscape approach elements” (Kissinger, Brassler, & Gross, 2013). • Classification of project as R&D means that immediate ROI is not critical to the project’s success. Olam has chosen to continue investing in the project despite it not being commercially viable. • Expand beyond traditional farmer-support program to provide landscape approach to addressing interconnected issues in water, energy and climate. • SAN certification of individual farmers and not only farming cooperatives as a means to mitigate climate risk
Starbucks	Access to Materials/Inputs, Capability Building, Enhancing Stakeholder Relationships	<ul style="list-style-type: none"> • Similar to Mondelēz and Cocoa Life, developing thriving communities for its producers is core to Starbucks’ business model. • Timeline for investment in landscape approaches is in years, since planning for long-term risks like climate change adaptation takes time. • Key to the success of Starbucks’ landscape approaches is its partnership with Conservation International. Finding a suitable conservation partner with expertise in technical assistance, extensive network of local relationships, and capabilities for carbon finance and regional producer support in Mondelēz’ key sourcing regions is critical. • Look into Conservation International’s Verde Ventures Fund. 80% of investments are in the coffee sector and only 4% so far are in cocoa, however Starbucks is looking to apply the landscape approach to Brazil, there may be

		<p>learnings from Starbucks to keep abreast of. Source: http://www.conservation.org/global/verdeventures/about/pages/facts_figures.aspx</p>
Starbucks	Payment for ecosystem services	<ul style="list-style-type: none"> • For Starbucks, investing in climate change adaptation strategies in key sourcing regions is considered a cost of doing business as it is an investment in securing a long-term supply of quality beans. • Carbon finance as a means to diversify farmer income, and attract coffee farmers to stay in the sector, promoting climate change mitigation and adaptation solutions. • In the short-term, Mondelēz can certify farms according to the Sustainable Agriculture Network (SAN) standard to promote climate resiliency awareness and training to farmer groups.
Natura – Direct Sourcing/ Investment in Innovation at Origin	Capacity Building; Access to Materials; Government & Industry Group Alignment	<ul style="list-style-type: none"> • Innovation research center at place of origin as driver of business growth. • Sourcing model aligned with distribution model and branding strategy – Mondelēz can leverage consumers more as evangelists for the brands. • Mondelēz can help set up formal cooperatives to help communities secure stability of supply instead of relying completely on middlemen. • Natura uses a small quantity of cocoa butter, however because of the small scale requirements they do not purchase beans; instead they purchase the cocoa butter directly from a cooperative. For other raw materials that do not yet have established supply chains, Natura develops these supply chains from the ground up. • Differences: Higher margins in the cosmetics industry means Natura is able to afford years of research into ingredients and products that may not translate directly into profits.

General Insights and Key Takeaways

In Chapter 5 we identified several landscape approaches undertaken by peers to address the constraint of low productivity. In addition to farm-level interventions, enhancing stakeholder relationships and providing access to credit, the example of peers have shown that addressing climatic factors and

renewal of the cabruca forestry system are also important to maintaining and increasing the long-term sustainability of cocoa production in Brazil. Investing in a conservation fund that invests back into key cocoa sourcing regions, such as Conservation International's Verde Ventures Fund, and payment for ecosystem services are some possibilities for Mondelēz to explore. Pre-conditions for PES include national readiness for REDD+ and development of REDD+ strategy – these must be in place to help facilitate adoption of REDD+ landscape approach (Kissinger, Brassler, and Gross, 2013). Field-level initiatives must also be aligned with REDD policy and governance at the national level.

VII. Dominican Republic

Benefits and Challenges of Current Sourcing Model

In the DR, Mondelēz buys cocoa beans from three suppliers and no products; products are supplied by ICAM in Italy. Because of the Fairtrade certification in the DR, Mondelēz only procures organic, fermented and Fairtrade Hispaniola beans. Up until a year ago, 100% of its Fairtrade, organic certified cocoa for Green and Black's are sourced from the CONACADO Cooperative, the largest exporter of organic cocoa in the DR with an affiliate network of 10,000 'bloques' of cocoa producers. Today CONACADO is still the largest supplier to Green and Black's. One year contracts with suppliers allow the company to negotiate the volume and premium, but suppliers fix the differential (over conventional beans) at the world price. Timing of when the contract is fixed is left to the supplier's discretion. This gives Mondelēz some measure of certainty as to how much they would have to pay CONACADO and how much to hedge. The beans are shipped to Europe and initially processed by a third party processor (Mondelēz, personal communication, January 17, 2014).

Drivers for the current sourcing model include bean quality, reliability of the suppliers themselves on delivering the contract in a timely manner, price, and the company's long-term relationship with CONACADO over many years. CONACADO bloques may be organic or Fairtrade certified and audited by third party certification bodies. Bloques serve to ensure that farmers adhere to the rules laid down by the certification bodies. While Mondelēz DR does not consider sustainability criteria in selecting suppliers, having its suppliers in the DR work with the CONACADO cooperative is one step closer to delivering interventions at the farm-level (Mondelēz, personal communication, January 17, 2014).

The strength of the current model is also the main drawback. Because of the certification requirements for G&B's, Mondelēz is limited to the small number of suppliers that are both organic and Fairtrade. This means lower negotiating power and increased exposure to supply risks due to natural disasters and other macroeconomic shocks. Sourcing cocoa from diversified sources would lower these risks.

Cocoa Life in Practice

The DR has a sustainability program that was started prior to Cocoa Life but now it forms part of Cocoa Life. Addressing the long-term supply risks due to socio-economic factors such as youth migration to other sectors and regions are among the top priority issues for Mondelēz in the DR (Mondelēz, personal communication, January 17, 2014). Below are several programs in progress and best practices identified:

- Through Green & Black's, Mondelēz co-funded a program with USAID sustainable cocoa initiative to provide education and training on increasing cocoa productivity and stewardship of socio-economic and environmental aspects of the cooperative.
- In a jointly funded program with REDDOM and the PeaceCorps, the Build Your Dream program plans to teach more than 1000 young men and women skills to develop their own businesses and to consult with more than 100 local entrepreneurs on business development through a series of training in entrepreneurship, microfinance, business plan development. The objective is to improve livelihoods in cocoa growing areas to ensure cocoa supply availability. Since cocoa communities face the problem of youth migrating to other cities, the program also aims to attract youth to stay within their communities, even if not necessarily in cocoa farming.

- A third party consultant delivered series of workshops on child labor awareness to all cocoa communities in the DR. 139 out of a total of 162 Associations have been completed to date.
- The company takes delivery of the beans throughout the year and store the beans in the off-season. This is not the case in Europe where they only have a small strategic stock of beans as a buffer against temporary shocks.

Relevance and Application of Peer Benchmarking to Mondelēz

Exhibit 7: Dominican Republic

Benchmarking Example	Principal Intervention Points	Lessons Learned and Relevance to Mondelēz
Taza Chocolate - Establish Local Trader Relationships	Reach underrepresented smallholders	<ul style="list-style-type: none"> • Mondelēz has resources on-the-ground and could identify partners like Oko Caribe to source wet beans from cocoa farmers. • Mondelēz can reach farmers that may not be selling to CONACADO.
Taza Chocolate - Third-Party Direct Trade Certified	Access to Long-Term Capital	<ul style="list-style-type: none"> • Taza’s Direct Trade Certified Cacao program may not be scalable for the majority of Mondelēz’ brands, but the concept can apply if Mondelēz were to establish a niche cocoa supply chain. • Farmer financing options: Partnership with Root Capital, a rural finance company that offers pre-harvest financing to producers.
Theo Chocolate - Towards Vertical Integration	Market Access; Collaboration with All Partners to Promote Quality	<ul style="list-style-type: none"> • Theo stands out from other niche ethical chocolate brands by providing full transparency of its supply chain (pricing structure publicly available on website). While not necessarily practical for most Mondelēz’ brands, this could work for a premium brand like Green & Black’s. • Is vertical integration a possibility for Mondelēz’ niche premium brands?

General Insights and Key Takeaways

Most of the intervention points we identified were not addressed by Mondelēz’ benchmarked peers. We did not find any company strategies which discuss addressing the oligopolistic concentration of domestic exporters nor strategies to address the uncoordinated internal marketing system and general “lack of trust” within the chain. Most companies are sourcing through the farmer association CONACADO, who essentially holds a monopoly in the sector. By not actively engaging other

diversified value chain actors, large manufacturers sourcing only from CONACADO may be exacerbating value chain constraints we identified.

Other key constraints & intervention points not addressed in benchmarking include:

- Government alignment
- Vulnerability to weather
- Ecosystem services of cocoa production

In addition, rather than investing in a one-time project, Mondelēz can adopt an ongoing, financially revolving fund to ensure continued investments are being made into upgrading projects. As discussed in the benchmarking section, different revolving fund models exist, from foundations to premiums invested in development funds, and depend on fund governance and ownership structures.

VIII. Analysis of Alternative Sourcing Strategies

Based on our research and conversations with the regional Mondelēz teams, we found that cost, quantity and quality are key determinants of Mondelēz' sourcing strategy. In view of this we have analyzed several alternative sourcing strategies and developed a framework (see Figure 27) to conduct a high-level analysis of the suitability of a particular region for certain types of sourcing strategies. The framework consists of a set of conditions that can be used to assess and score the viability of certain strategies under consideration.

For example, according to the framework, the conditions under which constructing a buying station close to the farm-level would make sense as a strategy include:

- Niche cocoa product
- Vertical integration: own processing facilities
- Farmer's ability to meet quantity and quality requirements
- Quality control at collection areas:
- Capability for segregating differentiated cocoa

This set of conditions are by no means comprehensive, but indicate that this strategy may be suitable for the sourcing region only when high quantity and quality standards are being met.

Similarly Direct Trade as a strategy would be viable when sourcing a niche cocoa product, like fine-flavor cocoa, as the smaller-scale of the niche supply chain would be able to support direct sourcing from cooperatives. Quality standards are also usually higher for direct niche products, therefore quality control checks at collection areas and capability for segregating differentiated cocoa are applicable pre-conditions for the strategy.

This is not a comprehensive list of criteria for each individual strategy, instead the objective is to outline the key conditions that would need to be considered to identify which strategies are more viable. We applied the framework in Figure 27 to Indonesia. We envision Mondelēz adapting and expanding this framework for other key sourcing regions.

CHAPTER 7

Conclusion

In this paper, we introduced the cocoa-chocolate value chain and key drivers pressuring manufacturers to consider alternative cocoa sourcing strategies. We discuss emerging market solutions for the industry available to manufacturers. We then explored the complex value chain dynamics in Indonesia, Ghana, Côte d'Ivoire, Brazil and the Dominican Republic and identified intervention points for chocolate manufactures, like Mondelēz, to address sustainability challenges in these origins. We benchmarked peer company sustainable sourcing strategies and applied best practices to Mondelēz. In addition to the takeaways for Mondelēz that we discuss in previous chapters, we have the following, broad concluding insights for Mondelēz to consider.

I. Cocoa-Chocolate Value Chain Governance is Evolving

As discussed in Chapter 4, value chain governance is dynamic and can change across space and time. While the chocolate industry is still largely a buyer-driven commodity chain, our research indicates that the value chain governance structure is beginning to evolve and change form. Chocolate manufacturers have historically had the luxury of switching suppliers if specifications are not met. However, supply security challenges, consumer expectations and environmental and social considerations are driving these lead firms to think differently about chain interactions.

We see a trend in cocoa-chocolate value chain governance typologies moving from largely market governances to relational governances (refer to Figure 7 from the GVC discussion for a description of the governance types). Transactions are becoming less simple, the switching costs for buyers will continue to increase and cocoa price is becoming less of a central governance mechanism. The chain will progressively require more trust among actors and will be characterized by mutual-reliance, particularly between chocolate manufacturers and suppliers. As discussed in Chapter 2, the type of transparency and information brands are asking of their supply chain is fairly new. This requires a more collaborative chain with feedback and information sharing from the farm level to the brand. Formal relationships at all levels are emerging as a means to ensure this information sharing and collective capability building. Tools such as MOUs are used to formalize relationships throughout the chain to ensure supply requirements are realized. Through MOUs, global brands are collaborating with multinational suppliers (e.g. Unilever and Barry-Callebaut), with NGOs (e.g. Mars' and Indonesian NGOs) as well as producer cooperatives (e.g. L'Occitane and producer groups). It is important to note in a relational governance type lead firms still generally specify needs and can exert some degree of power over suppliers, despite a mutual reliance.

We do not anticipate the global cocoa-chocolate value chain to completely transition from a buyer-driven chain to producer-driven. However, in the future we expect less of a clear delineation between the two for the cocoa industry. Cocoa producers and producer countries will become more powerful players in the chain given the projected supply/demand gap and dependence of buyers on producer capabilities for chocolate product requirements.

Chocolate manufacturers, like Mondelēz, should be aware of these shifts value chain governance. They must continue to build relationships and trust throughout the value chain and especially so with producer communities and national and local governments of producing origins.

II. Landscape Approach to Ensure Thriving Cocoa Communities

In Chapter 2, we introduced the ‘landscape approach’ which is beginning to gain traction among firms trying to addressing global sustainability challenges in their supply chains. A landscape approach recognizes that companies facing water, climate, energy and community risks must look to interventions beyond the farm-level, which is where most agribusinesses currently focus their sustainability efforts (Cocoa Carbon Initiative, 2014). A landscape approach looks at sustainability more holistically, extending to broader areas such as watersheds, ecosystems, transport systems, governments, communities and markets.

Both Mars and Natura are highlighted as using a landscape approach to addressing sourcing challenges in the 2013 report, “Reducing Risk: Landscape Approaches to Sustainable Sourcing.” Through Cocoa Life implementation, we think that Mondelēz is adopting a landscape approach to addressing fundamental social and environmental challenges facing cocoa producing communities. However, we think there are additional opportunities for Mondelēz to apply this approach to all origins; most notably through payment for ecosystem service (PES) models.

Brands like Mondelēz can target agroforestry initiatives through a landscape level approach by capitalizing on or helping to develop PES schemes. PES is a voluntary financial exchange and trading system based on the scientific understanding that natural features and ecosystems provide valuable services to humankind (Scarlett & Boyd, 2011). PES schemes can provide a mechanism to directly incent a land owner or manager to adopt more sustainable practices through voluntary financial transactions between two parties. In the model, an environmental or ecosystem service (e.g. biodiversity habitat, carbon sequestration, or water purification) is purchased by a service buyer (e.g. private entity or government) from the service provider (e.g. land owner or manager) (Goldman-Benner, 2011).

As discussed in previous chapters, sustainably managed agroforestry can provide critical ecosystem services including watershed protection, carbon sequestration and biodiversity habitat. Notably, REDD+ programs are aimed to provide the private sector engagement in REDD projects and in 2010 the organization launched the Cocoa Carbon Initiative to combat deforestation in Ghana (Cocoa Carbon Initiative, 2014). There is great potential for REDD+ projects in Indonesia and Dominican Republic as deforestation is linked to cocoa farm development. Additionally, in the Dominican Republic there are opportunities for PES schemes related to watershed protection.

Mondelēz should become an active member in the rapidly changing international dialogue regarding valuing natural capital and conservation finance with the ultimate goal of helping to develop market-based solutions to incent farmers to employ best management agro-ecology practices. Through such conversations, Mondelēz could provide creative opportunities to reward cocoa farmers with additional revenue for managing their lands more sustainably while also addressing global environmental and social concerns.

III. Smallholder Farms as Business Enterprises

We see a trend in global chocolate manufacturers beginning to view smallholders not as agricultural producers as historically regarded but more as business partners. Cocoa farms must be self-sustaining, profitable and smallholders need an adequate standard of living to avoid ‘going out of business.’ Through extension services and other capability building approaches, companies are building producer business capabilities at the farm and cooperative level to ensure profitability and self-sufficiency. Just as a key driver for a successful company is an enabling commercial environment, a thriving cocoa community is critical to smallholder viability. For example, Mars’ formation of the CVC compost business model enables cocoa growing community members with business opportunities that support the industry. Additionally, we identified a innovative examples of how companies are enabling producers to establish farmer-owned for-profit social enterprises. StarShea Ltd. and Divine Chocolate are owned and managed by producers and offer unique alternatives to conventional value chain relationships.

Mondelēz should prioritize developing cocoa farmer and cooperative business acumen. Mondelēz should also explore business opportunities for other actors in the value chain, such as traders that can employ training, and cocoa growing community members, such as input distribution.

IV. Industry Alignment Imperative to Address Root Issues of Smallholder Poverty

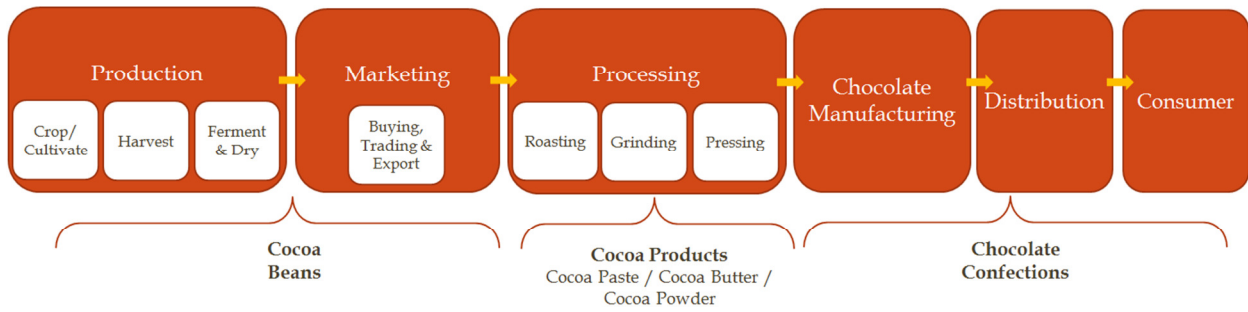
Most chocolate manufacturers are involved in capability building or extension services in an effort to achieve smallholder economic, social and environmental upgrading. As discussed above, some brands are also taking holistic approaches to address community development challenges facing cocoa origins. In countries, such as Ghana and Côte d’Ivoire, the public sector and government are more involved in these projects and are key partners. In other countries, such as Brazil and Indonesia, current initiatives are primarily led by the private sector.

While good-intentioned, the private sector is essentially tripping over one another on-the-ground. Through research and interviews, it is clear that smallholders and cocoa communities would greatly benefit from global brand alignment on sustainable cocoa and community development projects. Some organizations and tools have emerged to align private and public sector approaches to upgrading strategies. The CCE is an approach to align farmer training for sustainable certification, the WCF is attempting to align community development work in West Africa, and the CSP is a key tool for alignment in Indonesia. Such initiatives are new and/or emerging and Mondelēz should be an active participant in these forums as they grow and gain traction in the industry.

In addition to participating in the above initiatives, we see great opportunity for Mondelēz to directly partner with global competitors, such as Mars and Nestlé, on addressing the pre-competitive and collective challenge facing the entire industry: cocoa smallholder and community poverty. These global brands can then jointly engage international development agencies and governments to more effectively implement cocoa sustainability strategies.

Appendix A

Figure 1: Simplified cocoa-chocolate value chain



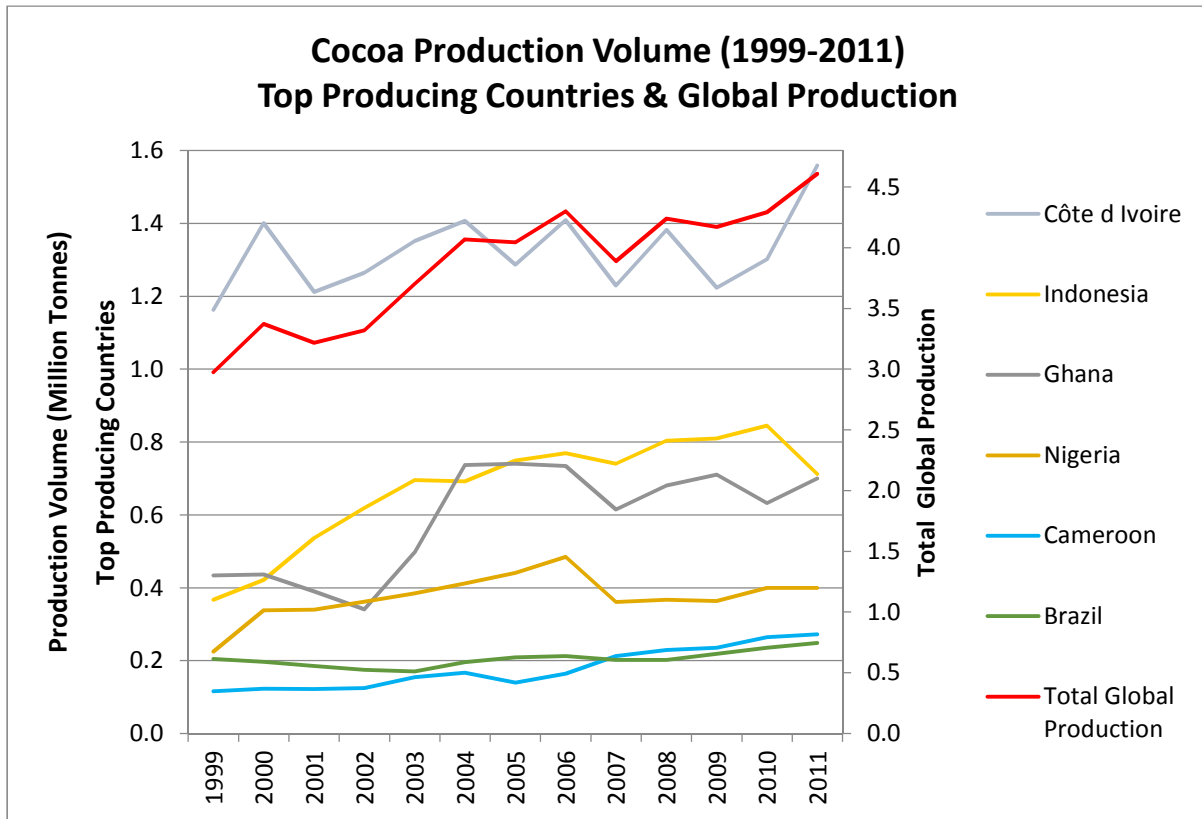
Source: Author constructed

Figure 2: Global cocoa production countries of origin (pink fill indicates cocoa producing country)



Source: (Geography 3104, n.d.)

Figure 3



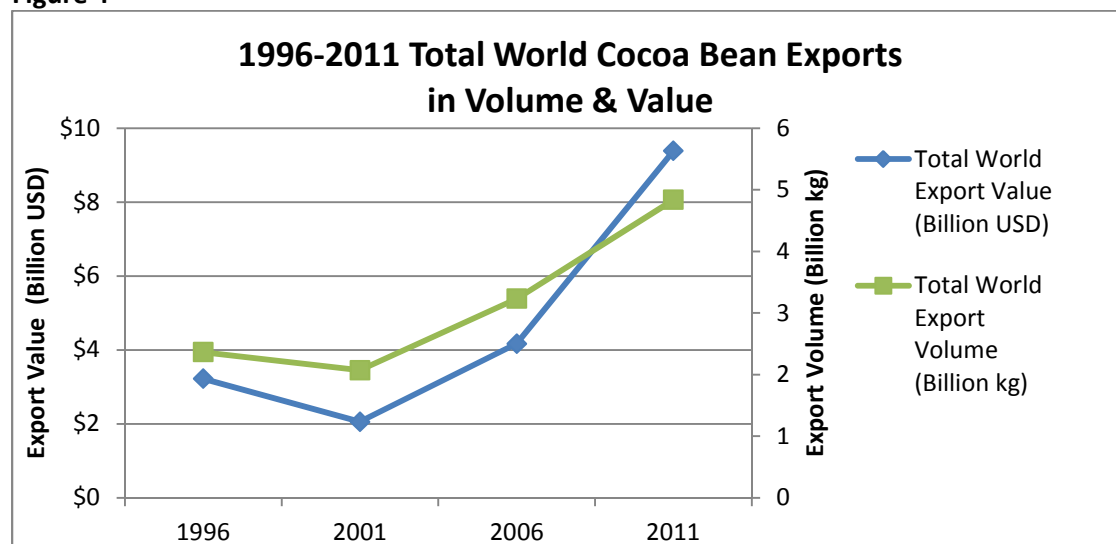
*Note: Red line corresponds to secondary axis; total global production.
Source: Author constructed. Production data pulled from FAOSTAT 2013.

Table 1: Top 7 global chocolate confectionary companies

Company	Net Confectionary Sales 2013 (US\$ millions)
Mars Inc (USA)	17,640
Mondelēz International Inc (USA)	14,862
Nestlé SA (Switzerland)	11,760
Ferrero Group (Italy)	10,900
Hershey Foods Corp (USA)	7,043
Arcor (Argentina)	3,007
Lindt & Sprüngli AG (Switzerland)	3,149

Source: Constructed from (ICCO, 2014)

Figure 4



Source: Export data from UN Comtrade

Table 2

Export Cocoa Trade Value in Million USD				
Country	1996	2001	2006	2011
Côte d'Ivoire	1,408	1,009	1,423	3,017
Ghana	748	259	1,096	2,072
Export Cocoa Trade Volume in Million kg				
Country	1996	2001	2006	2011
Côte d'Ivoire	1,054	1,026	925	1,073
Ghana	430	252	685	629

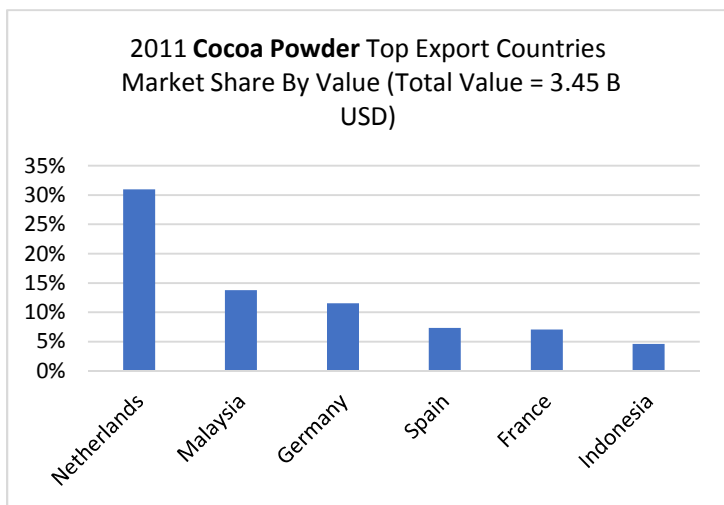
Source: Author constructed. Export data from UN Comtrade

Table 3

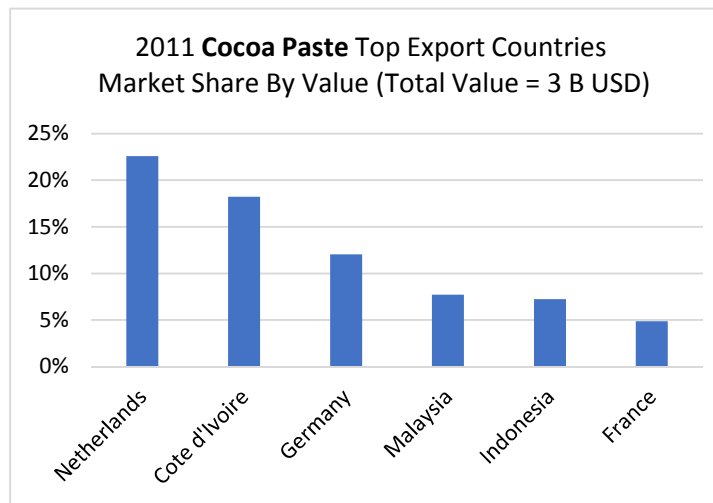
Cocoa - Chocolate Value Chain Stage Output Unit Value Comparison	
Stage	Unit Value (USD\$/kg)
Cocoa Beans	1.94
Cocoa Paste	4.19
Cocoa Butter, Oil & Fat	4.49
Cocoa Powder	4.68
Chocolate	4.79

Source: Author constructed. Unit value derived from UN Comtrade data.

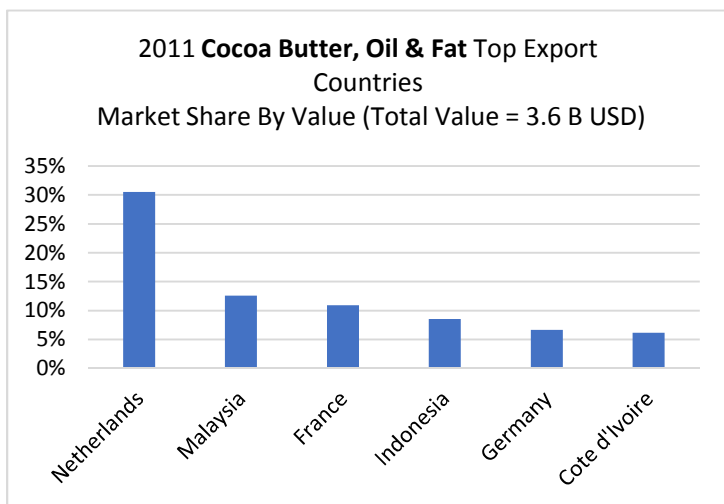
Figure 5: Cocoa-derived products - top export countries



*99 reporting countries

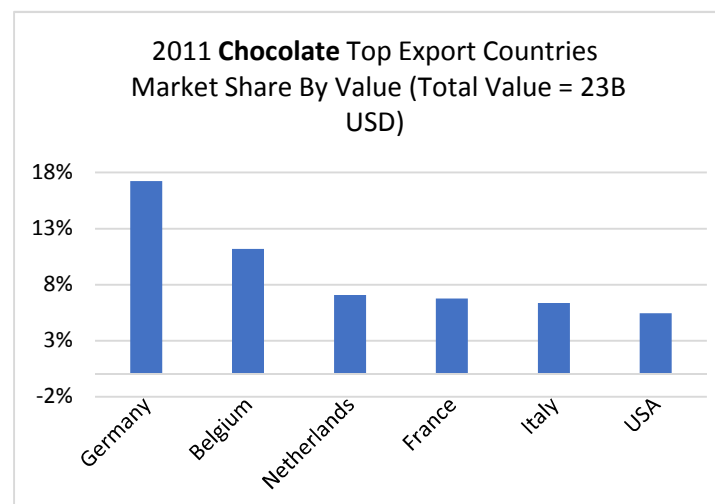


*70 Reporting Countries



*78 Reporting Countries

Source: Author constructed. Export data from UN Comtrade



* 129 Reporting Countries

Table 4: Cocoa cultivation requirements

Rainfall	1,500-2,000 mm per year (distribution pattern of rains is the most critical element in cocoa production)
Dry season	No more than three months
Water	Impaired by both waterlogging and extended drought
Temperature	18-32°C, with absolute minimum of 10°C
Wind	Does not tolerate strong or even steady wind (forest cover or windbreaks are essential)
Soil	Loamy soils, with supply of nutrients at surface (not economical on degraded soils) and able to retain soil moisture
Shade	Especially important during the first stages of growth. Reaches photosynthetic light saturation at around 400 $\mu\text{mol}/\text{ms}$ (about 30% sunlight). It tolerates more light as the tree matures

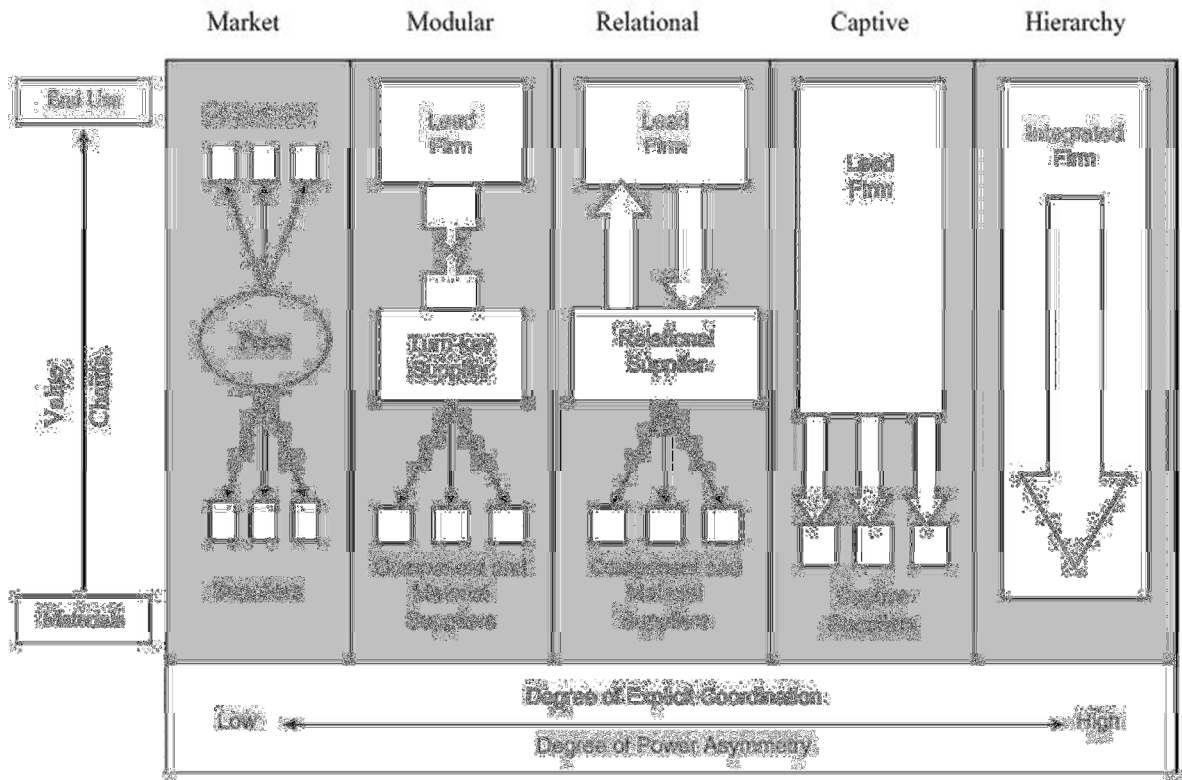
Source: (UNDP, 2010)

Figure 6: GreenPeace Nestlé killer campaign



Source: (Sweet success for Kit Kat campaign, 2010)

Figure 7. Five global value chain governance types



Market	<ul style="list-style-type: none"> • Transactions are fairly simple. • Product specification information is transmitted readily/easily. • Suppliers make products with limited/minimal input from buyers and require limited formal cooperation. • Switching cost of partners is low for both producer and buyer. • Price is central governance mechanism (not powerful lead firm).
Modular	<ul style="list-style-type: none"> • Complex buyer-supplier transactions & interactions which can be readily/easily codified. • Products made by supplier to customer's specifications. • Suppliers take responsibility for process technology (usually generic) spreading investments across customers. • Switching costs of partners is low for producer and buyer. • Relationships more significant than market governance because of information flow which links firms.
Relational	<ul style="list-style-type: none"> • Sellers and buyers depend on complex information not readily transmitted/learned. • Characterized by frequent interactions and knowledge sharing among actors. • Requires trust and creates a mutual reliance. This is regulated through reputation, social and spatial proximity, family and ethnic ties, etc. • Lead firm will still generally specify needs and can exert some degree of control over suppliers (despite mutual reliance). • Producers generally supply differentiated products (quality, origin or unique attribute). • Switching costs of partners can be high as it takes time/resources to build relationships.
Captive	<ul style="list-style-type: none"> • Small suppliers depend on one or a few, often powerful, buyers (power asymmetry). • Networks require monitoring and control by lead firm. • Buyer often establishes specific conditions required of the supplier.

	<ul style="list-style-type: none"> • High switching costs for both buyers and suppliers. • Lead firm core competency is generally outside of production thus enabling supplier upgrading of production would benefit the lead firm (increasing chain efficiency). • Ethical considerations important (e.g. fair treatment and equitable market share price to supplier).
Hierarchy	<ul style="list-style-type: none"> • Chains characterized by vertical integration. • Lead firm has managerial control and develops and manufactures products. • Drivers include complex products, lack of necessary competent suppliers, or when firm cannot codify product specifications.

Source: Adapted from (Gereffi, Humphrey & Sturgeon, 2005) & (Fernandez-Stark & Gereffi, 2011) per author’s permission.

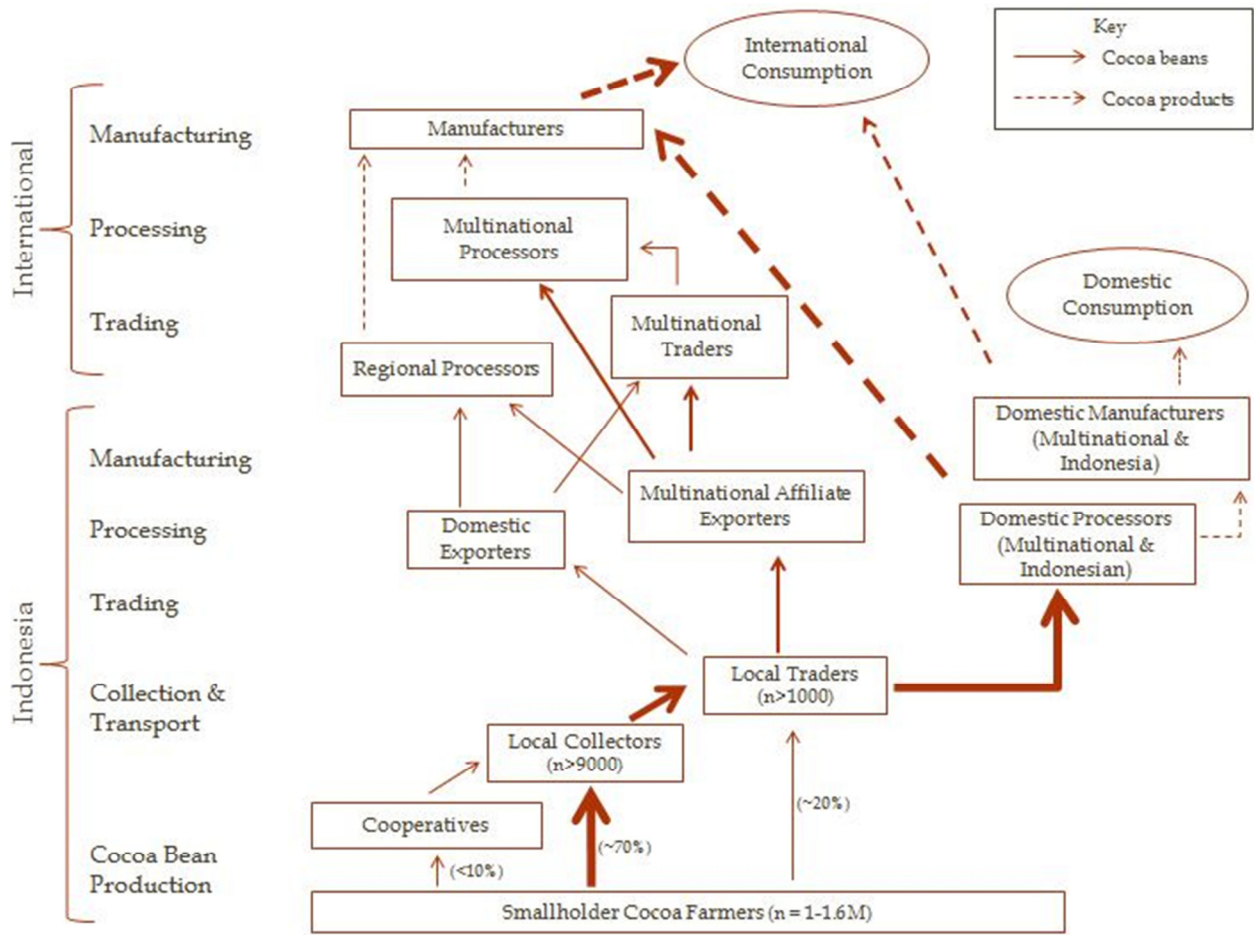
Figure 8: Main cocoa production locations in Indonesia



1. Sulawesi 2. North Sumatra 3. West Java 4. Papua 5. East Kalimantan

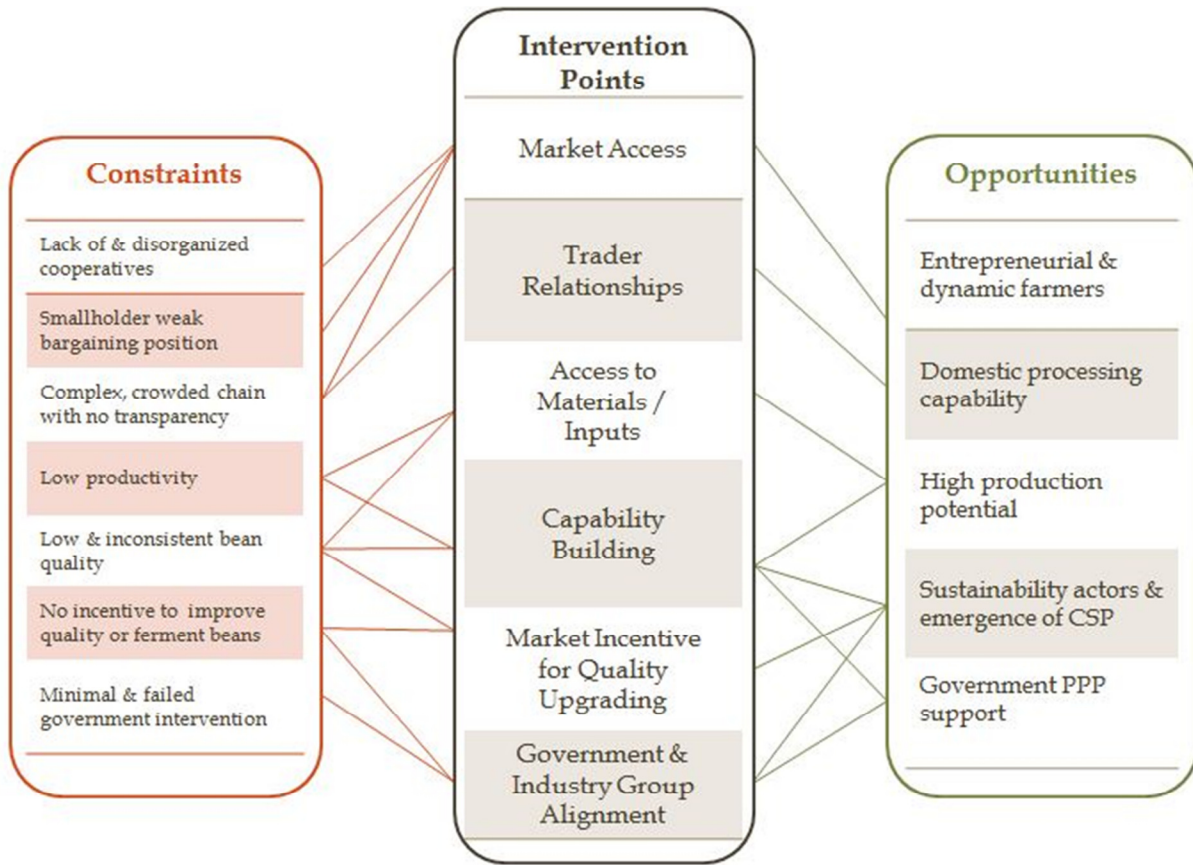
Source: (Cocoa, 2013).

Figure 9: Indonesia cocoa-chocolate value chain schematic



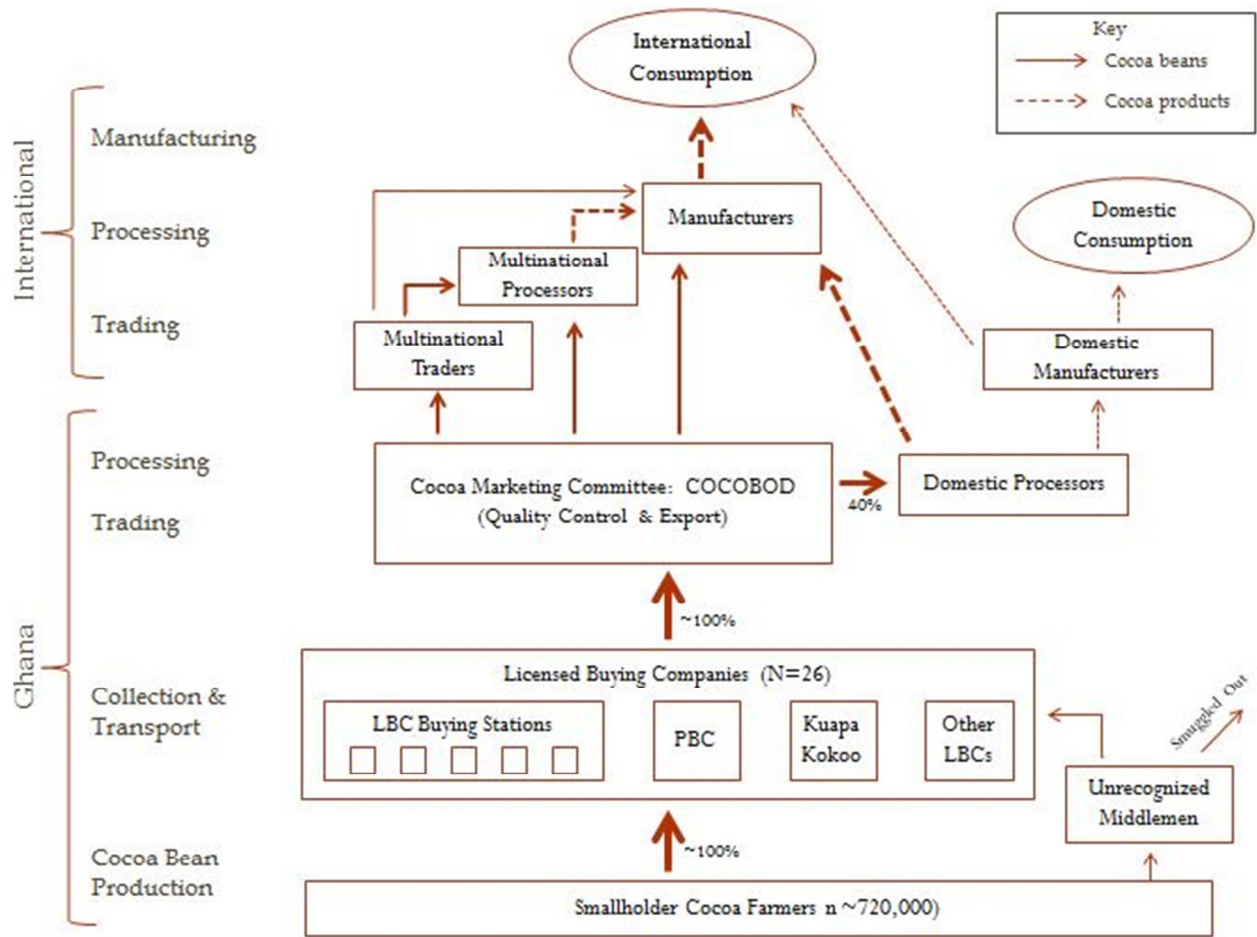
Source: Author constructed

Figure 10: Indonesia cocoa-chocolate value chain constraints, opportunities and intervention points for Chocolate Manufacturers



Source: Author constructed

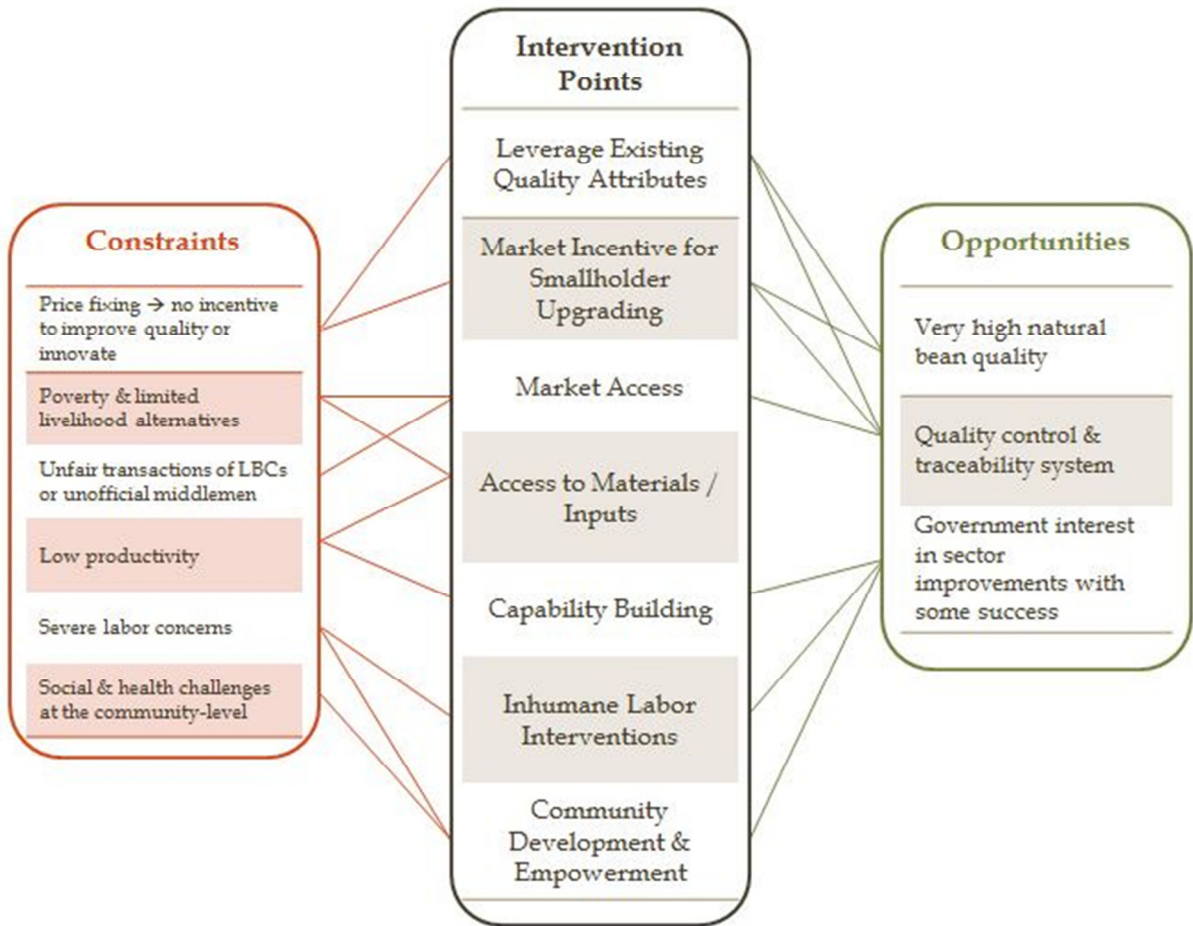
Figure 11: Ghana cocoa-chocolate value chain schematic



Note: Weight of arrow indicates approximate percentage of cocoa bean/product flow

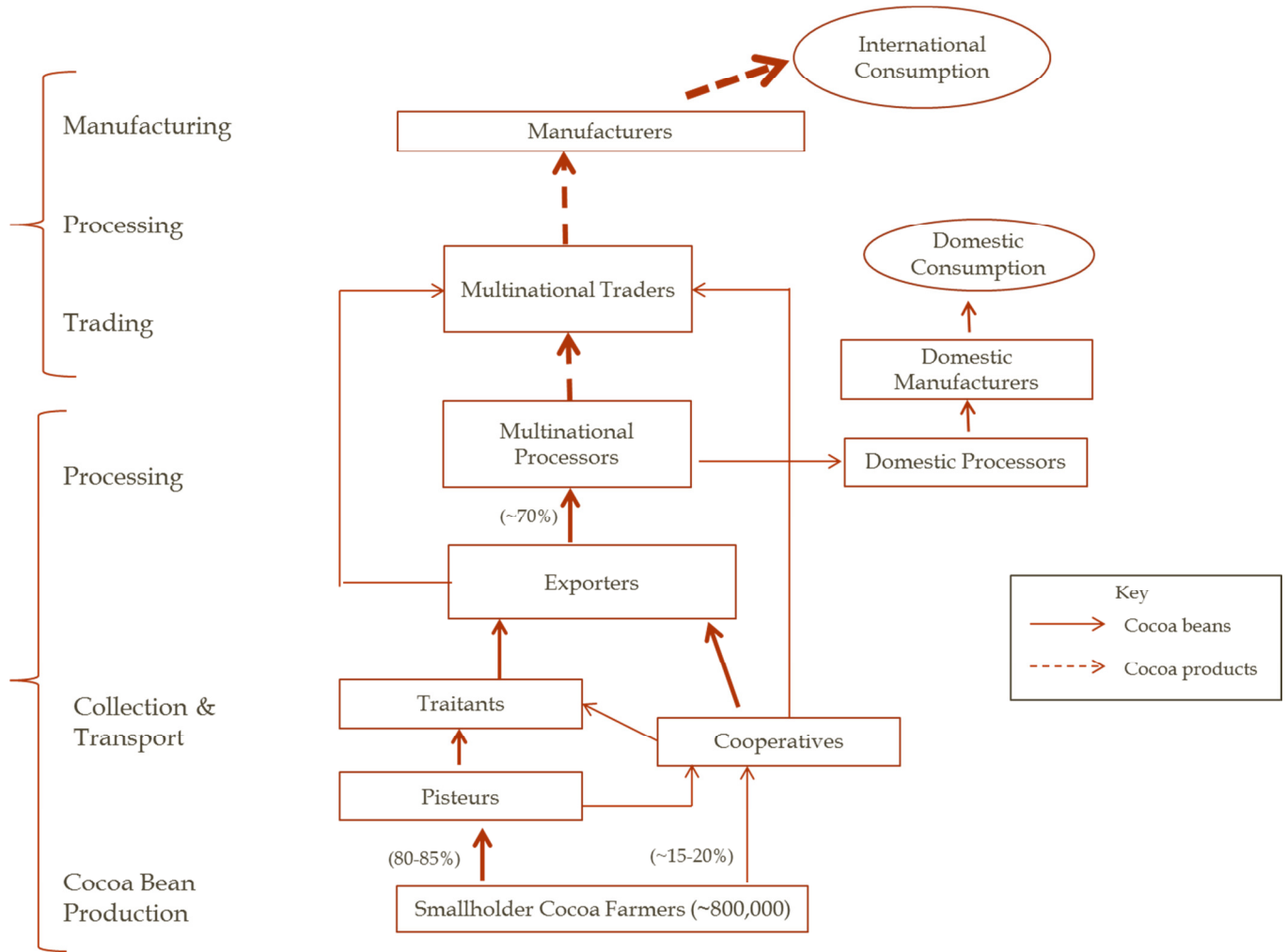
Source: Author constructed

Figure 12: Identified Ghanaian cocoa-chocolate value chain constraints, opportunities and intervention points for chocolate manufacturers



Source: Author constructed

Figure 13: Côte d'Ivoire cocoa-chocolate value chain schematic



Note: Weight of arrow indicates approximate percentage of cocoa bean/product flow

Source: Author constructed

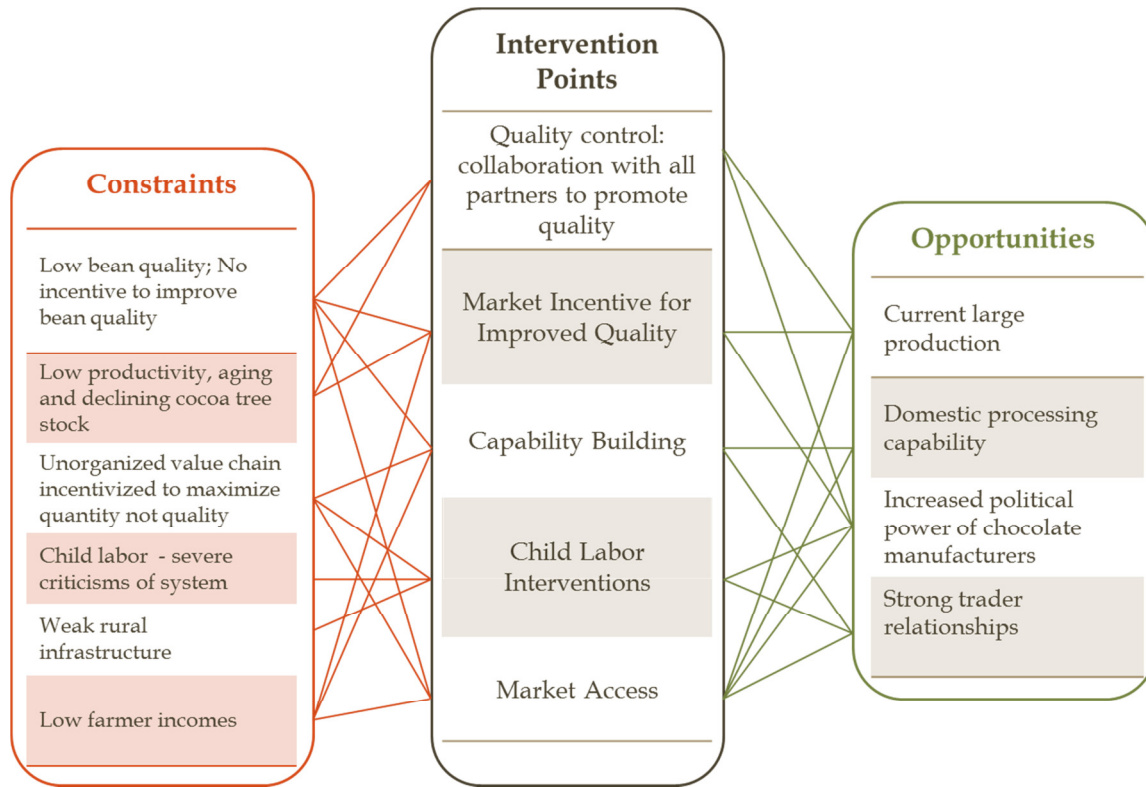
Table 5

The principal subsidiaries of Barry Callebaut in Africa (as per 31 August 2005) were the following:

Country	Subsidiary	Ownership (%)	Currency	Capital
Cameroon	Société Industrielle Camerounaise des Cacaos SA	99.95	CFA	5,010,000,000
	Chocolaterie Confiserie Camerounaise/Chococam SA	74.39	CFA	4,000,000,000
	SEC Cacaos SA	100	CFA	10,000,000
Ghana*	Barry Callebaut Ghana Ltd.	100	USD	9,204,219
Côte d'Ivoire**	Société Africaine de Cacao SACO SA	100	CFA	4,007,500,000
	Barry Callebaut Négoce SA	100	CFA	3,700,000,000
	SN Chocodi SA	100	CFA	500,000,000
	Alliance Cacao SA	51.5	CFA	340,000,000
Nigeria	Barry Callebaut Nigeria Ltd.	100	NGN	10,000,000

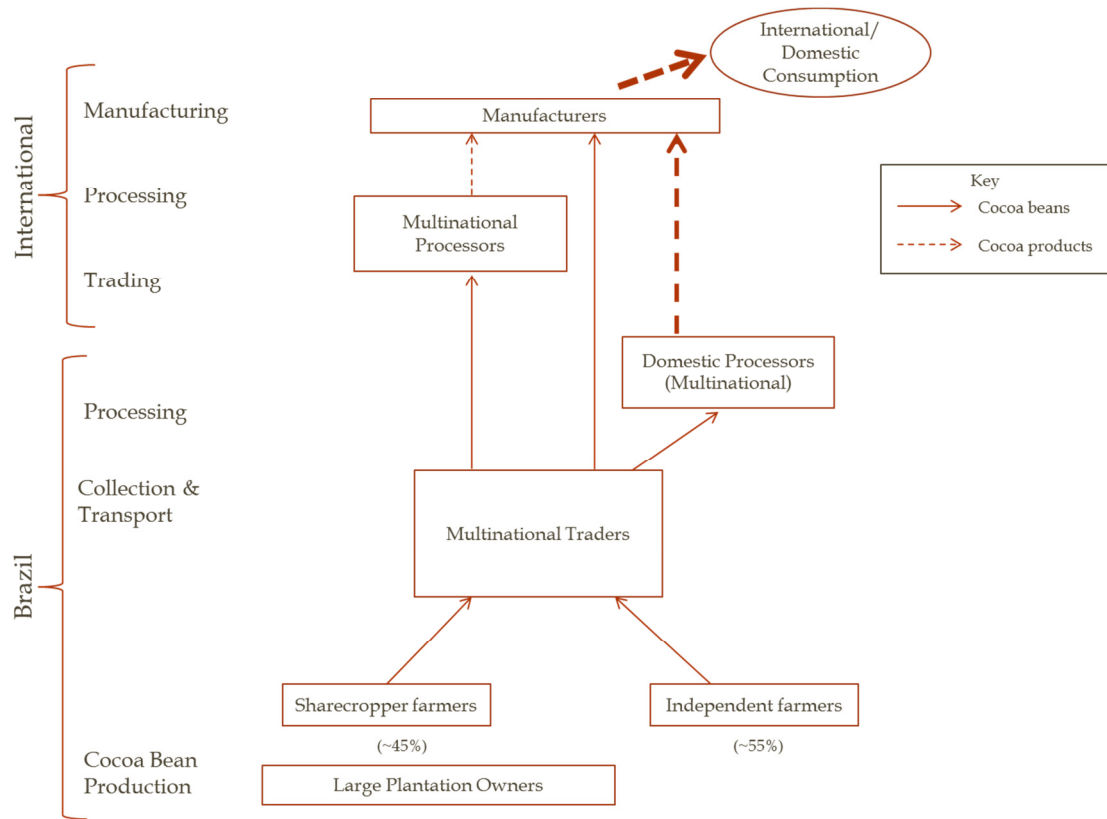
Source: (UNCTAD Cocoa Study, 2008)

Figure 14: Identified Côte d'Ivoire cocoa-chocolate value chain constraints, opportunities and intervention points for chocolate manufacturers



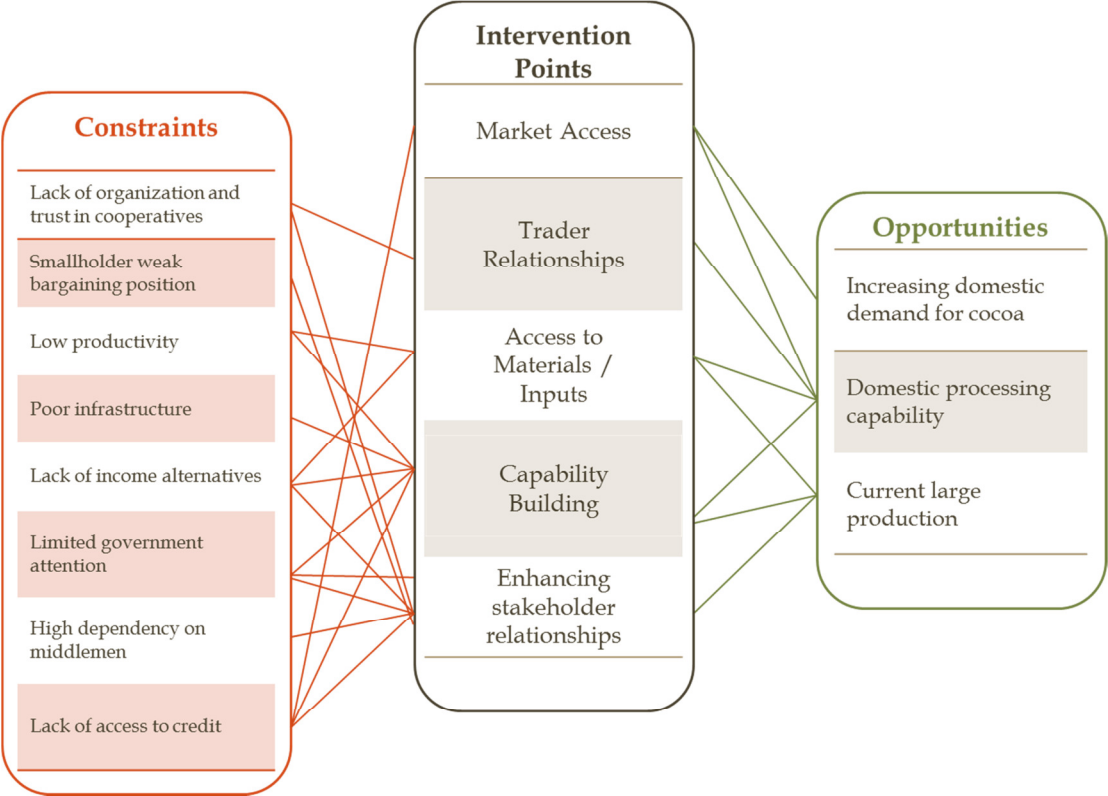
Source: Author constructed

Figure 15: Brazil cocoa-chocolate value chain schematic



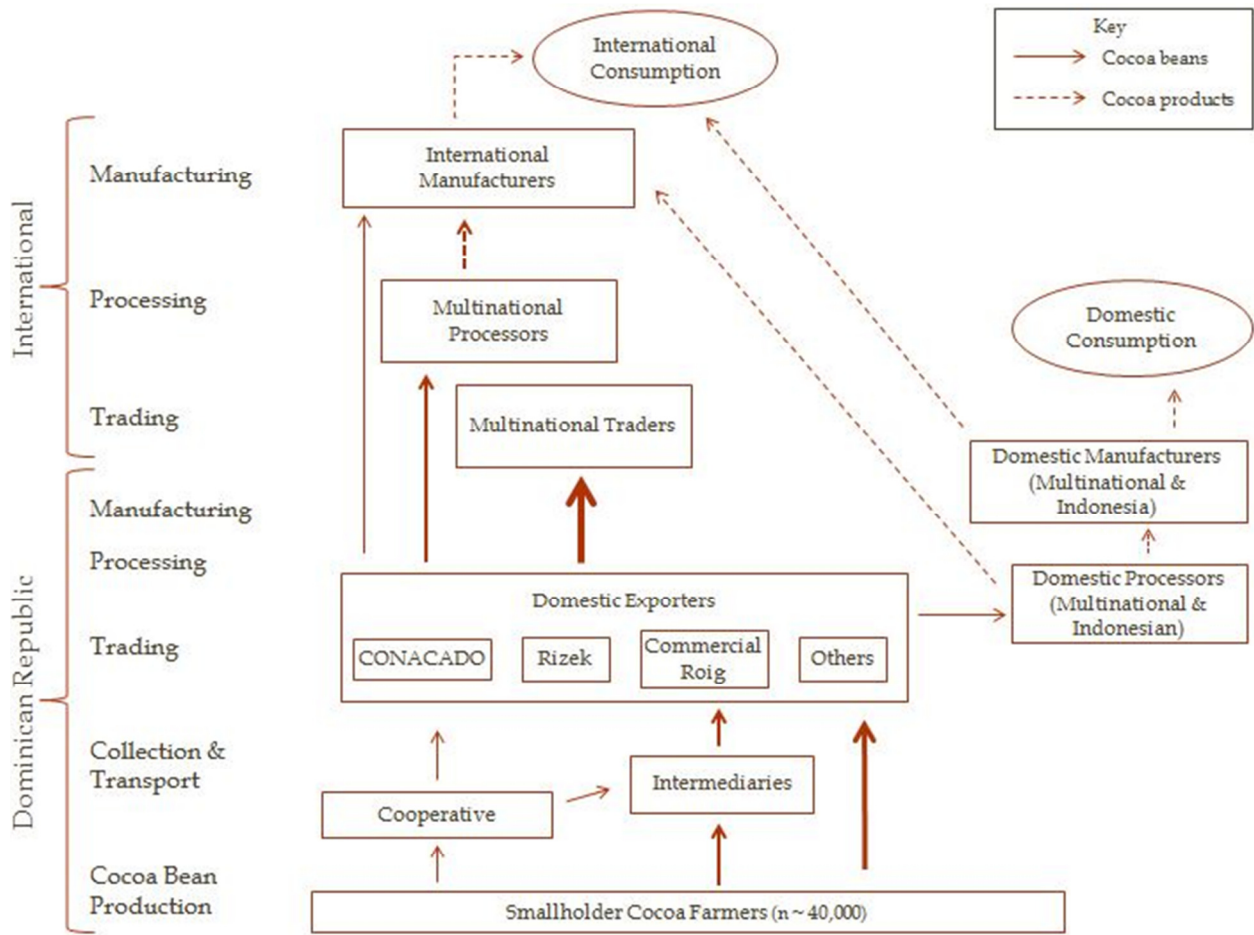
Source: Author constructed

Figure 16: Identified Brazil cocoa-chocolate value chain constraints, opportunities and intervention points for chocolate manufacturers



Source: Author constructed

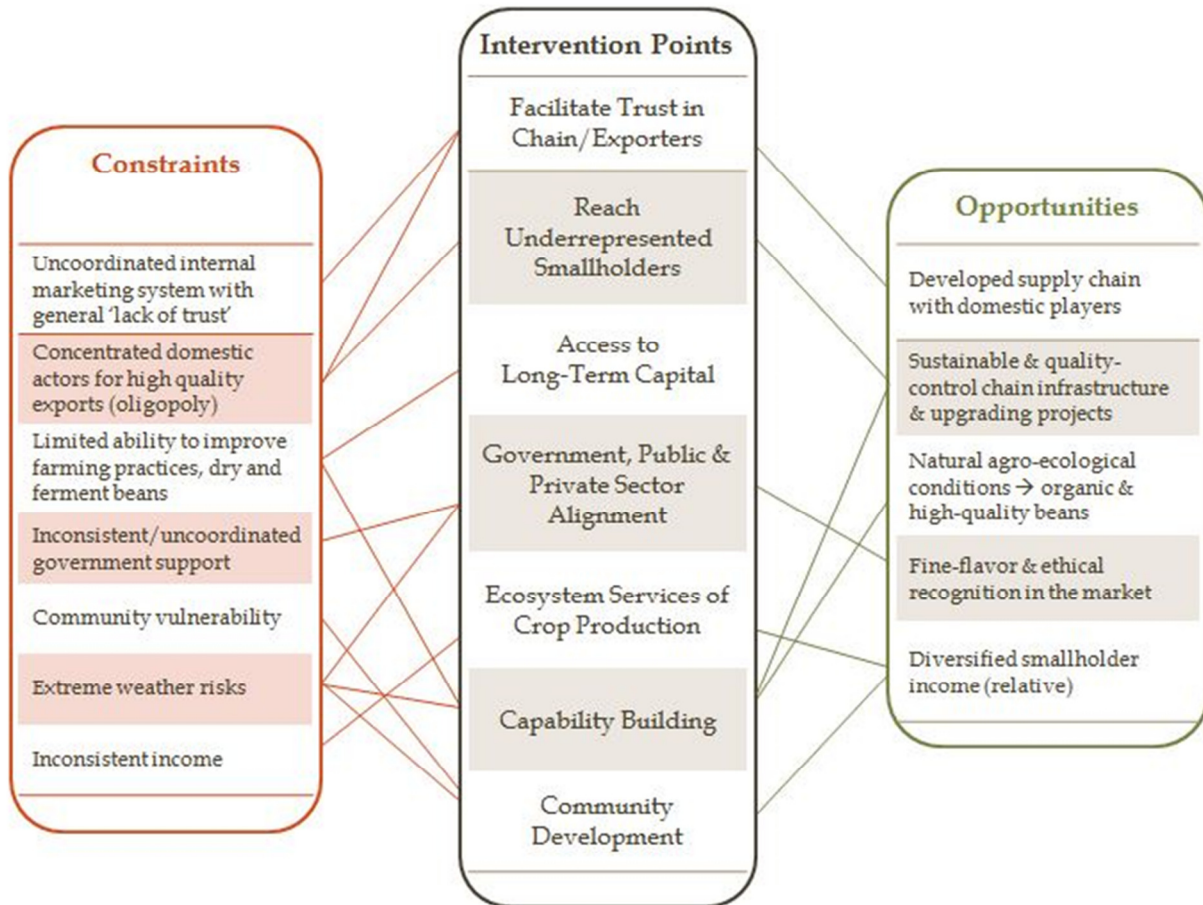
Figure 17: Dominican Republic cocoa-chocolate value chain schematic



Note: Weight of arrow indicates approximate percentage cocoa bean/product flow

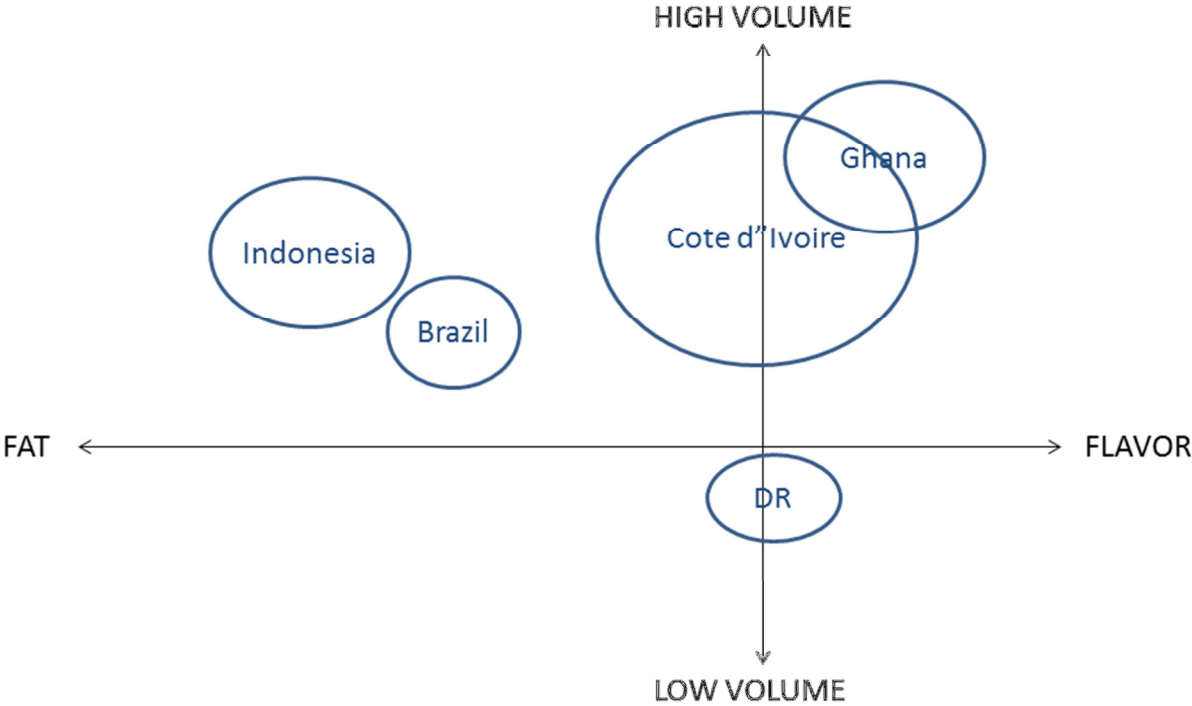
Source: Author constructed

Figure 18: Identified Dominican Republic cocoa-chocolate value chain constraints, opportunities and Intervention Points for Chocolate Manufacturers



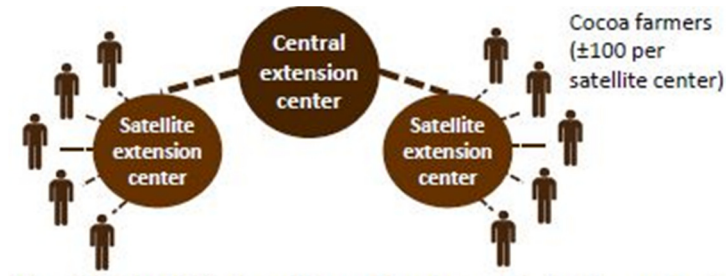
Source: Author constructed

Figure 19. Relative positioning of 5 key origins in global cocoa market



Source: Author constructed, adapted from (Meyer & Panlibuton, 2004) with current research.

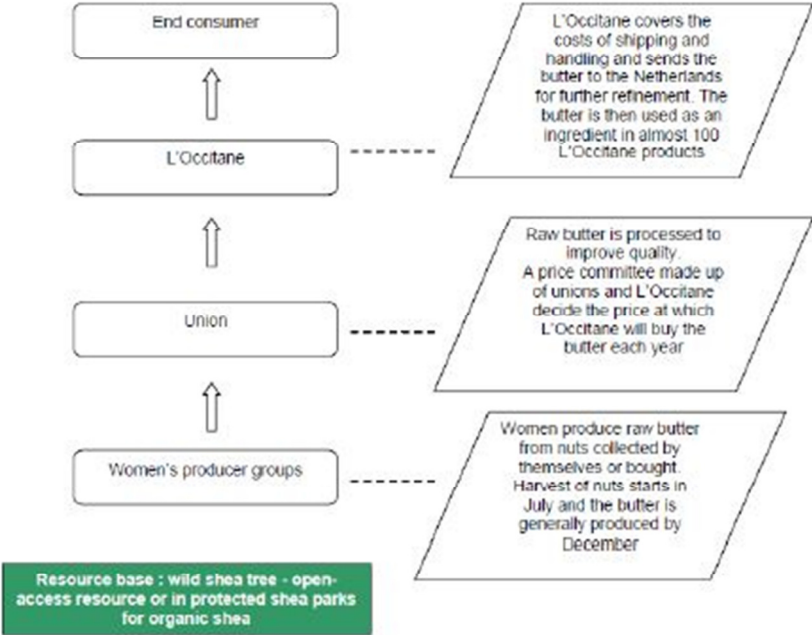
Figure 20: Hub & spoke farmer extension model observed in Indonesia



	Central extension centers (<i>hub</i>)	Satellite extension centers (<i>spokes</i>)
Also known as	District Cocoa Clinics (e.g. <i>SwissContact</i>) Crop Research Centre (e.g. <i>BPTP, Gol</i>) Cocoa Development Centre (e.g. <i>Mars</i>) Cocoa Centre of Excellence (<i>Barry Callebaut</i>)	Farmer Field Schools (e.g. <i>Nestlé, VECO, ACDI-VOCA</i>) District extension service agency (e.g. <i>Gol</i>) Cocoa Village Clinic (e.g. <i>Mars, 51</i>) Farmer Academy (<i>Barry Callebaut</i>)
Main services	Demonstration & training sites (e.g. clonal selection, GAP, business skills) Plant propagation & provision	
	Training the trainers Research & development (test clonal varieties, fertilizer & GAP)	Training the farmers On-farm trials Agro-input supply Grafting skills

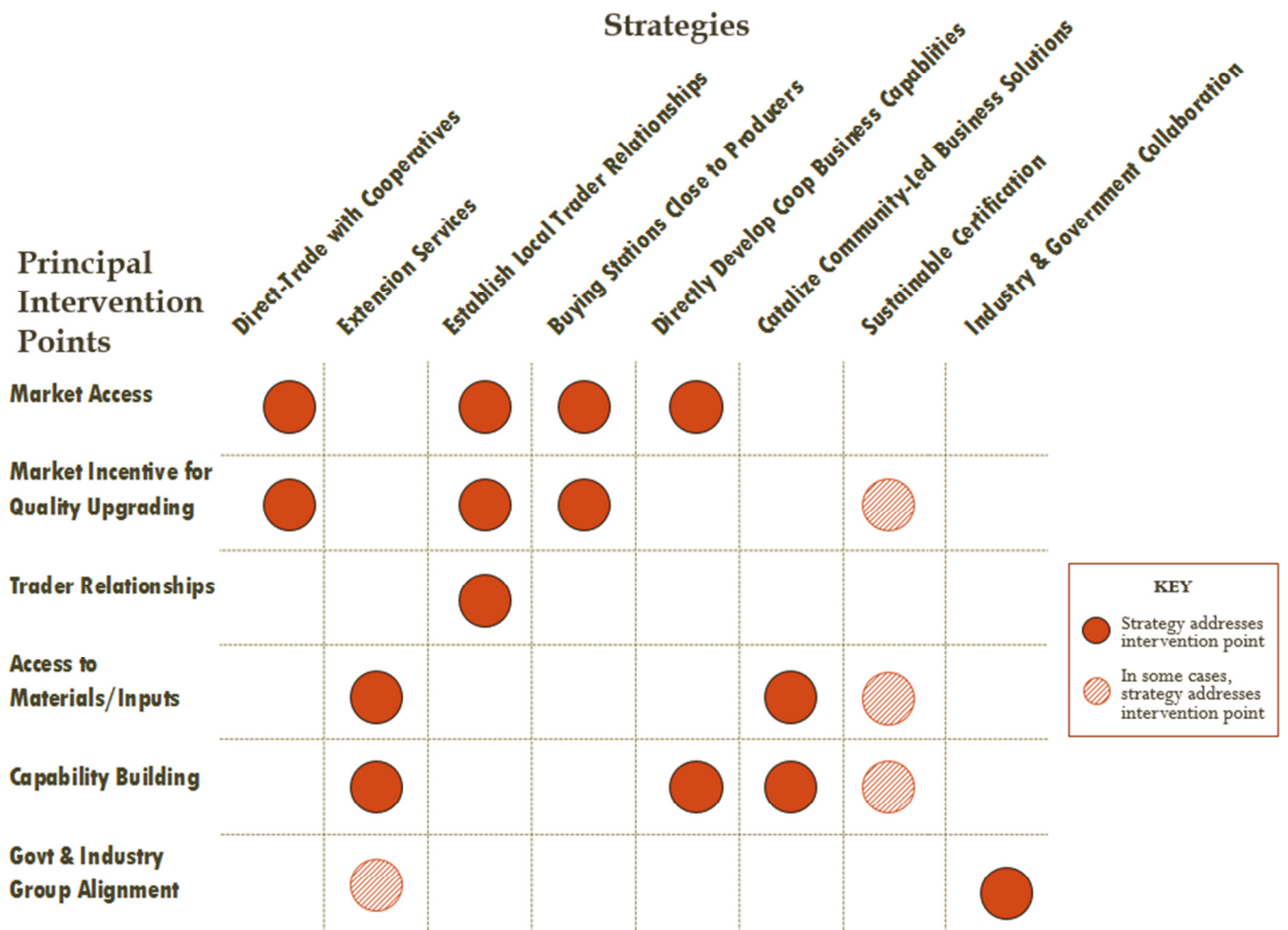
Source: (Cocoa Sustainability Partnership, 2013).

Figure 21: The L'Occitane shea butter production chain



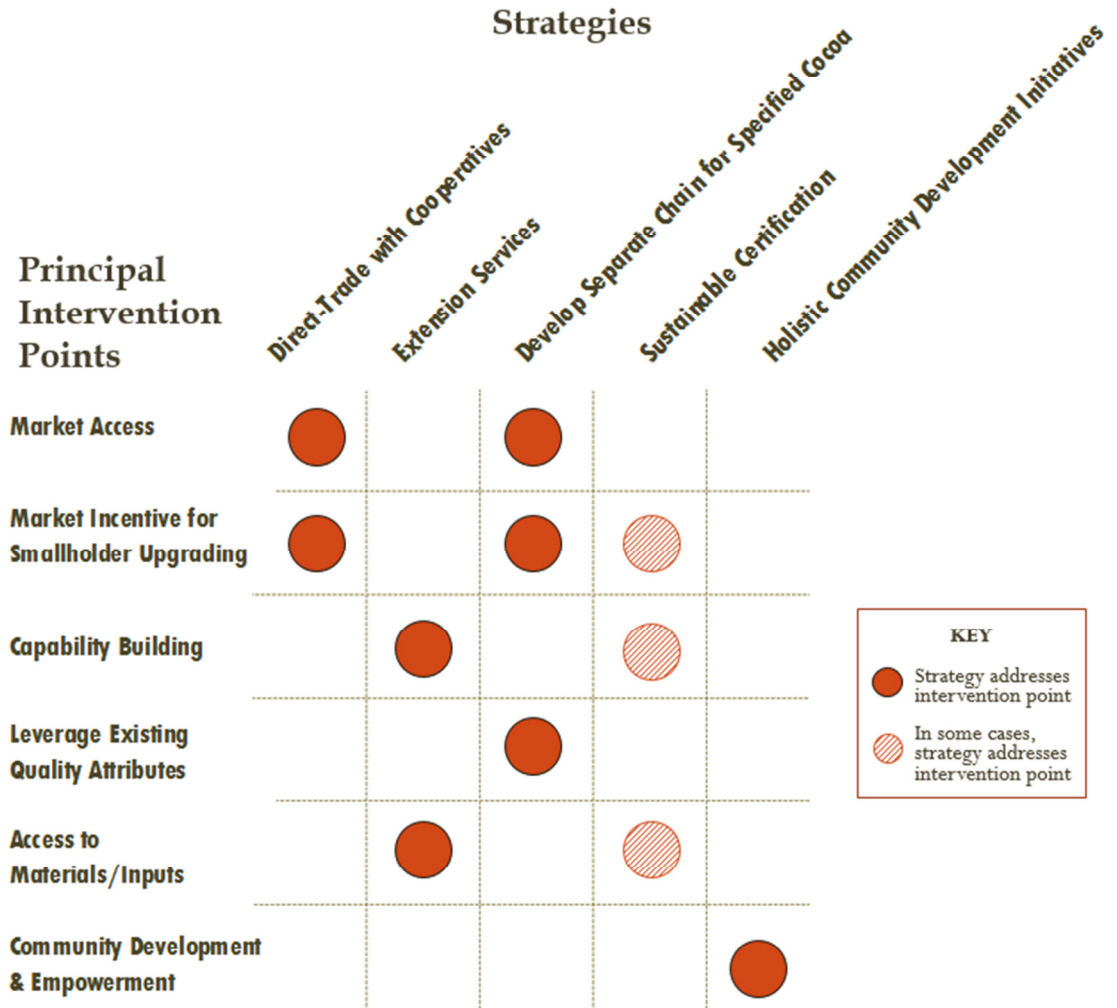
Source: (Kamara, 2012).

Figure 22: Indonesia cocoa manufacturer strategies linked to identified intervention points



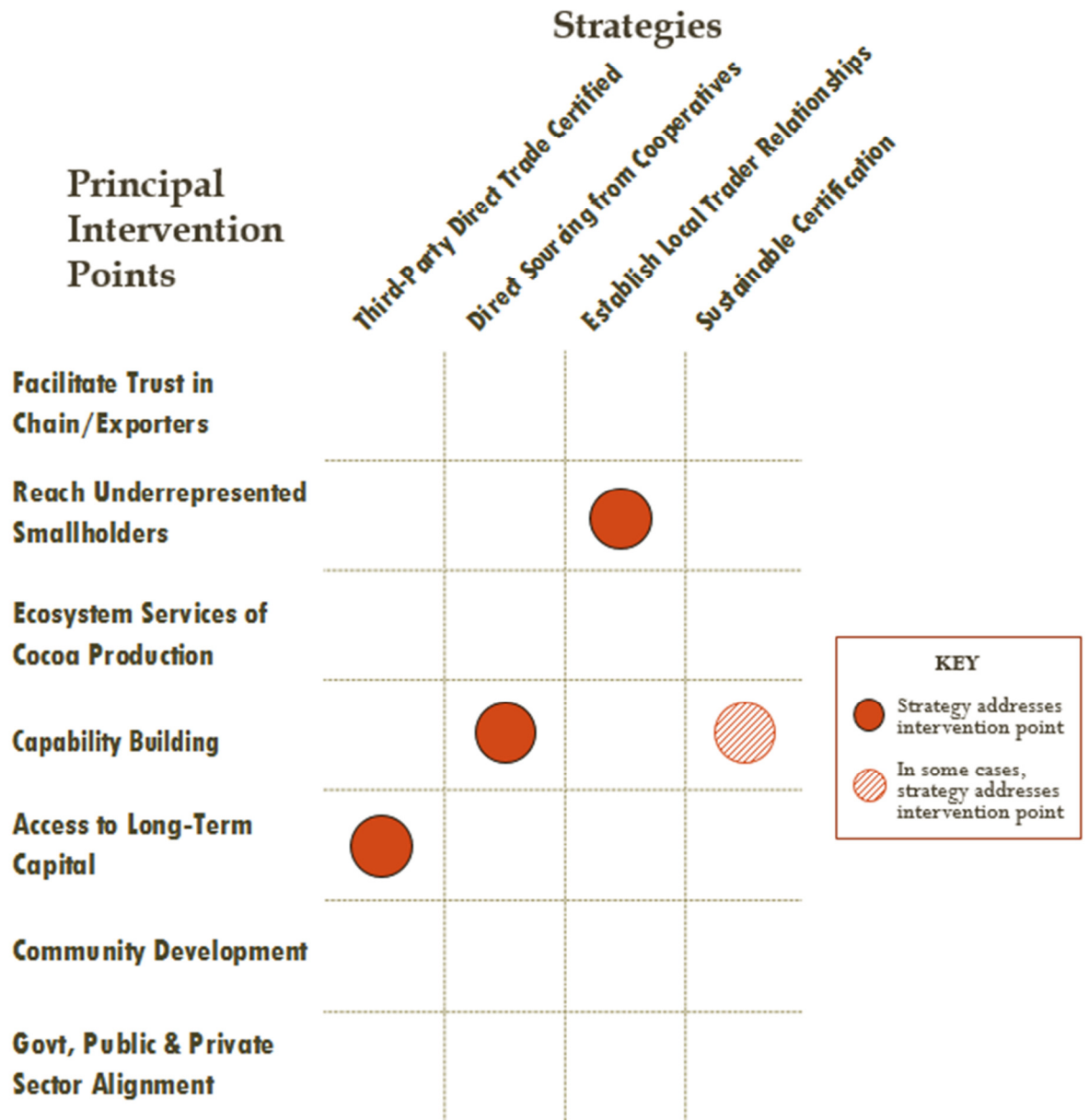
Source: Author constructed

Figure 23: Ghana cocoa manufacturer strategies linked to identified intervention points



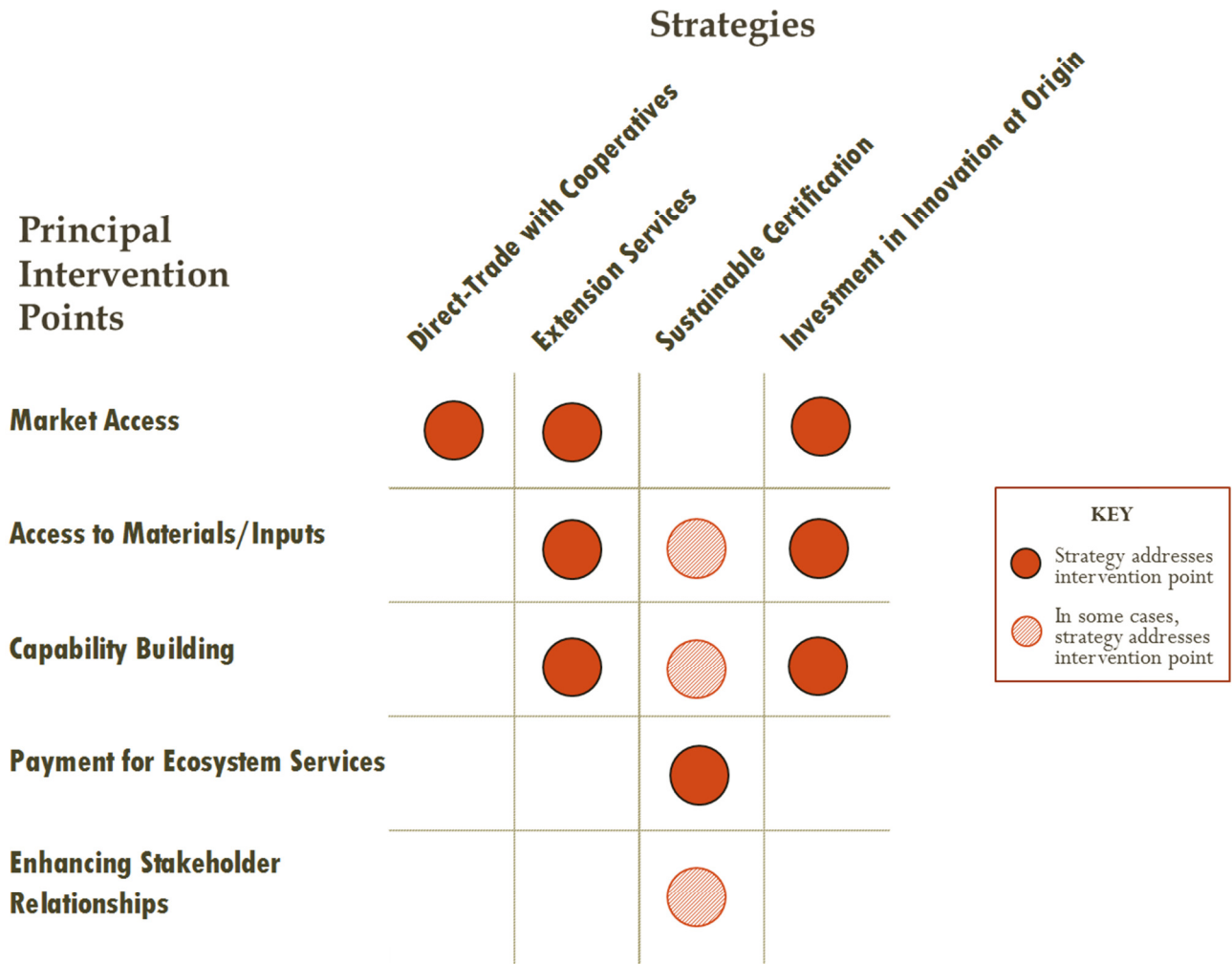
Source: Author constructed

Figure 24: Dominican Republic cocoa manufacturer strategies linked to identified intervention points



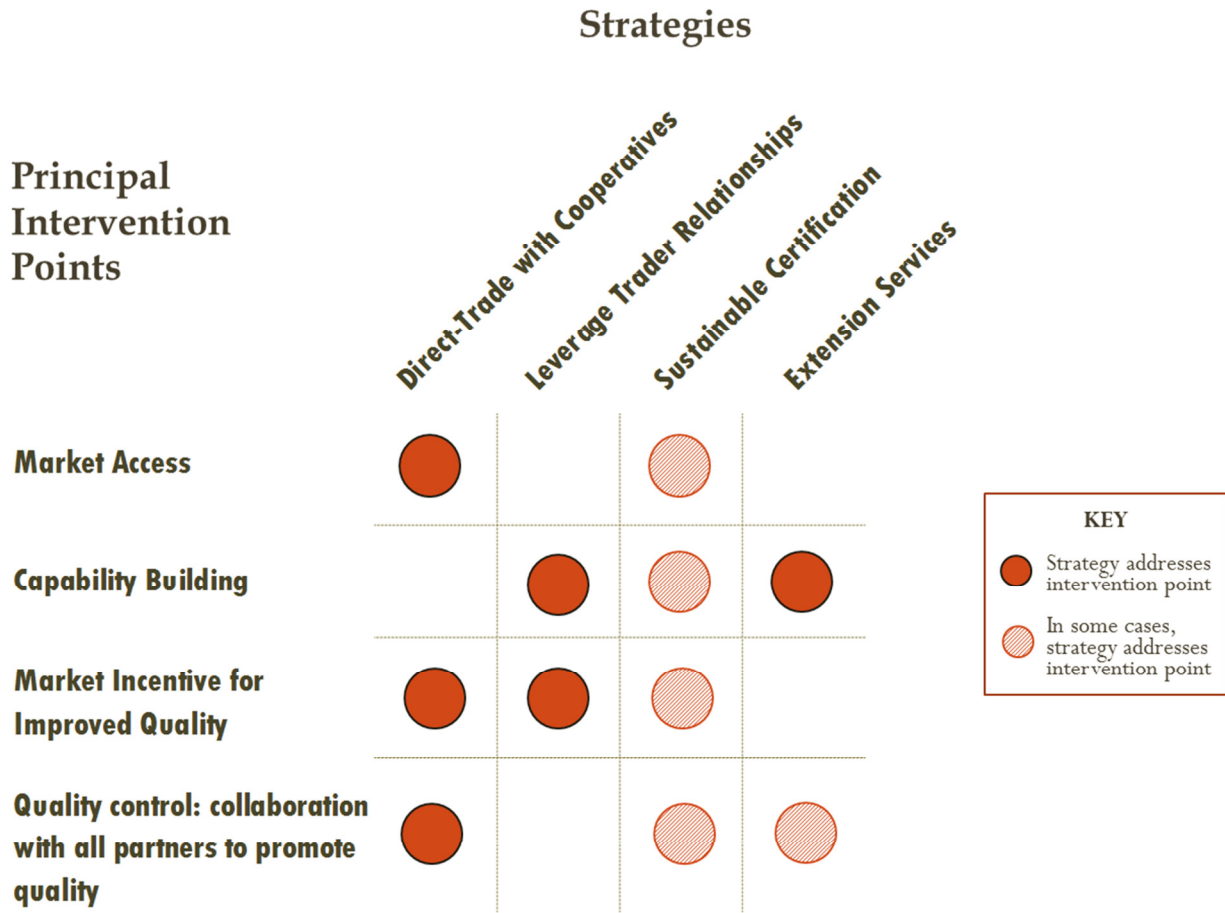
Source: Author constructed or generated

Figure 25: Brazil cocoa manufacturer strategies linked to identified intervention points



Source: Author constructed

Figure 26: Côte d'Ivoire cocoa manufacturer strategies linked to identified intervention points



Source: Author constructed

Figure 27: Framework for implementation

	Conditions	Establish Local Trader Relationships	Buying Stations	Extension Services	Sustainable Certification	Direct Trade	Directly Develop Co-op Organizational & Business Capabilities
Company Level Factors	Niche cocoa product		√			√	
	Vertical integration: own processing facilities		√				
	Established sustainability and traceability criteria required for suppliers	√					
	Independent verification/certification				√		
	Transparency of pricing, purchasing volumes to shareholders	√					
	Farmer's ability to meet quantity and quality requirements		√				
	Quality control at collection areas		√			√	

Involvement of processors			√			
On-the-ground implementation support from NGOs			√	√		√
Capability Building			√	√		√
Existence of organized group of farmers with organizational, business and professional capabilities					√	
Capability for Segregating differentiated cocoa	√	√		√	√	
Government support				√		
Co-funding from public private partnerships			√		√	

Source: Author constructed

Appendix B

List of Interviewees & Respective Organizations

We conducted interviews with the following practitioners in the field:

ACDI/VOCA

- T.J. Ryan, Managing Director, Specialty Crops, Agribusiness

Mondelēz International

- Roopak Bhat, Strategic Sourcing Manager, Cocoa, Asia-Pacific
- Jose Carlos Gouveia, Manager, Procurement Upstream Sourcing
- Dora Guirharaes, Associate Director, Commodities, Latin America Procurement
- Jens Hammer, Procurement Commodities, Cocoa
- Stuart McDonald, Project Manager, Cocoa Life
- David Preece, Global Cocoa Technical Manager
- Gabriel Tavares
- Cedric VanCutsem, Global Cocoa Technical Lead
- Ricardo Wang

Natura

- Frederico Rizzo (former summer associate)

Natural Resources Institute

- Dr. David Phillips, Research Fellow, Food & Markets Department

Peace Corps

- Kaley Marino, Volunteer

Sustainable Food Lab

- Stephanie Daniels, Program Manager, Agriculture & Development

The Body Shop

- Mark Davis, International Director, Community Fairtrade

The Hershey Company

- Andy McCormick, Vice President, Public Affairs

Theo Chocolate

- Joe Whinney, Founder and CEO

University of Manchester

- Dr. Stephanie Barrientos, Professor, School of Environment and Development

World Wildlife Fund

- Jeff Malcolm, Manager, Business & Industry

UTZ Certified

- Lisa Matas Navarro, US Market Development Manager

Appendix C

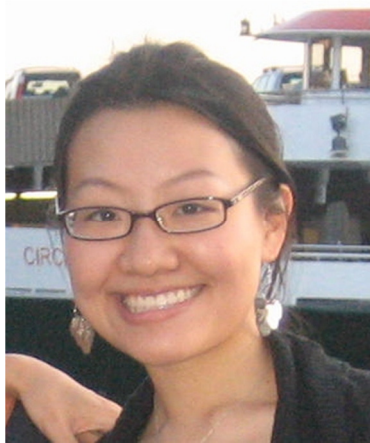
Team Biographies

Student Team



Carol Healy is a dual Master of Environmental Management and Master of Business Administration candidate at Duke University's Nicholas School of the Environment and Fuqua School of Business. Carol's career interests are corporate sustainability, supply chain management and she has a particular personal and professional interest in sustainable food systems. Carol has experience driving sustainable supply chain solutions at multinational companies in the food and beverage industry. While at Duke, she interned with McDonald's Corporation and Sodexo Inc. in partnership with

the World Wildlife Fund Business and Industry team. Carol is thrilled to have the opportunity to work with Mondelēz International to inform strategic solutions to cocoa sustainability challenges.



Janet Ng is a dual Master of Environmental Management and Master of Business Administration candidate at Duke University's Nicholas School of the Environment and Fuqua School of Business. She attained her BA in Economics from Wellesley College. Janet is passionate about sustainable business, social entrepreneurship and is interested in helping companies align sustainability with their corporate strategy. While at Duke, Janet interned with The Coca-Cola Company and ZICO Beverages and worked with several start-ups in the food and beverage and retail sectors. Janet is very excited to be working with Mondelēz on this strategic project.

Faculty Advisor



Dr. **Daniel Vermeer** directs Duke University's Center for Energy, Development, and the Global Environment (EDGE), a dynamic initiative focused on accelerating progress toward a sustainable energy system that can meet the global demand for energy, resources, and improved quality of life. Through research, outreach, and education, EDGE identifies the most promising pathways toward this goal, works with leading firms to drive innovations across their value chains, and helps seed partnerships that can facilitate these transformations. In this role, Dr. Vermeer teaches graduate classes at Fuqua School of Business and Nicholas School of the Environment, directs student research projects, and consults with leading companies and organizations.

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