

Cocoa Beans for Lindt & Sprungli
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ABSTRACT

This paper examines Lindt's corporate strategy of sustainability in the production of raw cocoa beans and cocoa products. It discusses the value chains of both the cocoa bean before it reaches Lindt and once it goes into the production of its chocolate. This paper will talk about the major economical, social and environmental issues surrounding the sustainability of cocoa and what Lindt is doing to ensure that future generations will be able to enjoy its product as much we do today.

INTRODUCTION

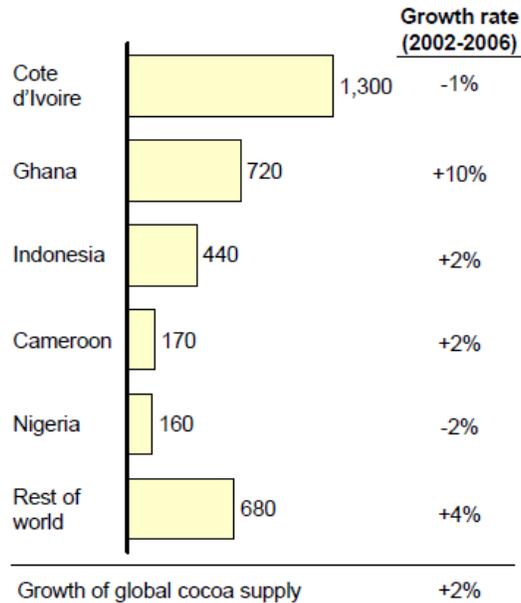
According to the Brundtland Commission report on "Our Common Future", the sustainable development must "rest on political will of governments as critical economic, environmental, and social decisions are made." This statement is very relevant for the sustainability issues surrounding the cocoa bean. The major issues in the cocoa industry lies in the poor quality of lives of smallholder farmers who earn extremely low income and have low productivity; and due to poverty and lack of education, the issues of child labor abound. The paper will follow the value chain of a global chocolate manufacturer named Lindt & Sprungli from the cocoa beans as the key raw material through its manufacturing process. Then from the industry perspective, we will explore various organizations such as Fair Trade certification that are taking initiatives to improve the quality of lives of farmers. However, due to the nature of the industry and high bargaining power of the chocolate companies in relation to its stakeholders, there are currently no industry standards or accepted certifications that are enforced. The paper will explore Lindt & Sprungli's own implementation approach for traceability and gap analysis in terms of actions that it should be taking and measurements to track its progress. Lastly, the recommendation is that the only stakeholder group that has higher power than the chocolate companies are consumers, and with sufficient coordination and education, it can influence the chocolate companies to take actions to ensure sustainable cocoa economy.

COCOA FARMING SURVIVAL ECONOMY

First, it is essential to describe the characteristics of the cocoa industry in order to understand the core underlying problems. Cocoa is grown in approximately 45 countries worldwide. According to the statistics published by the International Cocoa Organization (ICCO), the global harvest in 2008/09 amounted to about 3.6 million tons¹. The long-term average for 'flavor' cocoa beans (Criollo and Trinitario) is between 3 – 5 % of the global production volume, and they are grown mainly in the Caribbean, South America and Madagascar. While the rest (~95-97%) of 'consumer' beans (Forastero) are grown mainly in West Africa, predominantly in the Cote d'Ivoire and Ghana (See figure 1).

**FIGURE 1 – COCOA GROWING COUNTRIES (COTE D'IVOIRE, GHANA AND
INDONESIA ARE TOP PRODUCING COUNTRIES)**

**SOURCE: TECHNOSERVE, WORLD BANK, ICCO – MARKET COMMITTEE,
MCKINSEY ANALYSIS**



Economic Perspective

First, the cocoa farming is not economically sustainable long-term due to extremely low income for the farmers, low productivity and volatile cocoa prices in the world market. The cocoa is grown in many countries that are characterized by low gross domestic product (GDP) per head with poor infrastructure. An estimated 95% of annual world cocoa is produced from smallholder farmers that own one to three hectares in size and earn very low income which is one of the core major issues. For instance, a typical cocoa farmer in West Africa earns approximately \$300 to \$500 US dollars per capita per year. The farmers cannot afford chemical inputs and often suffer from immense crop losses due to pests and diseases. Moreover, their productivity is low as they are not trained on sustainable farming practices. The use of fertilizer and improved crop varieties are limited due to cost and lack of access especially in Ghana and Cote D'Ivoire.

Meanwhile, the global demand for chocolate has continued to increase at an average growth rate of about 2.5% in the past decade, mainly due to changes in the consumer preferences. The growing trend is that the consumers' demand for higher cocoa content chocolate has increased due to health and nutrition benefits. Furthermore, the premium chocolates are becoming more popular; this segment has strong growth but represents a smaller share of market (3-5%) – which is the segment that Lindt competes in. In response to the increasing consumer demand, the manufacturers have also introduced new premium specialty products (e.g. low-sugar, single-origin, fair trade), many of which have higher cocoa content. Lastly, the increase in demand is also caused by the chocolate manufacturers expanding into the new emerging markets that have growing appetite for chocolates (e.g. China).

The cocoa prices have been fairly volatile for farmers especially in 2008, even though the long-term trend has steadily increased over the past five years (see figure 2 below). The price is affected by high degree of political instability in West Africa, especially Cote d'Ivoire, and unpredictable weather globally due to global warming. In addition, there are government regulations to consider: high taxation of the industry and high regulation (e.g. Cocobod licensing in Ghana) from the exporting countries, as well as food safety legislation from the importing countries. Therefore, continuing in such trajectory is not economically sustainable for the farmer to remain in cocoa farming.

FIGURE 2 - TREND OF COCOA BEANS PRICE OVER 5 YEARS (2005 – 2010)

Range [6m](#) [1y](#) [5y](#) [10y](#) [15y](#) [20y](#) [25y](#)

Nov 2005 - Sep 2010: 1,421.390 (99.48 %)



Graph source: <http://www.indexmundi.com/commodities/?commodity=cocoa-beans&months=60>

Data source: International Monetary Fund

Social Perspective

Secondly, the quality of lives of farmers and their families are very poor from the social perspective. Due to poverty and lack of educational opportunities, the children work on farms rather than going to schools, which continue their vicious cycle of poverty. In 2001, the International Labor Organization (ILO) reported that the child labor and child trafficking were widespread in West Africa. In 2002, the International Institute of Tropical Agriculture (IITA) followed up with a more extensive report, revealing that an estimated 284,000 children are working on cocoa farms in Cote D'Ivoire, Ghana, Nigeria and Cameroonⁱⁱ. This is characteristic of the operation of small family-owned fields that rely on children in the family for laborious tasks on the farm. The ILO report in 2005 stated that "of the 200,000 children working in the Cote D'Ivoire cocoa industry, a maximum of 6% (12,000 children) may be victims of human trafficking or slavery". They work long hours in hazardous tasks without the necessary protective equipment (e.g. near falling trees or burning, carrying heavy loads, spraying pesticides). Indeed, it is sad and unbelievable that thousands of children on the cocoa farm are trapped in such destitute conditions in the twenty first century.

Based on the Cote d'Ivoire 2008 report conducted by International Cocoa Verification Board (ICVB), the 63% of children attend school, while 27% had never been to school and 10% have dropped out of schoolⁱⁱⁱ. In a context of relatively low levels of school attendance, more than half of children in school (60%) cannot read while 22% read with difficulty. Interestingly, the children whose parents have not received an education are less likely to go to school, and are therefore tend to go into the labor market, particularly into the cocoa production. More than half of heads of households have no formal education (53%). Barely one-quarter (27%) of men and 7% of women have completed primary education.

The Ghana 2008 report was fairly better as there was no evidence of trafficked children and none were found in debt bondage^{iv}. The school enrolment rate was 89% percent with an attendance rate of 93% percent although 54 percent of children could not read and write. The 35% of children worked on cocoa farms, of which 47% of children had participated in at least one hazardous cocoa production activity during the last cocoa farming season.

In 2001, in response to intense media scrutiny and an attempt to avoid government regulation, major chocolate companies signed the "Harkin-Engel Protocol", promising to certify their cocoa "child labor-free" by July 2005. This was a voluntary, non-binding document that set out time-bound steps to eliminate the worst forms of child labor and forced labor from all cocoa farms worldwide by its deadline. As required by the protocol, the industry established a foundation named International Cocoa Initiative (ICI) to oversee the certification. Funded by the chocolate industry about \$2 million a year, the foundation began its work in Cote D'Ivoire in 2003, and it claimed to

have six pilot projects underway there. ICI's other work involves helping a nongovernmental organization called the Movement for Education, Health, and Development, or Mesad, provide accommodation and education to homeless street children. However, it has not been effective in terms meeting the goal of reducing and eliminating child-labor in the cocoa industry.

The July 2005 deadline passed without significant progress, and it was agreed to extend the deadline to certify 50% of farms "child-labor free" by July 2008. A new idea for a coercive legislation requiring "child-labor-free" labeling on the products was proposed, however, it met with resistance from the large chocolate manufacturers and cocoa exporters if consumers boycotted the non-labeled chocolate. In addition, the impoverished farmers in Ivory Coast are concerned that the loss of markets would also hurt them and their children. Since the idea was first floated in 2001, the chocolate industry has taken the same position - labeling "would hurt the people it is intended to help," says Susan Smith, a spokeswoman for the Chocolate Manufacturers Association and the World Cocoa Foundation. The cocoa companies trumpeted a few pilot programs, but after seven years, all the major chocolate companies, importers and industry associations, have admitted that tracking or monitoring conditions within their own supply chains is impossible.

The major chocolate companies need to use their vast influence on the cocoa market to bring about the systemic changes that are necessary to eradicate child labor and trafficking.

Environmental Perspective

The environmental sustainability issues with the cocoa farming are related to the deforestation and biodiversity. To illustrate, Ghana has one of the highest deforestation rates in Africa averaging above 1.89% annually between 2000 and 2005. According to the Mongabay that provides statistical data on the forest and biodiversity, Ghana lost a total 25.9% of its forest cover, or around 1,931,000 hectares^v between 1990 and 2005. Large tracts of tropical forest in Ghana have been cleared to support increasing cocoa cultivation. In addition, when world cocoa prices fall, the Ghana's foreign exchange earnings are significantly affected which is often compensated for by increasing timber and mineral exports. Hence, the cocoa farming is both direct and indirect drivers of deforestation. While the land area covered by the forest has decreased significantly, the protected area to total surface area essentially remained the same from 14.6% in 1990 to 14.7% in 2005. This shows that the Ghana government is not taking sufficient actions to protect its forests. Rather than clearing more land, there are alternative ways to increase cocoa production such as increasing average productivity, providing agricultural training, providing subsidies to increase use of fertilizer and planting of high yielding varieties.

In addition, the biodiversity is an important concern to ensure the long-term supply of cocoa beans. The cocoa has been grown for over 3,000 years and a number of varieties have emerged during this time. Even though about 600 varieties of cocoa existed six centuries ago, only two thirds exist today due to intensive agriculture and the exploitation of natural growing environments. Currently, only three types of cocoa beans are differentiated: Forastero, Criollo and Trinitario. The Trinitario trees emerged as a result of the cross-pollination of Criollo and Forastero trees in Trinidad. The yields of Criollo and Trinitario are less than Forastero, but the beans have a richer aroma. Hence, while Forastero beans are referred to as 'consumer' beans, Trinitario and Criollo are known as 'flavor' beans.

Although cocoa leaves the smallest mark of all the tropical cash crops, the accumulative widespread clearing of forests for cocoa production can result in the destruction of ecosystems which are slow to regenerate. In addition to the biodiversity issues, the large scale cocoa production can also result in soil erosion, stream sedimentation, and health and environmental problems associated with agrochemical application and run-off. But, as mentioned above, most of the world's cocoa production is on labor intensive small farm plots which are less harmful to the environment. Nevertheless, the environmental factors should be considered as the farmers are given training to increase their production to meet the rising consumer demands.

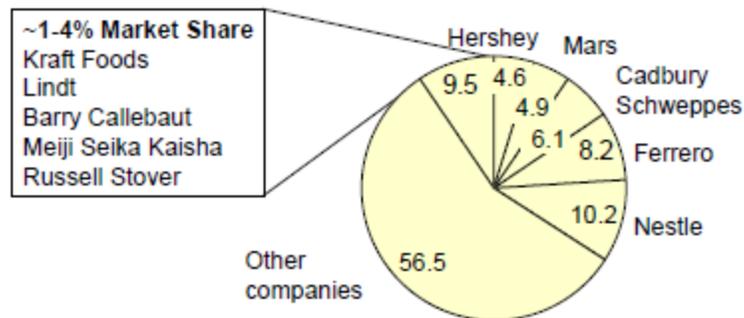
LINDT & SPRÜNGLI'S VALUE CHAIN

Lindt & Sprüngli is a leading global brand well-known for its premium quality chocolate. It has 7400 employees with sales of US\$ 2.34 billion according to the 2009 annual report, and offers a large selection of products in more than 100 countries around the world. Established for more than 165 years, the Lindt brand is recognized for

premium, luxury chocolate with the Swiss origin and the company follows a long-standing tradition. It has 2.5% of the global market share in 2005 according to the International Cocoa Organization^{vi} (See figure 3 for market share).

FIGURE 3 - MARKET SHARE OF MAJOR CHOCOLATE MANUFACTURERS IN 2005 (TOTAL MARKET IS US\$ 68.1 BN)

SOURCE: EUROMONITOR INTERNATIONAL, ICCO – MARKET COMMITTEE, MCKINSEY ANALYSIS



Lindt has established the traceability of all its raw materials, with a special attention to the cocoa beans as its key ingredient. It has also built partnerships with its suppliers to guarantee the sustainable and long-term supply of essential resources. This section will explore the value chain of cocoa beans from growing cocoa beans, through the manufacturing process to the distribution of packaged products. (Refer to the Appendix B & C sections).

RAW MATERIALS

Lindt sources the ‘consumer’ beans exclusively from Ghana, and the aromatic ‘flavor’ cocoa from South America and the Caribbean. The cocoa beans for cocoa butter are sourced by third parties mainly from West Africa and Indonesia. Cocoa is grown, harvested, fermented, and dried in a very labor-intensive process, usually all by hand, on the cocoa farms. During the fermentation process, the piles of beans are covered with banana leaves for the next three to seven days, at the end of which the beans turn rich, deep brown. In terms of the energy input, the cocoa farms rely on the natural thermal heat from the sun and a lot of manual labor from small farmers, as it is grown predominantly in the tropical regions by small farmers. There is hardly any automation in the processing on these farms, as industrialized fermentation has generally compromised quality. The waste products are mainly cocoa shells.

Interestingly, Lindt has reached a special purchasing agreement with the local cocoa suppliers in Ghana to guarantee fixed prices for all the participating farmers, as well as adequate availability of top quality cocoa beans. As part of this agreement, Lindt paid a special premium of more than one million US dollars for cocoa from Ghana in 2009. Not only does it provides traceability, it also allows Lindt to gain better control over its procurement chain, and directly influence on local issues such as child labor. This will be explored in more details later.

INBOUND LOGISTICS

After fermentation, the cocoa beans are shipped to the country of production in Europe or North America. The selection and control process occurs using Lindt’s in-house laboratory tests to verify whether the beans meet the quality standards and survived the long journey. Most of the energy input is shipping fuel due to transportation. It was difficult to find information about the disposal of rejected coffee beans; perhaps they are purchased at a lower rate by other manufacturers to use in other products.

MANUFACTURING

During the manufacturing process, the cocoa beans are thoroughly cleaned, and separated from their shells. The remaining “cocoa nib” is roasted precisely according to an in-house process, then crushed in special mills and finely

grounded until a liquid cocoa mass arises. Then other basic ingredients such as cocoa butter, sugar and milk are blended by steel rollers. Next, it undergoes the “conching process” which involves many hours of aerating, and evaporating the bitter-acidic flavors according to each recipe. The chocolate is then tempered: heated, cooled, and reheated to achieve the perfect finish and set. Finally, the chocolate is formed into bars or molded into other products, decorated, wrapped, and packed for distribution.

Key energy inputs are electricity to power the machines and fresh water, meanwhile key outputs are cocoa husks and wastewater. Lindt was able to reduce energy consumption by 13% per ton produced through better insulation and energy recovery from 2004 to 2009. Its goal is to continue reducing an average of 2.0% per ton produced over the coming years. In addition, all production units worldwide have been participating in the Carbon Disclosure Project (CDP) to measure CO₂ emissions and energy consumption. Lindt closely monitors the waste produced during the production process, plus it analyses the use of water in order to reduce fresh water and output of wastewater.

OUTBOUND LOGISTICS

The packages of finished products are transported from six production sites in Europe and two in the USA to the distribution and sales companies in four continents and further sold in more than 100 countries around the world. Energy used is fuel for transportation and electricity for the distribution and sales companies. The production sites are chosen to be close to the major consumer bases to shorten the transportation routes and lower the energy consumption.

REVERSE LOGISTICS

Lindt uses recycled, recyclable and biodegradable materials in the packaging materials. It strives to reduce packaging materials despite the challenges due to the fact that most of the products are seasonal gifts which require larger packaging materials.

SUSTAINABILITY IMPLEMENTATION IN COCOA INDUSTRY

ECONOMIC PERSPECTIVE

There are several initiatives to increase the income of farmers and increase productivity which in turn will improve the quality of lives for the farmers and their families. One of the promising solutions to explore is the Fair Trade movement that guarantees fair prices for the crops. The Fair Trade certification ensures that cocoa farmers receive a stable minimum price for their harvest (see figure 4 below), and that the cocoa have been produced, traded, processed and packaged in accordance with the Fair Trade standards. Instead of selling to the local middlemen at minimum prices, the farmers sell to buyers through farmer-owned “cooperatives”. The cooperatives allow farmers to help each other and also help their community by provisioning a small portion of extra money called the Fair Trade premium. The members of cooperatives vote to decide how to use the extra money, for instance, they can choose to build schools, health clinics or learn better ways to grow cocoa while minimizing the use of chemicals and protecting the water, soil and forest. Moreover, the Fair Trade cooperatives work with farmers to improve the quality of their cocoa, such as experimenting with fermentation levels or learning post-harvest techniques to bring out individual flavors of particular cocoa-growing region. For the buyers, the Fair Trade inspects the farms to ensure that the labor standards are met and slave labor is strictly prohibited. The cocoa beans are also traced back to an individual cooperative and even an individual farmer.

FIGURE 4 - COMPARISON OF FAIR TRADE AND NEW YORK EXCHANGE PRICES FOR COCOA FROM 1994 TO 2008



Source: <http://www.fairtrade.net/cocoa.html>

One of the success stories is the Fair Trade cocoa cooperative known as Kuapa Kokoo which was founded in Ghana in 1993. It has 35,000 members and produces 62,000 metric tons annually. The participation in this cooperative provides members with better access to credit and banking services, use of machines for cracking palm kernels which greatly reduce the workload of women, improvements to the community through the funding of community projects, and information about world market prices which protects them from unfair traders. Even a simple act like getting access to scales reduces farmers' dependency on the scales of middlemen, and empowers them.

Currently, the Fair Trade Certified chocolate is available from 10 countries, including Ghana, Ecuador, Bolivia, and the Dominican Republic. According to the Fair Trade USA, "more than 42,000 Fair Trade cocoa farmers are earning a fair price for their high quality crop"^{vii}. However, the current adoption rate is poor because the Fair Trade certified cocoa represents only less than 1 percent of global supply. This movement has little traction in Cote d'Ivoire which has the world's largest cocoa producer, providing 43% of the world's cocoa.

In early 2009, the World Cocoa Foundation announced a new \$40 million program funded by the Bill & Melinda Gates Foundation (BMGF) and 14 chocolate industry companies to significantly improve the livelihoods of approximately 200,000 cocoa farmers in Cameroon, Cote d'Ivoire, Ghana, Liberia and Nigeria. This was prompted by the research which clearly indicates opportunities to improve productivity and increase prices that farmers receive for cocoa in West Africa.

There are *three* key areas that can generate the near term productivity improvements. First, the agricultural extension programs can be implemented to train farmers on agriculture, agricultural marketing, health, and business studies. Second, the use of fertilizer can improve productivity and output yield. Third, the high yielding varieties can be made more accessible. The innovative, five-year "Cocoa Livelihoods Program" focuses on enhancing farmer's knowledge, improving productivity and quality, promoting crop diversification and enhancing supply chain efficiency. Furthermore, the program will train farmers in better production techniques and business skills, provide them access to agricultural inputs and better quality seedlings and facilitate farmer organizations to better meet their members' needs. The program also will improve farmer access to market information and opportunities for diversification into alternative food and cash crops to maximize income and security. Overall, these initiatives are designed to help increase farmer incomes and significantly improve the wellbeing of cocoa community.

However, there are a few key *challenges* for the smallholder farmers to receive higher prices in the current economic structure. The government taxation is high which is passed through to farmers, for instance, approximately 34% tax on cocoa exports in Cote d'Ivoire and approximately 15% in Ghana, at least some of which is reinvested via

Cocobod. Secondly, inefficient supply chain costs (e.g. aggregation, transport, and export) in Cote d'Ivoire account for 20-25% of FOB price, compared to 10-15% in efficient supply chains. Thirdly, the farmers are fragmented; the cooperatives will give them higher bargaining power to the middlemen and allow them to market the product more efficiently.

SOCIAL PERSPECTIVE

According to a Trafficking Victims Protection Reauthorization Act of 2005 (TVPRA) report published by US Department of Labor in 2009, it includes cocoa in "a list of goods believed to have been produced using forced or child labor globally". The Internal Labor Rights Forum (ILRF) Executive Director Bama Athreya said, "By including cocoa on the list of products made by child labor, the US government has acknowledged the lack of progress the chocolate industry has made in eliminating serious labor rights abuses in this sector, despite years of promises." For instance, in June 2009, the "INTERPOL rescued children in Cote d'Ivoire who had been trafficked from neighboring countries as part of an ongoing system of trafficking and forced labor in the West African cocoa industry." Since the Ghana cocoa is also listed among 122 products from 58 countries, the Ghana exporters are very concerned and has urged the US Department of Labor to remove Ghana cocoa from the list stating the progress being made.

However, the TVPRA report also recognizes the effort undertaken by the cocoa industry and the governments of Ghana and Cote d'Ivoire since the signing of the Harkin-Engel Protocol in 2001. Both governments have designed and begun implementing national remediation plans. Ghana has developed the "Hazardous Child Labour Activity Framework" which defines dangerous and acceptable work activities and conditions while the community-based "Child Labour Monitoring System" (CCLMS), which is both a remediation and a data collection tool to generate information on activities of children directly from the communities, had commenced operations. Governments of Ghana and Cote d'Ivoire have each invested over two million dollars in remediation programs in response to the findings in their certification surveys. Moreover, the global chocolate and cocoa industry has invested more than US\$ 75 million since 2001 to improve conditions and support the National Action Plans in both countries. Both governments and industry publicly acknowledged their willingness to take action on the verifiers' most important findings - notably that additional targeted research on trafficking and forced adult labor is needed, and appropriate actions taken as recommended by the research. Both governments are sharing experiences of successful approaches to addressing the Worst Forms of Child Labor and Forced Adult Labor through the creation of a Joint Technical Working Group.

ENVIRONMENTAL PERSPECTIVE

To ensure sustainable cocoa farming, the cocoa farmers can become the Rainforest Alliance Certified by meeting the Sustainable Agriculture Network (SAN) criteria. The Rainforest Alliance currently holds the Secretariat for the Sustainable Agriculture Network which is "a coalition of independent non-profit conservation organizations that promote the social and environmental sustainability of agricultural activities by developing standards". The Rainforest Alliance certification means that there is less water pollution as all sources of contamination are controlled (e.g. pesticides and fertilizers, sediment, wastewaters, garbage, fuels and etc). Water conservation measures are applied in washing and packing stations, housing areas and irrigation to reduce the water used. The farms are also trained to implement soil conservation practices such as planting on contours and maintaining ground cover in order to control and reduce the soil erosion.

By implementing Sustainable Agriculture Network (SAN) standards, the threats to the environment and human health are minimized because the most dangerous pesticides are prohibited, all agrochemical use is strictly regulated, and farmers must use mechanical and biological pest controls where possible. The deforestation is stopped, the banks of rivers are protected with buffer zones, critical ecosystems such as wetlands are protected and forest patches on farms are preserved in order to protect the wildlife habitat. There is also less waste because farm by-products such as husks and un-marketable foliage are composted and returned to the fields as natural fertilizer. Moreover, the program also strives to improve efficiency in farm management and improved conditions for farm workers. Since 1992, almost 800 certificates for more than 31,000 farms, including small family farms of cooperatives and plantations in 24 countries (including Côte d'Ivoire, Dominican Republic, Ecuador, and Indonesia) have met the SAN standards on almost 600,000 ha for 22 crops including cocoa.

However, the green frog label of the Rainforest Alliance (RA) has a few caveats due to its lax standards. The Rainforest Alliance is known to have close financial and management ties with the major corporations whose products it is intended to certify; hence, there is a possible conflict of interest. It sets no baseline premium for wages, and at best maintains the low bar set by local governments. The producer only has to comply by only 50% of RA's list of critical criteria. Most surprisingly, the green frog seal can be used as long as the purchaser's product contains more than 30% certified content^{viii}; the RA's reason being that it is very difficult to meet certification on majority of its sources. Summing up, this means that "a non-critical criteria can be ignored, and the final certified product could contain 30% materials that are 50% child labor free."^{ix}

Many cocoa farmers have cut down forest to open up new fields and grow cocoa more intensively without shade. This approach has short term benefits on yields and is suitable only for hybrid plants that are increasingly replacing native cocoa. Unfortunately, these hybrid plants require the application of agrochemicals and grow in open fields, which leads to increased erosion and run-off, reducing soil fertility and contributing to water contamination and health problems. One of the best practices is to cultivate cocoa tree under the shade of native canopy trees and maintain a landscape similar to natural forest. This helps conserve the habitat of threatened plant and animal species, protect natural pollinators and predators of cocoa pests and creates biological corridors that maintain large-scale ecological and evolutionary processes. Shade trees in an agroforestry system often include other species of economic value, which also reduce farmers' risks connected with growing a single crop.

METRICS PROPOSED FOR COCOA INDUSTRY

Over the last two decades, there are a lot of organizations formed by multi-stakeholder alliances, NGOs or individual companies in the cocoa industry, such as International Cocoa Initiative (ICI) or World Cocoa Foundation (WCF). One of these organizations that have proposed specific metrics for measurement is the International Cocoa Organization (ICCO) which is a global organization established in 1973 and strives to create a world cocoa economy that is "economically viable, environmentally sound and socially acceptable". In the 2008 report named "Manual of Best Known Practices in Cocoa Production", the ICCO Council has selected the following ten metrics out of 36 in order to measure and monitor progress towards sustainability.

FIGURE 5: ???

| Goals | Proposed Metrics |
|---|---|
| Ensure reasonable wage for farmers | 1) percentage of the fob export price of cocoa beans received by the farmer at the "farmgate" 2) incomes of farm families against a minimum per capita income standard |
| Improve efficiency and modernize cocoa production, and avoid overproduction of cocoa | 3) stocks to grind ratio, the level of global cocoa stocks in a ratio to global cocoa grind 4) average production of dry cocoa beans per hectare 5) change in the use of agrochemicals/ pest management practices |
| Expand the demand for cocoa | 6) growth in chocolate/cocoa consumption per head of population |
| Provide benchmarks for policy-making and development activities to improve the social economic situation of the cocoa farmers long-term | 7) relationship of the actual rate of government taxation on exports of cocoa beans to the optimal tax rate 8) level of domestic internal taxes in cocoa consuming countries 9) import tariffs on cocoa beans and cocoa products 10) a selection of the UN Millennium Development Goals at the level of the cocoa farming communities. |

Even though the report has indicated that the ICCO council of participating members, which consisted of 15 cocoa exporting countries (including the top producers) and 29 importing countries (excluding US), have agreed to begin working on these indicators, it was a voluntary model without any enforcement. The report has proposed a "lifecycle" that consists of collecting baseline data in the first cycle, reporting of data, implementation of activities towards a sustainable cocoa economy and validation of progress. It leaves the member countries to designate an agency to take the lead in formulating and implementing this plan while working in partnership with the ICCO. The producing countries should also designate the regulatory body. However, since this report was published in 2008,

there are no published results of measurements, nor any indication that the data collection was carried out in specific countries.

When the organizations propose strict measurements, demanding sustainability criteria, and auditing, it can appear to be more credible and of high quality. In reality, the difficult challenge is that the small scale cocoa producers have difficulty in meeting the demanding criteria and cannot afford costly implementation, record keeping, monitoring and auditing.

Alternatively, the organizations may implement a system based on a limited number of key performance indicators and continuous improvement which are less demanding to enter. Due to lower cost and entrance barriers, it is easier for the small scale farmers to adopt. Nevertheless, the implementation of new farming and handling methods will require a lot of training and support. The stakeholders, such as the cocoa farmers and importers, also have to commit to the objectives and agree to increasing the level of compliance with criteria over time. This plan may result in lower credibility and quality initially, however, they are generally more suitable to achieve results, provided there is a long term commitment.

As mentioned above, there are also relevant indicators that are established and tracked as part of the United Nations Millennium Development Goals at the cocoa farming community level. In 2000, the 189 countries including Côte d'Ivoire and Ghana signed the UN Millennium Declaration, “committing themselves to eradicating extreme poverty in all its forms by 2015”. The Millennium Development Goals, which consist of 8 goals, 21 targets and 60 indicators, were developed to measure progress between 1990 and 2015 in order to combat poverty, specifically reducing income poverty, hunger, disease, environmental degradation and gender discrimination. Selected goals, targets and indicators that are relevant to the cocoa industry in terms of economic, social and environmental perspectives are highlighted in the table below.

FIGURE 6: ???

| Goals | Targets | Metrics / Indicators |
|--------------------------------------|--|---|
| Eradicate extreme poverty and hunger | Halve, between 1990 and 2015, the proportion of people whose income is less than one dollar a day | 1) Proportion of population below \$1 (PPP) per day 2) Poverty gap ratio 3) Share of poorest quintile in national consumption |
| Achieve universal primary education | Ensure that, by 2015, children everywhere, boys and girls alike, will be able to complete a full course of primary schooling | 4) Net enrolment ratio in primary education 5) Proportion of pupils starting grade 1 who reach last grade of primary 6) Literacy rate of 15-24 year olds, women and men |
| Ensure environmental sustainability | Integrate the principles of sustainable development into country policies and programmes and reverse the loss of environmental resources | 7) Proportion of land area covered by forest 8) Consumption of ozone-depleting substances 9) Proportion of total water resources used |
| | Reduce biodiversity loss, achieving, by 2010, a significant reduction in the rate of loss | 10) Proportion of terrestrial protected 11) Proportion of (cocoa) species threatened with extinction |

The table below highlights a few indicators for Côte d'Ivoire and Ghana that show that both countries belong in the lowest quartile of the countries and have difficult challenges to meet the Nations Millennium Development Goals by 2015. Considering that Côte d'Ivoire and Ghana are top two leading producers of cocoa in the world, and the cocoa being a very important source of income and foreign exchange earnings for these governments, the government and other stakeholders such as importers and chocolate manufacturers that rely on these countries should work together to improve the quality of lives of farmers.

FIGURE 7: ???

| Indicators | Côte d'Ivoire ^x | Ghana ^{xi} |
|---|----------------------------|---------------------|
| GNI per capita in 2008 | US\$ 980 | US\$ 670 |
| % of population below international poverty line of US\$ 1.25 per day in 2007 | 23% | 30% |
| Child labor (5–14 years) in 2008 | 35% | 34% |
| Total adult literacy rate in 2008 | 49% | 65% |

Source: UNICEF's country statistics web site

LINDT & SPRÜNGLI'S IMPLEMENTATION AND ENFORCEMENT

This section will explore the gap analysis between the actions that Lindt is taking towards sustainability and other actions that it should be taking. Lindt is implementing its own alternative approach to obtain traceability, instead of pursuing the Fair Trade certification. It mandates the Supplier Code of Conduct to enforce labor issues among its suppliers, participates in key industry associations and its environmental actions.

Due to the limited sources available and the lack of consistent quality, Lindt has stated that it cannot obtain sufficient quantity from the certified suppliers of Fair Trade cocoa beans. In addition, only an estimated 25,000 tons (~0.5%) of the total global harvest was considered 'organic' of which more than half was grown in the Dominican Republic. According to the Fairtrade Labelling Organization International 2009 annual report, an estimated 15,320 tons (~0.43%) of cocoa was certified "fair trade". However, it has a strong growth rate of 35% over the previous year which indicates the movement gaining traction. This is due to the commitments from the global chocolate brands such as Cadbury Dairy Milk, Nestlé UK's Kit Kat and Green & Black's. For instance, in 2009, Cadbury Dairy Milk bought Fair Trade certified cocoa to sell in five of its key chocolate markets such as Britain, Ireland, Canada, Australia and New Zealand. Its target is to be Fair Trade certified around one quarter of Cadbury Dairy Milk global sales and 350 million Cadbury Dairy Milk bars in 2010. These would quadruple its Fair Trade cocoa sales from Ghana, adding an additional 15,000 tons - from 5,000 tons in 2008 to 20,000 tons in 2010. Rather than reacting to insufficient supply, a global brand like Lindt should make a strong commitment towards Fair Trade certification and set target goals in its importing markets (e.g. buy 20% Fair Trade by three year time) in order to drive demands. If the manufacturers buy as much Fair Trade certified cocoa as they can possibly get, the cocoa farmers will also have an incentive to become certified and potentially increase their income.

At present, Lindt implements its own methods to advocate responsible and sustainable trade in cocoa by guaranteeing prices for farmers and ensuring traceability of its raw materials. It claims that it is "one of the few chocolate manufacturers in the world that has complete control over every step of its production and supply chain". The Lindt sources its "consumer" cocoa beans exclusively from Ghana and sources the "flavor" cocoa from South America and the Caribbean. Lindt has started a pilot project called 'Ghana Traceable' project in 2008 together with a local partner and the Ghanaian government organization named Cocobod. Through this project, Lindt can trace the origin of the cocoa beans back to the communities where they were collected. "Due to the government regulation system, cocoa farmers in Ghana can count on stable cocoa prices, which, on average over several years, are higher than the rates paid in other liberalised West African markets." Moreover, Lindt also owns a minority share in a licensed local cocoa buying company which purchases cocoa beans directly from the farmers which allows more influence over the sourcing. For every 60 kg bag purchased, Lindt receives a complete and transparent report on the village where beans were collected.

For every ton of cocoa purchased, Lindt pays a price premium, half of which goes to the licensed local cocoa buying company. The other half is paid into a local Not-For-Profit organization, Cocobod Armajaro Traceable Foundation (CATF) through Source Trust. The Source Trust is a global Not-For-Profit organization to promote sustainable and traceable farming practices that will improve the livelihoods of farmers and their communities around the world. The CATF was set up in Ghana in June 2008 and fund projects to improve infrastructure, health, education, sanitation, water and power supply and the funding of farmer training in the specific regions that Lindt sources its cocoa from. Furthermore, Lindt is also working to extend a similar traceable purchasing model to the Latin American growing areas.

In terms of enforcement, Lindt mandates all its suppliers and subcontractors to agree to and implement the Supplier Code of Conduct. The Supplier Code of Conduct demands that the suppliers comply with all applicable national and

international laws and regulations including those under the International Labour Organization (ILO) and the United Nations' Universal Declaration of Human Rights. It strictly prohibits corruption and bribery, discrimination and child labor. Lindt conducts periodic, unannounced inspections of its suppliers and any non-compliance with the Supplier Code of Conduct may ultimately result in the termination of the supplier's contract.

In addition, Lindt is also an active member of the World Cocoa Foundation (WCF) and also contributes towards the Sustainable Tree Crop Program (STCP) in Ghana. The STCP is currently in Phase II (2007-2011) of its successful program in Ghana and has directly trained 6,934 farmers were trained through 151 farmer field schools. Farmers were trained in integrated crop and pest management, environmental sustainability of cocoa through agroforestry and tree diversification and quality improvements. The program also strives to increase cocoa farmers' income and develop the self-organization capacities of cocoa communities. "An impact study conducted in 2009 found that farmers who were trained (in STCP in Ghana) from 2005 to 2007 experienced a 65% increase in gross margins as compared to non-participants."^{xii}

To move onto environmental issues, sustaining rich biodiversity and exploring opportunities to move away from monocultures is part of Lindt's strategy to ensure long-term growth in raw material supply and sustainable land use. Lindt has a strong interest in the research and development of flavor beans which provides the rich flavor and taste in its products. Thus, it seeks opportunities to work with local and government organizations to support research initiatives in the growing regions of flavor cocoa. Cocoa trees producing 'flavor' beans are more susceptible to plant diseases, are more labor intensive and produce only low yields. However, they are more sustainable in terms of biodiversity and soil fertility.

In the 1930s, the Imperial College of Tropical Agriculture started the Cocoa 'breeding' in Trinidad in order to select the best Trinitario cocoa varieties from commercial estates. This group of strains, known as the Imperial College Selections (ICS), has formed the basis of considerable research in Trinidad and many other cocoa-producing countries around the world. This project remains one of the most important sources of genotype reference for cocoa even to this day. However, there has been no thorough investigation of the quality and flavor characteristics of the ICS strains. Lindt supports the project financially and also contribute its analytical resources to conduct research on accessions in the ICS group to investigate flavor profiles of cocoa liquors and the chemical analysis of beans for selected compounds.

The use of pesticides in the production of raw materials for chocolate is generally low. Nevertheless, the Lindt stringently tests its chocolate for over 200 different pesticides. Cocoa trees are prone to specific diseases that, in some growing areas, are fought using pesticides. Through Lindt support of the Sustainable Tree Crop Program, the company and its partners promotes improvement in agriculture techniques to minimize the use of pesticides.

From 2004 to 2009, Lindt was able to cut down energy consumption by 13% per ton produced through better insulation and energy saving initiatives. The Lindt's goal is to continue reducing the energy consumption per ton produced by an average of 2.0% over the coming years. In addition, Lindt's Swiss subsidiary, Chocoladefabriken Lindt & Sprüngli (Schweiz) AG, made an agreement with local authorities to fulfill the *Kyoto protocol* in 2002. The Swiss government and independent engineers have audited the progress and as a result, the Swiss subsidiary has been granted the official certificate. Since 2007, Lindt has been participating in the Carbon Disclosure Project (CDP) to benchmark with peer companies. The CDP analyses the strategy of listed companies in relation to climate change. The aim of the group is to effect the necessary structural changes in the coming years and to introduce the appropriate processes to allow full measurement and verification of these values based on the CDP standard. Since then, the measurements of CO₂ emissions and energy consumption have been largely based on the concept of the 'Methodology Fossil Fuels' set out in the CDP Protocol. Lindt is currently aiming to continue reducing the CO₂ output per ton produced by an average of 2.0% over the coming years.

One of the innovative projects that Lindt has initiated is the experiment to produce biomass fuel from cocoa husks which are waste products from the manufacturing process. Lindt's production site in New Hampshire (NH) has partnered with nearby Public Service of New Hampshire (PSNH), the state's largest electric utility, to burn cocoa husks in order to produce renewable energy. The pilot project was tested by PSNH in March 2009 and is now officially being implemented following approval from New Hampshire's Department of Environmental Services. According to PSNH, every ton of cocoa bean shells used to generate electricity will replace burning one half-ton of coal which helps them reduce a portion of its coal-producing power with biomass. This reduces carbon dioxide

emissions that would have been emitted through the burning of fossil fuels in addition to allowing Lindt to responsibly dispose of a manufacturing byproduct.

CONCLUSIONS

Lindt claims several times on the web site that it is “one of the few chocolate manufacturers in the world that has complete control over every step of its production and supply chain.” As we have seen in the value chain process, this claim is certainly supported in terms of its rigorous quality control process during the inbound logistic and production. However, the control over its supply chain process is not attested by detailed information such as specific regions or the actual amount of cocoa (tons) that are sourced from Ghana, South America and the Caribbean on its web site or on its 2009 annual report. It will be helpful to provide transparency on its suppliers and specific regions to better understand the child labor, poverty and literacy issues in these regions. After identifying the specific regions, the next step would be to track the number of farmers, farm groups, and the number of hectares that are impacted by Lindt’s contributions to farming education programs such as Sustainable Tree Crop Program. The productivity metrics in these regions such as average yield per hectare, and the farmer’s income such as average farmer income per hectare, can be reported to demonstrate the progress. Based on these metrics, a more sophisticated measures proposed by International Cocoa Organization (ICCO) such as percentage of the fob export price of cocoa beans received by the farmer at the “farmgate” or incomes of farm families against a minimum per capita income standard, can also be tracked.

By having a bigger stake in these specific regions, the Lindt can also exert its influence in the regions’ policy making, such as programs to increase enrollment and literacy rates, education and eradication of forced child labor, reduction of the deforestation rate, and improvement of farming practices.

Lindt has stated its commitment to the traceability, increased involvement with local suppliers, improving quality of lives of farmers and the promotion of biodiversity. However, unlike other global brands, it has not set long-term goals or targets such as sourcing all cocoa beans from sustainable sources by a certain percentage by a certain year. In the specific programs that it funded such as CATF, it is not clear the amount of funding and the qualitative or quantitative benefits due to its funding. It is likely that since Lindt is a smaller private company, it is not subject to a higher level of pressure and public scrutiny as other larger public brands. Without having the information on the volume that it sources from Ghana, it is uncertain whether Lindt has sufficient bargaining power with its suppliers compared to others.

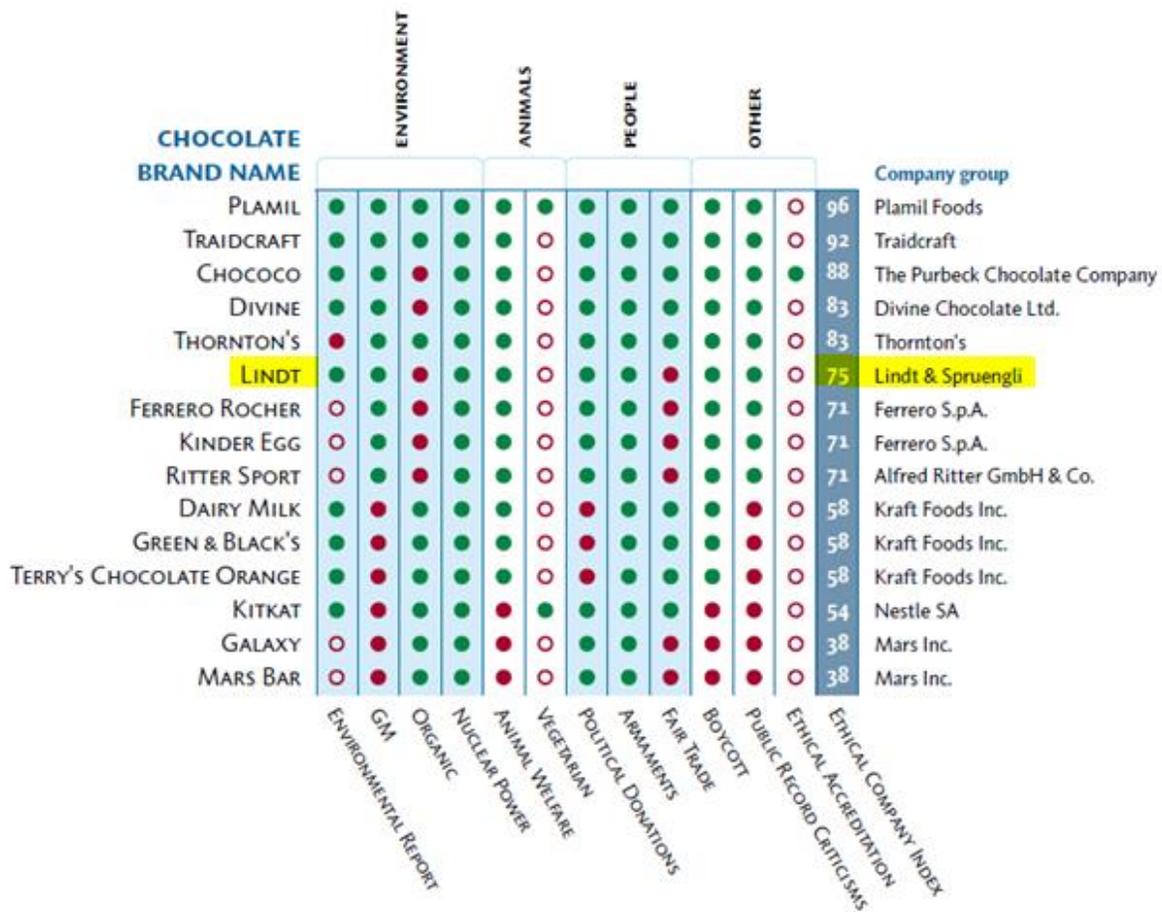
Undoubtedly, Lindt monitors the actions that its competitors are taking towards sustainability, the growing trends and standards in the industry. Even though the Harkin-Engel Protocol has failed to achieve its original intent, there have been some significant developments in the industry as several major corporations have responded with their own voluntary certification initiatives. Examples of notable programs include Kraft Foods’ partnership with Rainforest Alliance to certify cocoa produced in Cote d’Ivoire; agreements by Cargill, Nestle and Mars to work with Utz Certified; and the development of new Fair Trade certified cooperatives in Cote d’Ivoire. It is interesting to watch which of these certifications would be successful enough to gain credibility and enough momentum to become an industry standard. One of the new certifications named Utz includes some labor rights protections and a level of transparency, however, the program has not yet been fully implemented on the ground, so the true impact cannot yet be measured.

Even though various stakeholders in the industry have expressed their support for a sustainable cocoa economy and some progress has been made, the industry is not evolving fast enough to change the qualities of cocoa farmers’ lives in a wide scale. Companies like Lindt are taking their own approach to ensure traceability and guarantee the price of cocoa they source from. However, it will be a more powerful force if these companies work together in a strong multi-stakeholder forum to find integrated solutions rather than taking single issue approach. For instance, the companies can work together to evaluate and improve the impact of their direct operations and purchasing practices. The various stakeholders in the supply chain should take responsibility and draw up a time-bound action plan and an investment plan in order to bring about a sustainable cocoa economy. All the stakeholders in the cocoa chain should be involved in such a forum, including representatives for farmers, trade unions, nongovernmental organizations and consumer associations.

In addition to participating in these multi-stakeholder forums, Lindt should also proactively communicate to the consumer the activities it is undertaking in order to sell chocolate products in which the ingredients are produced and traded in an economically, ecologically and socially responsible manner. One company that communicates well to its consumers is Starbucks. For instance, the Starbucks Cocoa Practices has impacted around 12,000 farmers across 24 cooperatives as it completed its pilot program at the end of fiscal year 2009. It is continuing its program to increase cocoa purchases from verified and approved Cocoa Practices suppliers to 42% in 2010.

Lastly, the ultimate power lies with the consumers. If the consumers start to demand the traceability of its cocoa beans from the chocolate manufacturers and ensure that the cocoa farmers received a fair price for their crops as well as a premium to invest in social, infrastructural and ecological projects, the chocolate companies will have no choice but respond to the demand and find ways to influence their suppliers to ensure a sustainable cocoa economy.

FIGURE 8: THE ETHICAL COMPANY ORGANIZATION’S RATING OF CHOCOLATE COMPANIES



Key

- Top rating
- Middle rating
- Bottom rating

Source: The Ethical Company Organisation (2010)

www.ethical-company-organisation.org

FIGURE 9: VALUE CHAIN OF COCOA BEANS FOR LINDT & SPRUNGLI

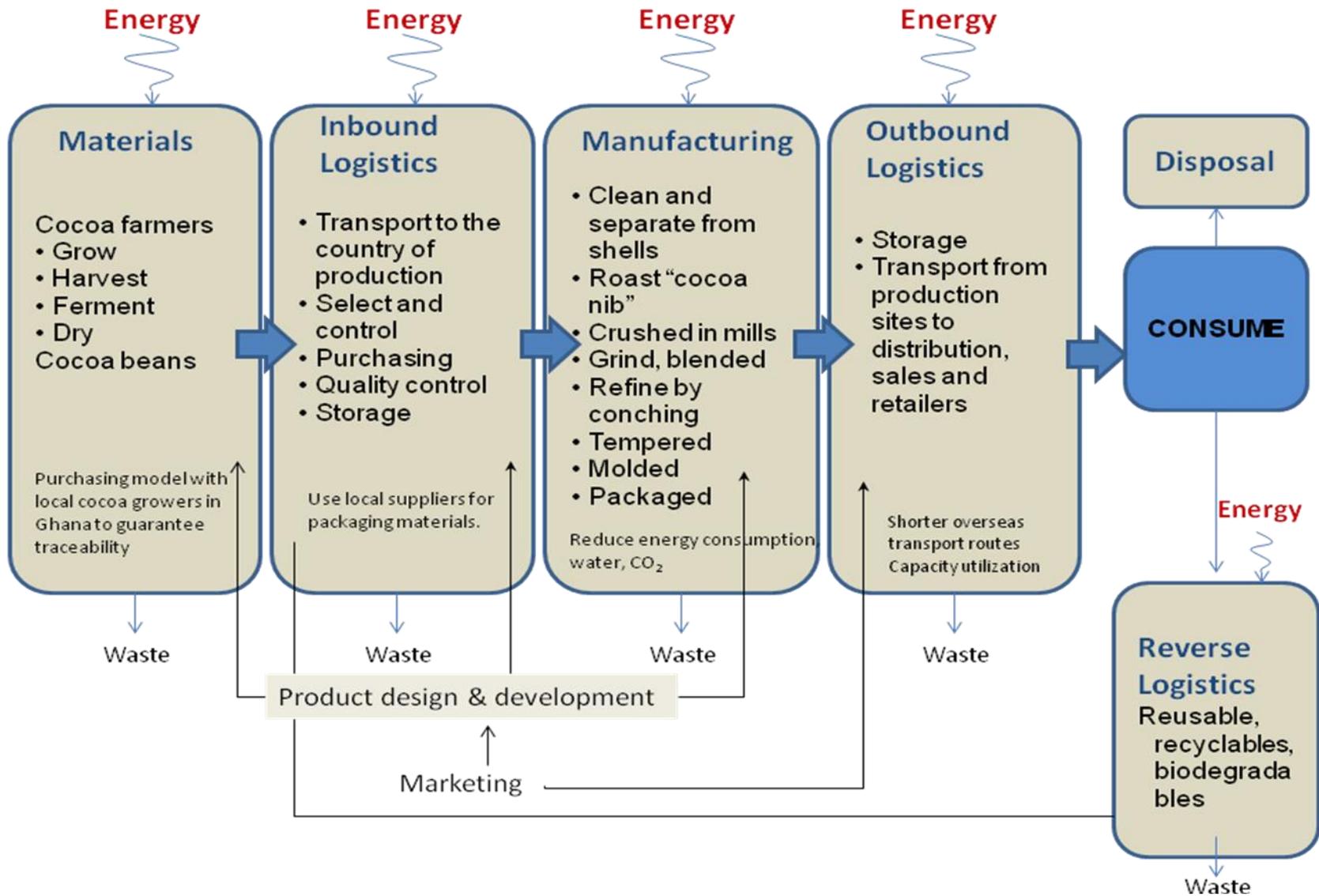


FIGURE 10: HOW VALUE CHAIN IMPACTS THE “P3G” ELEMENTS

| | Raw Materials | Inbound Logistics | Manufacturing | Outbound Logistics | Reverse Logistics |
|--------|---|---|---|--|---|
| Planet | <ul style="list-style-type: none"> a) Sustain rich biodiversity b) Create opportunities to move away from monocultures to ensure long-term growth in raw material supply and sustainable land use. | <ul style="list-style-type: none"> a) Purchase key raw materials (except cocoa) from local suppliers, e.g. paper and cardboard for packaging materials. | <ul style="list-style-type: none"> b) Choose production sites closer to the main consumer bases c) Cut down energy consumption by 13% per ton produced from 2004 to 2009 through better insulation and energy recovery d) Aim to continue reducing the CO₂ output per ton produced by an average of 2.0% over the coming years. e) Monitor and analyze the use of water and the output of wastewater in the production process | <ul style="list-style-type: none"> a) Utilize shorter transport routes b) Use of double floor trucks to lower energy consumption c) Implement a load planning software to optimize the capacity utilization | <ul style="list-style-type: none"> a) Use recycled, recyclable and biodegradable packing materials while ensuring quality standards. b) Partner with nearby PSNH coal fired power plant to burn cocoa husks (waste from manufacturing) to produce energy from renewable biomass. c) Test all packaging materials for their biodegradability. |
| People | <ul style="list-style-type: none"> a) Agreed to purchasing model with local cocoa growers in Ghana to guarantee traceability of cocoa beans and support social projects. b) Participate in “Source Trust” program to develop regional infrastructure, schools, and invest in farming machinery to improve working conditions, and in seedlings to optimize cocoa quality. | <ul style="list-style-type: none"> a) Implemented code of conduct for suppliers in 2009, which lays down the mandatory requirements to comply with laws and regulations concerning working conditions and the environment. | <ul style="list-style-type: none"> a) Introduced a binding “Health and Safety Program” at the end of 2008 for all the production companies belonging to the Group. b) Supports local projects and initiatives in the regions where manufacturing sites are located to prepare for higher growth and to create additional jobs. | <ul style="list-style-type: none"> a) Distribution companies to strictly adhere to the health and safety policy | |
| Profit | <ul style="list-style-type: none"> a) Purchasing agreement guarantees fixed prices for all the participating | | <ul style="list-style-type: none"> a) Opened a new production site in US to lower logistical costs, | <ul style="list-style-type: none"> a) Reduce dependence on Europe imports into USA from | |

| | Raw Materials | Inbound Logistics | Manufacturing | Outbound Logistics | Reverse Logistics |
|------------|--|-------------------|---|---|-------------------|
| | farmers, and adequate availability of top quality cocoa beans for Lindt (prevent shortage or price fluctuations). | | reduce import customs and eliminate exchange rate risks. | approximately 50% to 20%. b) Cost savings due to reduction of packaging materials. | |
| Governance | a) Membership in Ghana Traceable Project, World Cocoa Foundation, Sustainable Tree Crop Program, and Fair Trading. | | a) Participate in the Carbon Disclosure Project (CDP) to measure CO ₂ emissions and energy consumption to benchmark with peer companies. | | |

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