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Feasibility Study

Organic and Fairtrade Cocoa

in Vietnam

Final Report

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TABLE OF CONTENTS

LIST OF ABBREVIATIONS AND NAMES

ACIAR	Australian Centre for International Agricultural Research
ACDI/VOCA	American Non – Government Organisation
CARD	The Collaboration for Agriculture and Rural Development program
Cargill	International provider of food, agricultural and risk management: www.cargill.com
FAO	Food and Agriculture Orgnaisation of the United Nations
DANIDA	Danish International Development Agency
DOSTE	Department of Science & Technology
ED&F MAN	Provider of agricultural commodities: www.edfman.com
GTZ	Gesellschaft fur Technische Zusammenarbeit
MARD	Ministry of Agriculture and Rural Development (Vietnam)
NLU	Nong Lam University in Ho Chi Minh City
OLAM	Global commodity trading company: www.olamonline.com
SNV	Dutch Non – Government Organisation
SUCCESS	Sustainable CoCoa Enterprise Solutions for Smallholders
TF	Training Facilitator
TOUTON	French Trade Company in Coffee and Cocoa: www.touton.fr
USDA	United States Department of Agriculture
VAC	Vuon Ao Chuong (Garden - Fish pond – Livestock system)
WCF	World Cocoa Foundation
WHO	World Health Organisation of the United Nations

1. Summary

This feasibility study for organic and fairtrade cocoa in Vietnam is attempting to answer to the question of whether it is suitable or not to support the establishment of an organic and fairtrade cocoa value chain in Vietnam, and if yes, to identify in which region this could take place.

The study gives an overview of the organic and the fairtrade production and marketing systems. The standards, the certification procedures, the costs for certification and the experiences to date in organic and fairtrade in Vietnam are presented. There are several regions where cocoa can be successfully cultivated in Vietnam, and cocoa was introduced many years ago, but cocoa production and marketing experiences are still in their infancy. The study concentrates its attention mostly on two regions where the cultivation of cocoa is most suitable: the central highlands and the Mekong Delta. For each of these two regions, the study presents the background, the current status, the environmental awareness, the faitrade assessment and the stakeholder analysis of the cocoa value chain.

In the two provinces of the central highlands, Dak Nong and Dak Lak the potential for the development of cocoa is high, the technical know how of farmers in cash crop cultivation is important and there is a huge interest for cocoa development coming from the private and the public sector. However, cocoa suffers from competition with other cash crops such as pepper, and coffee, and is currently not the highest priority for the farmers there. The high wind levels are one problem for cocoa development in this region. In addition, at present the cultivation techniques of farmers are characterised by monoculture and high rates of chemical inputs (fertilizer and pesticides), and therefore the introduction of organic techniques is considered to be difficult.

In the other region of the Mekong Delta (Ben Tre and Tien Giang provinces) the cocoa sector has been recently successfully promoted by the public and the private sector and supported by externally funded projects. Cocoa is mostly cultivated by farmers on a very small scale (0.15-0.5 ha) in mixed orchards. The mixed cultivation of cocoa and coconut is particularly interesting for organic farming. Farmers are currently using limited amounts of chemical inputs and know some environmentally friendly techniques. The farmers are organized into cocoa clubs, especially for technical training, exchange of information and purchase of inputs such as seedlings. One first Cocoa Cooperative exists in the province of Tien Giang. The introduction of organic but also of fairtrade standards seems to be easier in this region compared to the central highlands.

An initial comparative economic analysis between organic and conventional production gives similar short term economic results for the two systems. The study provides elements to calculate the production scenarios and break even points required to cover certification and internal control costs. In the last chapter, the outlines for a new support project for an organic and fairtrade value chain support project for cocoa in Vietnam are presented.

2. Introduction

Cocoa originated in South America and has been commercially grown as an industrial crop for hundreds of years. Cocoa beans are the main material in the production of chocolate and an important ingredient in the food and confectionary industries. Additionally cocoa is also used in the cosmetic and medicinal industries. Originally, cocoa trees grew in tropical forests along the Amazon River in South America where the difference between daytime and night time temperature was small, humidity levels were high and the sunlight was dispersed and weak. In the process of commercialization, cocoa is now mainly grown in tropical countries between the latitudes of 20^0North and 20^0South.

The most commonly grown cocoa cultivars have developed best in places where the highest temperatures range from 30 to 32^{o}C and the lowest temperatures are around 18 to 20^0C. The trees are severely affected when temperatures are lower than 10^0C or lower than 15^0C for an extended period. The most suitable annual rainfall for cocoa is 1500-2000 mm, preferably distributed evenly across the year. Without a good hedgerow, cocoa trees do not develop well in regions where wind speeds are consistantly over 12km/h. Cocoa trees prefer well irrigated land in which pH levels are about 5.5 to 6.7.

At present, Western African countries produce about 70% of the world cocoa production, and the main producers are Ivory Coast, Ghana, Nigeria and Cameroon. South American countries account for 10% of world production and the two leading cocoa producers in this region are Brazil and Ecuador. Countries in the Asia-Pacific take about 20%, and the main producing countries are Indonesia, Papua New Guinea and Malaysia. The world cocoa production in 2007 was 3.5 million tons. The world demand of cocoa has steadily increased in recent years. The emergence of many products made from cocoa, of new markets and increasing demands for healthy products from cocoa. The prices of cocoa in the world market increased in 2007.

2.1. Rational for the Feasibility Study

Fuelled by rising prices and increased demand on the global market, Vietnam has recently undertaken efforts to increase cocoa production. The Ministry of Agriculture and Rural Development plans to increase the cocoa area in many provinces (Mekong River Delta, Central Highlands and the Coastal Regions). However, there are concerns that the cocoa industry might follow the path of the coffee industry placing excessive focus on productivity and not taking proper care of quality. In the past, intensification of coffee production in Vietnam revealed several counterproductive effects such as decreasing product quality, sustainability of the production method, and finally none optimal market conditions.

The development of an ecologically sound cocoa plantation and value chain is therefore important and supported by different stakeholders including farmers, official partners at national, provincial and local levels as well as by international donors and non-governmental organisations (NGO). However, the experiences with cocoa production and marketing in Vietnam are still in the initial stages. To avoid the problems faced by the coffee value chain, it is necessary not only to take into account product quality but also to improve the whole value chain to ensure a high product quality and safe food standards.

To ensure the economic, social as well as the environmental sustainability of the production and marketing, organic and fair-trade certification can be considered as one milestone. Organic and fair trade production has the potential

- to ensure higher and stable income by farmers when certified products get access to potential export markets
- to ensure high levels of environmental and social sustainability and
- to serve as concrete orientation for a higher sustainability of the conventional market

The organic and fair trade cotton value chains jointly developed by SECO, the Swiss State Secretary for Economy and Helvetas, the Swiss association for international cooperation, with selected partners from the private sector can verify that the potential outlined above can even be realised with the rather complex value chains of textiles. It is thus assumed, that the realisation of similar partnerships for cocoa should be feasible with lesser efforts than the organic and fair trade cotton value chains in West

Africa that were started from the scratch. Thus there is a good basis for implementing an organic and fair trade cocoa project in Vietnam, furthermore sound project inception and planning work is necessary to identify the partner institutions, the production zones and the main stakeholders of the value chain.

Field visits to envisaged project areas and first meetings with institutions and partners revealed:

- Cocoa production has been established successfully in the last ten years in Vietnam. In 2006, about 100 tons of high-quality cocoa beans were exported and quality work to train farmers and to increase the areas under cultivation has been undertaken by projects, such as the ACDI/VOCA supported Successalliances project. However, the marketing of dried beans is still poor. Also the newly established pre-processing centers are not yet experienced and there is a lack of post-harvest processing. Sometimes, the crop is sold as exotic fruits on local markets rather than systematically collected and processed as cocoa bean.
- In some regions, farmers apply a mixed cropping system with coconut and/or fruit trees as shading shelter. The conversion to organic agriculture will probably be easier under these mixed cropping conditions compared to under a cocoa monoculture. Other mixed cropping systems in natural tropical forest should also be considered especially if those plantations are on a sufficiently large scale and cultivated by ethnic minorities.

Other aspects that facilitate the implementation of an organic and fair trade cocoa value chain project are:

- With support of SECO, the establishment of an organic certification agency was already started. The high costs of a "jet-set" certification thus can be avoided. Several other projects and inititives to develop organic value chains have been developed in Vietnam in recent years.
- FLO, the Fairtrade Labelling Organisation recently opened an office in Vietnam with the objective to support farmers' organisations willing to launch fair-trade production. The liaison officer of that office should provide collaboration and support.
- Ritter Sport – a renowned chocolate producer from Germany, who already helped to start some organic cocoa production in Nicaragua – is interested in the purchase of organic cocoa from Vietnam.
- There is big interest especially from the companies from the private sector to get involved in Cocoa and especially in organic and fair-trade cocoa in Vietnam. Therefore a comprehensive stakeholder anlaysis considering existing and potentially interested partners is necessary.

In light of the rapid development of the Vietnamese cocoa sector it is therefore suggested that Helvetas Vietnam conducts a feasibility study for organic and fair trade cocoa production in due course.

2.2. Feasibility Study

With the overall objective:

a) whether the establishment of an organic and fair trade cocoa value chain can contribute to poverty alleviation in selected areas of the rural sector of Vietnam and

b) when "yes" where are the ideal locations and which are the institutional partners to carry out such a project.

The study team consists of one expert on cocoa, one expert on fair-trade, one expert on values chains and one expert from Helvetas on organic agriculture. The study included document reviews and field visit to provinces with Cocoa (Ben Tre, Tien Giang, Dak Lak, Dak Nong, Phu Yen and Lam Dong). In these provinces, the team had discussions and interviews with cocoa farmers, cocoa groups, cooperative, processors, collectors as well as technical staff from the district and provinces. In addition, several discussions with relevant ministries, donors and exporters were also made. A list of persons met is in Annex 1.

3. Cocoa in Vietnam

In Vietnam, cocoa was introduced by the French into different biological regions from the Mekong Delta to the central highlands. However, for many reasons, cocoa was not developed to a commercial scale. In the 1980s, under a state program, cocoa was widely grown in thousands of hectares in many provinces along the central coast, in the Mekong Delta as well as in the central highlands. At that time, it was not possible to sell on the world market, while the processing capacity was underdeveloped to meet the domestic market. As a result, cocoa farmers found it impossible to sell their produce and were forced to change to a different crop.

In the early of the 1990s, Mars Corporation and the World Cocoa Foundation suggested that the government of Vietnam develop cocoa as an industrial crop due to favorable conditions in the world market. After the diplomatic relationship between Vietnam and the U.S was normalized in 1995, Vietnam had a good opportunity to enter the cocoa market because many exporting countries in South America and Western Africa were either in political turmoil or facing climatic and pest problems, resulting in a reduction in the global supply of cocoa.

In the period between 1993 and 2004, there have been a number of projects funded by non-governmental organizations to help Vietnam develop its cocoa areas in provinces on the central coastal region (such as Quang Ngai, Binh Dinh, Phu Yen), in the Mekong Delta (Can Tho, Ben Tre, Tien Giang), in the south-eastern provinces (Dong Nai, Binh Phuoc, Ba Ria-Vung Tau) and in the central highlands (Lam Dong, Dak Nong, Dak Lak and Gia Lai). Hundreds of cocoa varieties have been imported to examine whether they were suitable to the conditions in Vietnam. In these programs, many informative workshops and technical training programs have been organized for the benefit of farmers and extension workers. Some of these projects involved Mars, DANIDA, GTZ, ED&F MAN, PSOM and ACDI/VOCA[1].

The cocoa development program of the Vietnamese government

In 1997 the Cocoa Development Committee was established with its main function to set up an overall development program for the Vietnam cocoa industry. In the next year, ACRI, NLU and the Agricultural Planning Institute carried out a feasibility study on the development of cocoa and used this to develop a strategic plan for the cocoa industry in Vietnam. Two important conclusions were: (1) cocoa trees could grow well in different regions, such as the coastal area, the South-east, the Mekong Delta and the central highlands; and (2) the planned growing area was 100,000 hectares. In 2005, the national Cocoa Coordinating Board was set up with the main function of consulting MARD in every aspect of the cocoa industry. As planned, the cocoa committee board meets twice per year. Every year, the National Extension Center reserves some budget for technology transfer and the improvement of cocoa models for Southern provinces. In 2007, MARD officially approved the cocoa development program in Vietnam until 2015 with a vision to 2020[2].

4. Organic farming in Vietnam

4.1. What is organic farming?

The definition of organic farming is complex and not restricted to a "chemical free" method. At present, there are many definitions in use in different regions of the world. A general definition has been formulated in the Codex Alimentarius (FAO/WHO 1999) as: "Organic agriculture is a holistic production management system which promotes and enhances agro-ecosystem health, including biodiversity, biological cycles, and soil biological activity. It emphasizes the use of management practices in pref-

1 WWF 2005, An overview of the cocoa sector in Vietnam
2 MARD, 2007: Cocoa development strategy in Vietnam

erence to the use of off-farm inputs, taking into account that regional conditions require locally adapted systems."[3]

The International Federation of Organic Agriculture Movements (IFOAM), an umbrella organization for the participants in the organic market, defined and adopted in 2005 the following principles of organic agriculture (OA): **Principle of health**: OA should sustain and enhance the health of the soil, plants, animals, humans and the planet as a single and indivisible whole. **Principle of ecology**: OA should be based on living ecological systems and cycles, work with them, emulate them and help sustain them. **Principle of fairness**: OA should build on relationships that ensure fairness with regard to the common environment and life opportunities. **Principle of care**: OA should be managed in a precautionary and responsible manner to protect the health and well-being of current and future generations and the environment.

While the standards are normally defined by law (official regulations) in the different countries and regions where organic products are traded, the certification and inspection bodies are normally private organizations. Their main function is to control the compliance with the national organic regulations by all parties in the organic supply chain (farmers, processors, and traders). The certification process normally adheres to the following steps:

- Application: includes the payment of a fee, the commitment by the producer to follow the relevant standards, and a description of the production unit.
- Inspection: one or more visits to the site to verify that the production follows the standards and is consistent with the producer's declaration.
- Evaluation of the inspection results and the formulation of a certification decision: this decision often includes a number of corrective actions to be taken by the producer. A certificate with a time limit is issued for a certain amount of product.

There are around 400 certification and inspection bodies, with a large majority located in developed countries. The choice of a certification body for a cocoa producer will depend on a number of factors, including the size of the fee, the image attached to the certification body ("branded" certification), the familiarity of the certification body with the issues involved in the cocoa sector, its international expertise to assist with export markets and its geographical coverage (it needs to be accredited in the country of destination of the cocoa beans).[4]

Most developed countries, but only a few developing countries, have national standards, regulations and inspection and certification systems for organic products. Differences in certification and labelling schemes can inhibit trade flows. Even within the European Union, government approaches towards EU legislation may hinder trade. Regulatory bodies are in the process of adopting new rules intended to be simpler and they are also working towards mutual recognition between the various national organic labels. In order to facilitate international trade, harmonization of standards and certification is needed. This does not suggest that exactly the same standards should apply for all countries, as agricultural conditions differ. At the international level, the Codex Alimentarius guidelines (FAO/WHO, 1999), adopted in 1999 and revised in 2001, define the general principles and requirements applying to production and labelling of organic products. That was a first step in official international harmonization of organic product requirements in terms of production and marketing standards, inspection arrangements and labelling requirements.

In the **European Union**, the European Council adopted Regulation (EEC) No. 2092/91, defining the requirements for agricultural products or foodstuffs to be allowed to be traded as organic. This regulation has been completely revised since 2005 and the new regulation will enter into force in 2009. The

3 ICCO, 2006: Organic cocoa report

4 ICCO 2005: A study on market of organic cocoa (not published and restricted data)

new rules are intended to be simpler, and to allow a certain amount of flexibility that takes account of regional differences in climate and conditions. The import regime will then be amended to allow certification bodies outside the EU to be recognized by the Commission. In the **United States**, the recent implementation by the USDA's National Organic Program (NOP) of the Organic Foods Production Act (OFPA) established national standards for the production and handling of foods labelled as "organic." This should increase consumer confidence in the organic label. In 1992, the Ministry of Agriculture, Forestry and Fisheries (MAFF) in **Japan** issued guidelines describing farming practices necessary for growers to label a product "organic". However, it did not have any enforcement tools. In 2000, MAFF revised the Law of Japanese Agricultural Standards, establishing an inspection and accreditation scheme. Finally, since April 2001, the labelling of organic products as "JAS organic" requires compliance with these standards. The general requirements for cocoa beans, cocoa and chocolate products to be labelled "organic" are the following:

- Cocoa beans must grow on land which has been free of prohibited substances for three years prior to harvest. Cocoa beans grown on land which is "in transition" to organic during the first three years can be sold labeled as "cocoa in conversion"
- Cocoa production and processing methods are regulated (only organic fertilizers, improvment in soil fertility, biodiversity, etc.). For the production of chocolate, 95% of the ingredients (not counting added water and salt) must be organically produced. The processor must also be certified. However, special provisions allow labelling to state that a product is "100% Organic" if the product contains 100% organically produced ingredients; "Made with Organic Ingredients" (or a similar statement), if the product contains at least 70% organic ingredients; and "Has some organic ingredients" (or similar statement), if the product contains less than 70% organic ingredients.

Producers of cocoa, which are normally located in developing countries, have to meet those standards. Changes in legislation in developed countries can affect the possibility for small producers to access the global market. Today, to import organic products to the EU market, an import permit is needed.

4.2. Group certification

Organic certification norms and regulations, for example the EU regulation, require an annual inspection visit to every producer. However, for most smallholders in developing countries, it is impossible to pay for annual inspection visits by a foreign certification body (IFOAM, 2004). To cope with this situation, smallholders in developing countries in co-operation with certification bodies have been developing systems to assure compliance to organic standards for producers as a group. Different forms of quality assurance systems of small-holder groups have developed over time with respect to the nature of the operation and size, these range from tens to thousands of individual producers. The systems have in common the following aspects (IFOAM, 2004):

- A central body responsible for marketing and the group's compliance to applicable standards: This body can be the buyer, processor, or self-organized cooperatives or associations.
- One single certification for all individual production as well as processing and handling activities registered within the group. Individual operators within the group may not use the certification independently.
- Group members operate under contractual or binding membership requirements specifying the commitment to comply with applicable organic standards and permit inspection, among other aspects.
- Presence of an internal control system (ICS), operated by the responsible central body or an external body contracted by the central body. The ICS normally maintains files on all members of the group and inspects each member's operation at least once a year. A list of all individual member producers is available.

The ICS has two important components:

- Training the producers and anyone else who is responsible for processing or handling the organic product in their responsibilities for maintaining the organic integrity of the crop.

- Setting in place the systems for measuring and inspecting the farmers, processors and handlers compliance with the organic standards.

With an ICS in place, the external inspection process is then focused on evaluating the operation of the ICS and the inspection of a sample of farms, not each individual farm (generally only 10% of the farmers in the group are inspected), as well as processing facilities. Coupled with an annual inspection of the operation-cum-evaluation of the ICS, group certification thus offers two tiers of control as opposed to just an external annual inspection visit. Several ICS have already been set up in Vietnam, for example by the tea company Ecolink supported by NGOs like ADDA. . This ICS includes over 200 farmers as well as a processing unit and several warehouses for tea storage.

4.3. Current status of organic farming in Vietnam

Although it can be said that, as in all other countries in the world, all farmers were growing crops organically a hundred years ago, organic farming according to the international understanding is quite new to Vietnam. Around 10 years ago some foreign companies started working with local companies and farmers to grow crops organically for export. After many years with only a few hundred hectares under organic management, there is presently an estimated 6,475 hectares of organic land[5]. The main organic products are spices such as cinnamon, star anise and ginger, fruits, tea, cashew, shrimps and *basa* fish. These products are certified according to the standards of the importing countries, such as Europe and the USA, and foreign certification agencies carry out the inspection and certification work.

The local Vietnamese market for organic products has not been developed at all, although one company tried to introduce organic vegetables to consumers in Hanoi some years ago. Few international and local organizations are supporting organic agriculture (main exceptions ADDA and GTZ). The Government also has no specific policies to support the development of organic agriculture in the country and as a result there is still little attention on organic farming from research and the extension service. However, in December 2007 the Ministry of Agriculture and Rural Development (MARD) issued national basic standards for organic production, which can now be used as a reference for producers, processors and others interested in organic products for the local market. MARD is planning to set up a certification system for the local market but a timeframe for this activity has not yet been developed. Some private service providers, such as Qualiservice, recently developed competencies to support farmers in obtaining certification (organic and GAP-Good Agricultural Practice) for agricultural and fishery products (see description in annex 3).

5. Current status of Fairtrade in Vietnam

5.1. What is Fairtrade?

The Fairtrade certification mark is an independent guarantee from Fairtrade Labelling Organization (FLO) that products with the Fairtrade label have been certified in accordance with the international Fairtrade Standards. As per December 2006, 569 producer organizations in 58 developing countries were certified and the sales of certified products amounted to approximately €1.6 billion worldwide, with an average 41% year-to-year increase. Sales are further expected to grow significantly and are expected to reach US$ 9 billion in 2012 and US$ 20-25 billion by 2020.

Fairtrade is an organized social movement and market-based model of international trade which promotes the payment of a fair price as well as social and environmental standards. The movement focuses on exports from developing countries to developed countries with the intent to support marginalised producers and workers in order to help them to move from a position of vulnerability to security

[5] Helvetas 2007 : Feasibility study for Organic Bitter Tea in Cao Bang, by Koen de Braben (ADDA)

and economic self-sufficiency. It also aims at empowering them to become stronger stakeholders in their own organizations and actively play a wider role in the global market in order to reach greater equity in international trade.

In 1988, in an effort to expand the distribution of Fairtrade products to mainstream retailers, a Dutch organization called Solidaridad, found an innovative way to increase sales without compromising consumer trust in Fairtrade products and in their origins. The organization created a label, called Max Havelaar, which guaranteed that the goods met certain labour and environmental standards. The label, first only applied to coffee, was named after a best-selling 19th century book about the exploitation of Javanese coffee plantation workers by Dutch colonial merchants. The concept caught on: within years, similar Labelling Initiatives such as the Fairtrade Foundation, TransFair and Rättvisemärkt, emerged across Europe and North America in an effort to follow Max Havelaar's footsteps and boost Fairtrade sales. The organizations launched their own campaigns and certification marks and originally operated independently.

In 1997, these organizations created Fairtrade Labelling Organizations International (FLO) which is a non-profit, and a multi-stakeholder association involving 23 member organizations (Labelling Initiatives and Producer Networks), traders and external experts. The organization develops and reviews Fairtrade Standards and provides support to Fairtrade Certified Producers by assisting them in gaining and maintaining Fairtrade Certification and capitalizing on market opportunities. In 2002, Fairtrade Labelling Organizations launched FLO-Cert., a new international Fairtrade Certification mark. The goals of the launch were to improve the visibility of the mark on supermarket shelves, convey a dynamic, forward-looking image for Fairtrade, facilitate cross border trade, and simplify procedures for importers and traders. The Fairtrade system has always been about global relationships and global standards of fairness - these were recognised for the first time with an international Fairtrade Certification Mark.

5.2. How does FLO certification work?

5.2.1. Standards

The standards are developed and continuously revised by FLO in collaboration with the most relevant partners of a given commodity chain. Fairtrade Standards distinguish between minimum requirements, which producers must meet to be certified, and progress requirements that encourage producer organisations to continuously improve in all standard's areas and to invest in the development of the organizations and their producers/workers. The standards are divided in generic standards for producers and traders and standards for each product. The generic standards for producers which include requirements for social, economic and environmental development are divided into:

- Standards for Small Farmers' Organizations and
- Standards for Hired Labor Situations

The Fairtrade Producer Standards are limited to a certain scope of countries defined by FLO. Only producers located in these countries can apply for Fairtrade Certification. Vietnam is one of the listed countries, but for the time being the standards for Hired Labour Situations can not yet be applied. As part of the Generic Standards, there is a list of prohibited materials that Fairtrade Certified producers cannot use for their production. The product specific standards define the additional requirements for every product.

Curently FLO certifies in total 15 products:

- Banana
- Coffee
- Cocoa
- Dried fruit
- Fresh fruit/vegetable
- Fruit juices
- Herbs and Spices

- Honey
- Nuts oil and seeds
- Quinoa
- Rize
- Cane Sugar
- Wine grapes
- Tea
- Cotton

The trader standards stipulate that traders that buy directly from the Fairtrade producer organizations must:

- Pay at least the Fairtrade Minimum Price and the Fairtrade premium indicated in the product standards
- Partially pay in advance, when producers ask for it
- Sign contracts that allow for long-term planning and sustainable production practices

The Fairtrade Trade Standards are integrated into the Product Standards. Additionally, generic standards for traders are currently under development. For the Product Standards for Cocoa see chapter 4.4.

5.2.2. Audits by FLO-Cert

In order to sell products under the Fairtrade Label, producer organizations have to be certified by FLO-Cert. First, the organization has to apply for a specific product. Then FLO-Cert audits the organization and the certification is provided for a certain time if the minimum standards are fulfilled. The producer organizations have to pay fees which are normally paid in advance. The application fee is 500 Euro. The certification fees vary according to the type and size of the organization.

Fairtrade certification fees for 1st grade organization in Euro[6]

Type	Cat.	No. of members	Fees for initial audit (€)	Fees for renewal audit (€)	Surveillance audit (€)
Type 1	A	<50	1.400	1.137,5	875
	B	50-100	2.000	1.575	962.5
	C	101-250	2.200	1.750	1.050
	D	251-500	2.400	1.925	1.137,5
	E	501-1000	3.000	2.362,5	1.487,5
	F	>1000	3.400	2.712,5	1.575

Individual organizations can group together and build unions or federations. For Fairtrade standards these organizations are then called 2nd and 3rd grade organizations. In this case the central structure and a sample of individual organizations are audited (minimum 3 and maximum 20 indivual member organizations). The exact sample number is calculated using the square root of the total number of member organisations. The fees for this type of organizations depend on the number of member organizations (see tables below).

6 1st grade is a legally formed small farmer organisation which is able to contribute to the social and economic development of its members and its communities and is democratically controlled by its direct members. The majority of members of the organisation are small farmers.

Certification fees for 2nd/3rd grade organizations in Euro (central structure)[7]

Type	Cat.	Indicator	Fees for initial audit (€)	Fees for renewal audit (€)	Surveillance audit (€)
2nd/3rd grade	A	Central Structure	1,500	1.137,5	787.5

Certification fees for 2nd/3rd grade organizations in Euro

Type	Cat.	No. of members	Fees for initial audit (€)	Fees for renewal audit (€)	Surveillance audit (€)
2nd/3rd grade Affiliated members	A	<50	900	700	700
	B	50-100	1,000	700	700
	C	101-250	1,100	787.5	700
	D	251-500	1,200	875	787.5
	E	501-1000	1,500	1,050	875
	F	>1000	1,700	1,225	962.5

During application and after getting certified, producers' organizations receive support from the Producer Business Unit (PBU) of FLO. This unit supports the producers' organizations in gaining and maintaining Fairtrade certification and in capitalizing on market opportunities. Furthermore, the PBU assists producer organizations on issues ranging from encouraging democratic development to finding markets for their products. These services are offered by FLO through approximately 26 Liaison Officers who cover 39 producer countries.

5.3. Current status of Fairtrade in Vietnam

FLO started its operation in Vietnam in July 2006 in a partnership with the Dutch INGO SNV. The main activities are providing information on Fairtrade; assisting producer in group certification; providing producer groups with market information; creating links between producer and traders; inform FLO about the market developments in Vietnam. The following products are currently eligible to get certified in Vietnam:

- Coffee
- Cocoa
- Cane Sugar
- Tea
- Juices: Grapefruit, lime, mandarin, orange, pineapple, guava pulp
- Nuts and oilseeds: peanut, macadamia, cashew, amazonia, and sesame

Nowadays, there are totally 4 FLO certified producer groups in Vietnam and 2 traders, 3 producer groups on tea (Thien Hoang Organic Tea Club, Van Chan Bio-Farmer Club) and 1 producer group on cashew (Duc Phu Agriculture Cooperative). The 2 traders are certified on tea, cashew and coffee (Vi-Vang Company and MDI Company). The joint stock company, MDI, is among the first international

[7] 2nd grade is a small farmer organisation formed by 1st grades (members) which are legally affiliated to the 2nd grade. The 2nd grade is democratically controlled by their direct members. The 2nd grade organisation provides central services for its members. 3rd grade is a small farmer organisation legally formed by their affiliated 2nd grades.

licensees, who are permitted to use FLO Fairtrade Certification Mark on their products to sell in the local market.

In comparison to the market demand and the potential of Vietnam as export country, the number of certified producers' organizations and traders is very small. In comparison, in Laos there are currently 3 certified groups and in Thailand there are 11. Among the reasons for the low spread of fairtrade in Vietnam there are: lack of information on Fairtrade and on market information for Fairtrade products, lack of skills (language); low organizational and management level of producers groups; lack of marketing skills of producers organizations; lack of awareness for social and environmerntal; and lack of awareness on quality standards.

To fulfill the Fairtrade standards, the following aspects are considered to be especially challenging for Vietnam

- Environment: overuse of chemical pesticide and fertilizers especially on cash crops; lack of knowledge about danger of chemical products; no information about international banned chemicals in the rural area; no real control in rural and remote areas on what kind of chemicals are used.
- Social: lack of information about labour requirements; no information about minum wage and working conditions; in rural and especially remote areas, child labour can be an issue since many families cannot afford school for children. Producers in Vietnam largely work individually. To organize farmers into group that promotes transparency and democracy is more difficult than it may sound.

5.4. Current status of Fairtrade in cocoa

Compared with the world market, the Fairtrade market volume for Fairtrade certified cocoa is still limited. In 2006, the total amount was nearly at 11,000 metric tons (MT) of dried cocoa beans. The biggest markets are located in USA, UK, France, Germany and Switzerland. Currently, there are totally 30 certified producers' organisations and 49 certified traders. The producers are from Peru, Ecuador, Dominican Republic, Nicaragua, Panama, Haiti, India, Ivory Coast, Ghana and Sierra Leone.

Fairtrade Cocoa Sales in Metric Tonnes

	2004	2005	2006
Austria	186	336	185
Belgium	120	147	296
Canada	118	231	311
Denmark	12	38	64
Finland	11	15	17
France	398	723	1.088
Germany	603	746	957
UK	1.626	2.238	2.947
Ireland	9	15	30
Italy	295	329	365
Japan		3	15
Luxemburg	29	34	37
Netherlands	177	175	224
Norway	2	8	5
Sweden	34	29	45
Switzerland	331	322	415
USA	249	251	3.864
Australia/New Zealand		20	38
Spain			39
TOTAL	4.201	5.681	10.952

The FLO cocoa product standards were recently updated. They define all aspects to be fulfilled by producers and traders (quality, price, premium, etc.). Below is an extract of the most relevant topics:

- Quality: Fairtrade cocoa should fulfil the FCC (Federation of Cocoa Commerce) quality standards. For example, good fermented quality is: maximum 5% slaty and maximum 5% defective (infested, mould, shrivelled) beans, with a bean size of basis 100g/100 beans and a maximum humidity of 7.5%.
- Long term agreement: in order to allow both sides a better planning and preparation of all business, agreed upon buyers and sellers will establish a long term and stable relationship in which the rights and interests of both are mutually respected. These long term agreements should be confirmed by the exchange of binding Letters of Intent not later than three months prior to harvesting time. Annual renewals should be confirmed at least three months prior to the expiry of the previous Letter of Intent.
- Prefinancing: on request of the seller (producers), the buyer (traders) shall make available up to 60% of the minimum value of the contract in credit facilities in favour of the seller upon the signing of a Letter of Intent, or at any date thereafter at the wishes of the seller, however at least six weeks prior to shipment. The corresponding interest charges shall be covered by the seller at current commercial interest rates (or better) in the country of destination. Payment and reimbursement of the loan as well as the interest rates shall be according to the terms and conditions mutually agreed upon in the separate credit contract.
- Fairtrade Minimum price: buyers shall pay producer organizations at least the Fairtrade Minimum price for Fairtrade standard quality cocoa beans as set by FLO at USD 1,600 per metric tonne (MT) FOB
- Fairtrade Premium: in addition to the Fairtrade Minimum price the buyers shall pay a Fairtrade premium as set by FLO. The Fairtrade premium for all standard cocoa qualities is USD 150 per metric tonne (MT) FOB
- Market: if the world market price for the specific origin or type of cocoa beans is higher than the Fairtrade minimum price, the world market price, which includes the quality differential shall apply and is fixed as follows: world market price + Fairtrade premium (USD 150.—per MT FOB) = Fairtrade price
- Premium and Minimum price for certified organic cocoa beans: the additional Fairtrade premium for certified organic cocoa beans, which is sold as such, is USD 200.--/MT. The minimum price for FT organic cocoa beans inclusive premiums is USD 1,950.-- / MT FOB.

- If market price for the specific origin or type of cocoa beans rises above USD 1,600, the prices for organic cocoa beans are calculated using the price scheme for standard qualities including the organic premium (USD 200).

6. Cocoa in the central highlands

6.1. Context

Before 2002, the present Dak Nong province was a part of Dak Lak. The two provinces lie in the south-western region of the Truong Son Mountain at an altitude of 500-800 meters. Fat basalt soil accounts for the large majority of land in the central highlands, leaving only a small percentage of land made up of granite and grey soil.

There are two distinct climatic seasons: the rainy reason from May to October, in which the rainfall in July, August and September make up 80-90% of the annual rainfall of 1600-2000mm; and the dry season which lasts from November to April of the next year. During these months, there is strong wind from the north. The average temperature is 22-23^{0}C.

Since 1975, the central highlands has been a "dream land" of sorts for many people and migrants from northern provinces have settled there either under state programs or through migrating freely. The current ethnic distribution is mixed (Kinh 71%; Ede 14%; Nung 4%; Mnong 4%; Tay 3%; Thai 1%; Dao 1%). Dak Lak and Dak Nong have long been famous for industrial crops such as rubber, pepper and especially coffee which has a global reputation for high productivity. The amount of coffee in the central highlands accounts for about 70% of the national production.

Besides the original ethnic groups like Ede and Mnong who still practice intensive farming and thus have low productivity, most farmers in the highlands have a relatively high cultivating level. Most plants are grown as monoculture crops and intercropping is rarely observed. Farmers and state plantations are currently applying highly intensive farming practices, using a lot of chemical fertilizers and watering in the dry season. As observed in the field trip, a monoculture coffee farm often has 1,100 trees and is fertilized with 3-4 tons of NPK. Some farmers even apply 5 tons per hectare. The fertilizer is applied 4-6 times per year, mostly in the wet season. In the dry season, fertilization is only applied when a plant is watered.

For many reasons, manure is not commonly used. As new land, the compost composition in the soil is relatively high, making the immediate impact of applying manure unclear to farmers. Additionally, it is time consuming to handle and farmers do not want to use it. Another reason is that the amount of animal manure in the central highlands is low, as livestock husbandry is under-developed. Cattle are generally grazed in the open field making it difficult to collect dung. The number of pigs and poultry is lower than that of other provinces. Though there is a large amount of organic matter from the coffee husk, farmers are not used to making compost. A large amount of coffee husk is incinerated, resulting in a loss of useful characteristics of this organic source. In old coffee farms where chemical fertilizers have been used for a long time, the soil content is destroyed by erosion and its fertility is significantly reduced. Though most farmers have recognized the importance of adding organic matter to their farms, they found it hard to buy animal dung and thus could apply only once (3-5 tons/ha) in every 2-3 years. Now most animal manure is reserved for pepper, as the price is high enough to cover the expense.

The technique of making compost has not become popular yet. Manure is just put in heaps for future use. Only a few farmers add green waste (grass, plant matter) and coffee husk to their manure pile. By practicing this technique, these farmers are trying to increase the fertilizer volume with little knowledge that this could actually enhance the fertilizer quality. Whenever, they find it difficult to find green manure or labor, they stop using this compost making technique.

Coffee farms are often watered 3-4 times in the dry season. To stimulate the flowering of coffee, a huge amount of water (about 800m^3/ha) is needed 1 or 1.5 months after the beginning of the dry sea-

son. Subsequent waterings are done every 25 to 30 days, using 400 – 500m^3 each time. The amount of water used for coffee seems to be exceptionally high, causing the ground water levels to drop quickly. However, there has been no thorough study on the impact of watering coffee on the natural resources. Water is often pumped from wells, or even more regularly from nearby ponds or lakes.

Weeds on coffee farms are often cleared with herbicides (Glyphosate) or uprooted by hand. All grass and pruned branches are completely burned. This practice could protect coffee trees from nutrition competition with unwanted plants and limit the shelter of pests. However, it is not environmentally friendly because it facilitates soil erosion and water evaporation in the dry season, making the top soil layer compact and less fertile. At present, organic matter is not generally used to cover tree stumps, as this practice might attract termites and white ants to build nests.

Insecticides are heavily applied on coffee to destroy the main pests such as stem borers, aphids and ants. Chemicals used are compounds of Cypermethrin, Dimethoate, Diazinon, Carbofuran, Methidathion or Fipronil. To cure plant diseases such as drying branches, rusting or rotting roots, Metalaxyl, Propiconazole are often applied.

With the above-mentioned cultivating techniques, the productivity of coffee in Dak Nong and Dak Lak is generally very high with the average yield of 4 tons/ha, or even 5-6 tons/ha in some special farms. Harvesting and processing coffee is laborious, about 120-150 labor-days/ha. Labor is the most expensive component of production costs. In the harvesting season, it is very difficult for coffee farmers to find workers who often come from poor provinces on the central coast such as Ha Tinh, Quang Binh, Quang Ngai and Binh Dinh. These workers are contracted for one or two months and then return to their home province. With the increasing industrialization and urbanization, coffee farmers will find it more and more difficult to find workers and the increase in production costs will be unavoidable in the next few years.

6.2. Background information of cocoa in the highlands

In the 1980s, Dak Lak increased its cocoa growing area, mostly in Lak district. In this time, two technicians were sent to Cuba to learn cocoa cultivation techniques. As explained by local extension people, the cocoa areas of Dak Lak in the 1980s were 1000 hectares. However, with the difficulty in getting access to world markets, cocoa trees were gradually felled. In 1999, under the framework of the cocoa development program of the World Cocoa Foundation, DANIDA (in cooperation with NLU), many cocoa models were established in Dak Lap, Dak Min, Krong Bong, Cư M'nga, Ma Drak, Krong No, Ea Ka and Lak districts. Cocoa varieties grown in this period were mostly hybrids imported from Malaysia. Cocoa was grown as monoculture with temporary shade trees like crotalaria and banana. Except for some integrated model of cocoa and cashew, most farms were not successful because farmers did not invest proper care and maintain sufficient shade and hedgerow trees.

In 2001, GTZ sponsored a project with NLU to examine the efficiency of hybrid cocoa models established in the DANIDA program and then developed new models based on these.

In 2002, ED&F Man Company launched its cocoa development program in Dak Min district. Cocoa trees were grown in suitable land where soil is fertile and there is no coffee due to the shortage of water (cocoa needs less water than coffee). In this program, ED&F Man and NLU provided clone seedlings to cocoa farmers and signed contracts to buy all cocoa beans. As a result of this program, a set of new, high-yield cocoa varieties were introduced to the central highlands on a large scale. Many farmers started to grow cocoa to replace old coffee trees. Krong Ana Company planned to transfer 500 hectares of old coffee plantations heavily affected by diseases to cocoa.

In 2003 a PSOM program was carried out using the sponsorship of the Dutch government, Mars and Cargill corporations. In this program, the NLU was in charge of technical training for farmers on cultivation, harvest and fermentation to ensure high quality cocoa bean. Cargill has established a buying system with networks in many districts. The company has also signed buying contracts in which fertilizer was provided to cocoa farmers.

In 2007, the SUCCESS program sponsored by the U.S government started its operation in Lak and Ear Ka districts. In this program, 42 farmer groups have been set up with the participation of 1,560 farm households. These farmers are to be provided 150 cocoa seedlings and technical training on growing and processing cocoa. The training will be done monthly over the next two years.

In addition to these above mentioned programs, agricultural extension programs of the provinces have built up 30-50 hectares of integrated cocoa-cashew models in districts which have large cashew areas.

6.3. Current status of cocoa in the highlands

6.3.1. Planting area

As the survey results show, the cocoa areas of Dak Lak and Dak Nông are 1,850 ha and 650 ha respectively. Some state-owned companies have transferred some areas from coffee to cocoa.

- Coffee and cocoa company 300 ha
- Buon Ho coffee company 144 ha
- Thang Muoi coffee company 150 ha
- Duc Lap coffee company 160 ha

A cocoa farm in Dak Lak

6.3.2. Planting materials

In the past, cocoa variety did not receive proper attention from research and development programs. Farmers often took seeds from larger fruit to plant seedlings. This was an ineffective method because cocoa is a cross-pollinating tree, so young seedlings do not have the same characteristics as the mother tree. As a result, the yield and quality of the next generation is uncontrollable. All cultivars in the 1980s were made in this way. In 1998, in the WCF-NLU joint project, many good hybrids were imported to Vietnam from Malaysia. F1 generation of these varieties developed well in demonstration models. However, a small ratio of young seedlings gave low yield and quality, although the selection had been done properly.

Also in the WCF-NLU joint project, many varieties from clones were imported and tested in Dak Lak and Dak Nong. These clone varieties have proved to be much better than the hybrids. At present, high yield clones have been grown in all newly established cocoa farms. If planted as monoculture and technical guidelines are properly maintained, these varieties can result in an average productivity of 3-5 tons/ha, bean counts less than 100 and fat content is higher than 52% to meet the 1A cocoa standards of Vietnam as well as of the world.

6.3.3. General practices

The cultivating techniques of cocoa are relatively similar to those of coffee, thus cocoa farmers are generally able to apply guidelines properly in soil preparation (clean the soil surface), hole digging (50cm x 50cm x 50 cm), fertilizing (organic matter and NPK), watering and maintaining proper tree density (3 m x 3m). However, the biggest difference in growing cocoa from coffee is maintaining shade and hedgerow trees. These are two very important factors for a successful cocoa farm during establishing and production phases. The most popular shade tree and wind break systems in Dak Lak and Dak Nong are as follows:

- Temporary shade trees: *Crotalaria* are planted in intercropping lines between cocoa lines or around cocoa trees (70 – 80cm away). Crotalaria can be planted at the same time with cocoa or 1-2 months in advance. If the canopy is not big enough to shade the cocoa, farmers can use leaves or fertilizer bags as temporary shade. In some farms, cocoa trees are grown under the canopy of coffee trees which are then gradually cut down as the cocoa grows. Other varieties such as Hopera, mahogany, and Sophora japonica are also used as shade trees. Cocoa can also be intercropped with cashew trees in sandy land.
- Permanent shade trees: it is popular to grow lead trees (*Leucaena leucocephala*) in intercropping with cocoa in a density of 3m x 3m during the establishment period; in production period, the density can be reduced to 6m x 6m. Some other trees like *Hopea odorata, Khaya anthotheca* and *Styphnolobium japonicum* can also be used as shade trees.
- Wind break: Growing hedgerow trees is compulsory in the central highlands because the wind speed in this region is much higher than the strength of cocoa trees. The most popular hedgerow tree here is *Cassia siamea,* which is also planted on coffee farms. These hedgerow trees are often planted around a farm or facing the strong wind direction. Lacking good wind break plants is the main failure of cocoa farms in the central highlands.

6.3.4. Fertilizer

As cocoa is a new crop, most farmers have not obtained sufficient experience in fertilizer application. The following formula is often suggested:

- From the 1st to the 3rd year (the establishment period): each tree is fertilized 200g, 400g and then 600g respectively. NKP 16 – 16 – 8 is often applied.
- In the 4th year and after (the production period): each tree often receives 600-1000g of NPK in which the nitrate content is reduced lower or equal to P or K amount such as NPK 15-15-15 and 10-20-20.
- Organic fertilizer is hardly used: except for a small amount of microorganism phosphorous fertilizer (0.5-1 kg/tree), farmers seldom apply organic fertilizers to cocoa. Some farmers in Cum Mnga and Eak Ka use the remains of corn ear or coffee husk to mulch cocoa farms and observed that covered trees developed better and had much higher yield than normal farms.

6.3.5. Mulching

So far, the Thang 10 Company has used rice straw to cover 150 ha of newly planted cocoa and similarly the Buon Ho coffee company used plastic cover their plantations. However, the technique is not popularly applied in other cocoa farms. The main reasons are lack of knowledge about mulching, insufficient supply of mulching materials and concerns that termites may nest under cocoa roots and attack the young trees in their 1st and 2nd years.

6.3.6. Irrigation

Cocoa trees generally need watering in the dry season. Watering is significant in the first few years when the root systems of the plants are not well developed. At present, young cocoa trees are watered

in the same manner of that in young coffee; every 15-20 days. When the shade trees on a cocoa farm have not grown sufficiently and when cocoa are planted late, watering frequency should be reduced. In this case, farmers have to pay more labor and fuel. The fact that cocoa trees are not covered has made this matter worse. In Dak Lak only the Thang 10 coffee company has a spraying watering system, other farms use plastic pipes to water individual trees. The area around a tree is dug into a hole to absorb as much water as possible.

6.3.7. Planting season

Like other industrial crops, the most suitable time to plant cocoa is at the end of June or early July when there are daily rains. If planted in the right period, cocoa trees can develop well and are able to bear drought in the subsequent dry season. However, cocoa in the central highlands are often planted late between August and October. The main reasons for late planting are plant propagation and nursery management. When clone varieties are used, grafting cocoa trees require two consecutive steps (1) grow the root stocks in 2-3 months and then (2) graft and care for the scions for 3-4 months. In order to plant cocoa seedlings in time, the grafting should be started in October or November of the previous year. Unfortunately, this is the coffee harvesting season and labor is generally in shor supply. Unable to find labor, cocoa farmers often start the grafting in January or February. In these months, the weather temperature is often low; resulting in slow growth rate of cocoa seedlings and the trees need more time to grow.

6.3.8. Pests and diseases

The main pest in the central highlands is mirid bug (*Helopeltis antonii)*. The bugs attack young shoots and thus make them dry. Besides, they also attack young fruits, making them dry and/or deformed and thus facilitate the development of other diseases on cocoa fruits. Pesticides of Cypermethrin and Dithroate origins are often sprayed to kill mirid bugs. However, this practice also has a harmful impact on natural pest control such as black ants or jumping spiders Phidippus sp. As farmers are not well informed of effective environmentally friendly techniques, they continue with this harmful and inefficient practice. In addition to mirid bugs, other pests can be found on cocoa farms. They include mealy bugs *(Pseudococcidae**), soft mirid** (Brevicoryne brassacicae*), stem borers *(Xyleborus morstatti), Adoretus sp* and *Zeuzera coffeae.* However, these pests do not cause much damage. As rainfall in the period between July and September is very high, the humidity is generally high on cocoa farms, especially if the canopy has not been pruned properly. High humidity encourages the development of Phytopthora disease which often attacks cocoa fruits, turning them black in a few days. Phytopthora can reduce cocoa productivity by 50–80%. To control the disease, chemicals of either copper or the following are often applied: Metalaxyl (Ridimil, Mataxyl, and Rampart), Fosetyl-Al (Aliette, Alpine, Fungal).

6.3.9. Harvest and fermentation

The quality of the cocoa bean is affected by 4 elements: variety, environment, pest and post-harvest technology; in which post-harvest technology is an important factor. The post-harvest technology for cocoa is different from that of other industrial crops. At present, the popularly applied processing techniques are taken from the NLU guidelines. This requires the following procedures:

Harvest:

- Fruits are harvested periodically when they are fully ripe. Avoid breaking or bruising fruits. Use scissors so that other flowers are not affected.
- When harvesting, cut down diseased fruits and bury.

Pod storage:

- Good fruits (neither affected by diseases, broken nor bruised) are stored in well ventilated places for 7-9 days.

- At least 500kgs of fruits are required for each fermenting batch to ensure good quality beans.

Pod breaking:

- Fruits are broken and cocoa beans are taken from the pods.
- After removal from a pod, cocoa beans needs to be fermented within the day.
- The amount of bean should be big enough. At least 50kgs of fresh bean are required for a batch.
- Cocoa pods need to be dumped into a hole to prevent the dispersion of diseases and insects.

Fermentation:

- Cocoa bean is fermented in wooden boxes with an inside height of about 50 cm, length and width can be adjusted to suit the quantity of bean. The bottoms of fermenting boxes should have holes for the drainage of water.
- Fresh bean is put into a box until reaching a height of 45 cm. Cover the beans with banana leaves or jute bags to keep temperature up.
- It is critical to maintain a high temperature in a fermenting box to ensure the quality of the final produce. Fermenting boxes are not permitted to get access to rain water. If the outside temperature is low, use more jute bags to keep the temperature inside high.

Removing beans from cocoa pods

Turning:

- The fermentation often lasts 5 – 6 days, depending on the temperature inside a fermenting box.
- In a 6 day process, the fermented bean needs to be mixed up twice: once after 48 hours and another after 96 hours.
- The purpose of turning is to improve the ventilation and uniformity of the bean mass, advoiding development of mold on the bean surface.
- After the bean is mixed up, the temperature inside a fermenting box increases quickly to 48 – 500C. A fermentation is considered successful if the mass reach the temperature of 48 – 500C during the fermentation.

Drying:

- On the sixth day, fermented beans can be removed from a box and then dried in the sun without cleaning. Beans are spread in two layers on a bamboo screen which is put high above the ground to facilitate ventilation and ensure hygiene. Cover the beans if it is raining.
- Fermented beans should be sun dried for 5-10 days until the moisture content is 7 - 8%.

Bean storage:

- Dry cocoa bean should be kept in dry, well-ventilated places away from bad odors.
- As cocoa bean can easily absorb odors from the surrounding environment, it should not be placed near sources of smoke, insecticide, fuels or

animal stables. If beans are stored for a long time, it is advised to dry it again to prevent mold development.

So far, these post harvest procedures have been delivered to many cocoa farmers and collectors through different programs of the NLU, PSOM, ED&F Man, Cargill, and of the provincial extension systems. In the 2006-2007 cropping year, Cargill exported more than 100 tons of cocoa bean. Bean quality has been analyzed with the following results:

Analysis results of cocoa bean in 2006-2007 (Cargill Company)

- Moisture content 7.5 %
- Bean count 97
- Fat content 56.6 %
- PH 5.13
- Free fatty acid 1.67 %
- Moldy bean 1 %
- Slaty bean 0 %
- Cluster 0.9 %
- Shell content 17.5 %
- Insect damaged bean 0 %
- Germinated bean 0 %
- Flat bean 0.2 %
- Broken bean 1.4 %
- Foreign matters 0.4 %

The results showed that all exported cocoa bean met the highest standard (1A, see table here below) of the Vietnamese standards on cocoa quality published in 2006. This is the results of significant effort from different stakeholders in the cocoa value chain such as scientists, extension workers, collectors, traders and farmers.

Table 2: Vietnamese standards on cocoa quality

PARTICULARS	1A	1B	1C
Bean count	< 100	< 110	< 120
Moisture content	Max 7,5 %	Max 7,5 %	Max 7,5 %
Slaty bean	Max 3,0 %	Max 3,0 %	Max 3,0 %
Moldy bean	Max 3,0 %	Max 3,0 %	Max 3,0 %
Broken/Insect infected/ Germinated bean	Max 2,5 %	Max 2,5 %	Max 2,5 %
Foreign matters	Max 2,0 %	Max 2,0 %	Max 2,0 %

6.4. Stakeholders' analysis

The value chain of cocoa is rather similar to that of coffee with the following main stakeholders:

Cocoa farmers

- Small households
- State-owned companies

Most farmers are able to process cocoa beans by themselves and then sell dry cocoa beans to a local collector or to a branch of an exporter.

Local collectors

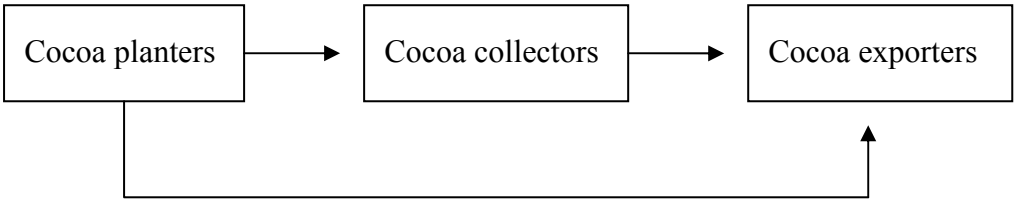
In most cases, local collectors are also cocoa farmers. These people buy dry bean as well as fresh pods from farmers in their own communes. When fresh pods are purchased to a sufficient quantity, a collec-

tor will ferment and then sell dry beans to an exporter's representative. So far, all collectors have been able to undertake fermentation correctly.

Exporters

Most coffee traders such as OLAM, ED&F Man, CARGILL, ARMAJARO, and TOUTON also buy cocoa and are currently monitoring closely the development of the cocoa industry in Vietnam. So far, ED&F Man and Cargill are the two main cocoa exporters. Cargill has established a buying station in Buon Ma Thuot city and organized a buying network covering most cocoa districts in the highlands. In comparison, ED&F Man have made use of its existing coffee buying system to buy cocoa. The buying price of cocoa beans is posted daily by Cargill and ED&F Man respectively. The two companies have their own ID code on each cocoa bag to ensure produce traceability. Dry beans are classified into different grades and packed in jute bags with the common weight of 62.5kgs/bag. So far, there has been no local cocoa exporter. However, it is expected that more stakeholders will participate in the cocoa value chain in the next few years, once the trading volume is sufficiently large.

Summary of the cocoa value chain



6.5. Awareness of environmental friendly production

- Farmers: they appear to be aware of the concept of organic or environmentally friendly production but do not know the details. The use of chemical inputs (especially ferilizers) is very high. Organic manure is mostly imported from other provinces and usually used on pepper.
- Cooperatives: one cooperative in Dak Lak province, the Thang Muoi cooperative, is introducing the UTZ coffee certificate supported by a GTZ project co-funded by Nestle across 450 hectares. If successful, each ton of coffee will be sold for 40USD more than normal. The leaders of the company strongly believe that this project is feasible because coffee yield will increase due to using better planting materials and costs will be reduced due to the reduction of chemical fertilization and irrigation. The biggest difficulty, they said, was in being able to monitor sufficiently closely, provide training and there being a consistently high price. However, in referrence to organic cocoa they were hesitatant about price and the reduction of cocoa yield if organic farming were to be used.
- Exporters: To date only two cocoa exporters are active in buying cocoa, ED&F Man and Cargill. The representatives of both companies expressed an interest in certified products. For the representative of ED&Man, the certification cost of both Fairtrade and organic would be a major problem. The representative of Cargill was already aware of the market opportunity for organic cocoa. However he expressed some doubts about the feasibility of organic farming in the Mekong Delta.
- National and local Government: at national level, the director of the National Agricultural Extension Center is also the chairperson of the Cocoa development commission. He verbally expressed his interest and also support for an organic and Fair Trade project for cocoa. Cocoa farming is still a small and recently developed sector. The support via a project would be very welcome. At the local level the provincial people's committee (PPC) and the line departments such as Department of Agriculture (DARD), the extension centers and Department of Planning and Investment (DPI) are interested and open to discussion on the possibilities to support a project. However in the case of the central highlands they ex-

pressed their doubts about whether the farmers would be willing to switch from coffee and pepper to cocoa.

6.6. Assessement for Fair-trade in the central highlands

Economic development requirements

- Cocoa growers are among the poorest in the province. The current cocoa price is high, but cocoa is a relatively new crop and farmers are not sure about the stability of that price. The mid term price stability of cocoa could be an important issue for farmers. However, cocoa still plays a very minor role in comparison to the other well established cash crops such as coffee, pepper and rubber.
- Although in 2007, the SUCCESS project helped to set up 42 farmers' groups with the participation of 1,560 households, these groups were set up mainly for training purposes. These groups have not yet met all requirements needed for a FLO certification.
- Fairtrade is generally unknown to the current cocoa and coffee producers and a thouroghly organised information campaign should be performed.
- Currently, farmers sell pods or dried beans individually to local collectors. They have no experience in selling products as a group.
- Farmers do not engage in exporting. They do not have logistics and communication equipment. Most farmers speak Vietnamese only.
- Cocoa is mainly produced for the export market. There are some cocoa transforming processing units for the production of butter, cocoa powder and chocolate. Currently only one of these processing units is using locally purchased cocoa beans. The others are using imported cocoa powder.
- Most of the international companies involved in the coffee trade are present in Vietnam. As the cocoa market is still small only two of these companies, Cargill and ED&F Man are buying and exporting dried cocoa beans.
- Some FLO certified traders show interest for Fairtrade cocoa produced in Vietnam. If organic is added to the Fairtrade certification the market is more favorable and bigger.
- The cocoa market is still small in Vietnam and there is a competition in cocoa collection. The production is new and for the moment limited. For the establishment of a Fairtrade value chain, the commitment of the current two main cocoa purchasers Cargill and ED&F Man is certainly necessary. Farmer's groups are nonexistent or very new and the existing one have no experience in export.

Environmetal development requirements

- The use of chemicals in the central highlands on cash crops, such as coffee, is really intensive. There is the risk that the cocoa farmers will apply the same procedures as in coffee once they decide to plant cocoa.
- However, it seems that there are no banned chemicals, nor genetically modified varieties actually used in cocoa.
- In the cocoa clubs supported by the SUCCESS project, inetegrated pest management (IPM) methods are supported and recommended. This is very positive.
- One of the major concerns about the technical feasibility of cocoa in the central highlands is wind protection. Without careful protection, the wind will detrimentally affect the yield.

Labour condition requirements

Cocoa does not require huge processing facilities. The processing of cocoa which consists of seperating the pods, fermentation and drying can be done at household level with the existing labor force. No child labor at household level has been observed and children including girls are in most of the cases sent to school.

7. Cacao in the Mekong Delta (Ben Tre and Tien Giang)

7.1. Context

Ben Tre and Tien Giang are two of the 13 provinces of the Mekong Delta. The two provinces lay along the Tien River which is a large tributary of the Mekong River. The topography of this region is relatively flat with scattered dunes in rice fields. The system of canals and waterways are densely integrated; all flow into estuaries such as Tien, Ham Luong, Co Chien or Ba Lai. There is a tropical monsoon climate; the wet season is from May to October and the dry season occurs from November to April. The average annual temperature is 26 – 27^0C and the rainfall is 1250 – 1500mm per annum.

The two provinces are known for tropical fruits such as citrus trees, mango, longan, dragon fruits, rambutan, durian, mangosteen, star apple, sapodilla, and guayava. In particular, coconuts account for large areas: 40,000 ha in Ben Tre and 10,000 ha in Tien Giang respectively. There are generally two kinds of cultivated land (1) flat and deep land for rice cultivation and (2) orchards for fruit production. Fruit orchards are often transformed from rice fields which are low enough to be flooded in rainy months. In order to grow fruit or crop plants, such fields need to be raised up into dikes, taking soil from a nearby ditch. If the land is not so deep, wide dikes are often made and if the land is deep, narrow dikes are preferred.

A typical dike is often 6-12 meters wide. On these dikes, perennial trees are planted in either a single row in the middle of a dike or a compound row along the dike. Between dikes are ditches which are jointly connected and then flow into a river. Under the impact of rain water or irrigation iron and copper sulphates, together with other kinds of heavy metals, are deposited into a ditch and then run into the river. In this way, land affected by iron or copper sulphates can be cleaned up making it suitable for the cultivation of different types of crops. In the rainy season, ditches in a garden can receive allevium from a river. Alluvial soil accumulates in the bottom of ditches and is then removed to dikes in the dry season to provide supplementary minerals for the crops. The survey results have revealed that water quality in this region is generally good; the levels of heavy metals are within safety limits.

The above table shows that poisonous heavy metals like Cadmium (Cd) are not present in the water sources of this region. Due to the special system of combined canals and ditches in the Mekong Delta, soil in this region is generally very fertile and thus rich agricultural production systems have long been formed. Despite the rich land and high productivity, farm income in the Mekong Delta is relatively low, mostly because of the high population density. On average, a farm household of 5 people often has only 2000-5000m^2 cultivated land. The area per farm is higher in Tien Gian than in Ben Tre province. The farm income highly depends on the cultivated crops and as we will see later on in this chapter the crop diversity is very high. Generally most of households rely also on off fram incomes and on off farm assets is possible to say that the small areas in the regions normally does not allow an appropriate income and that most of the farmers have to get extra incomes for their living.

Table 3: Quality of surface water in Tien Giang province

No	Code	Places	Total of Dissolved Solids (mg/l)	Inorganic elements (mg/L)				Organic elements (mg/L) (mg/L)				Heavy metals			
				pH	EC and S/cm	Salinity mg/l	Hardness mg Ca-CO3/l	Ammonium NH4	Nitrate NO3	Nitrite NH4+	BoB	Cadmium Cd	Chromium Cr	Arsenic As	Zinc Zn
1	TG 503	Tân Tây (pond)	150	7.2	0.7	580	175	0.05	5	0.05	0	0	0	0	0
2	TG 506	Long Hòa (ditch)	95	7.1	0.1	106	62.5	0.05	5	0.05	0	0	0	0	0
3	TG 604	Lương Hoà Lạc (canal)	100	6.9	0.2	140	75	0.05	10	0.05	0	0	0	0	0
4	TG 607	Tân Mỹ Chánh (field)	97	6.9	0.2	127	68.8	0.05	5	vệt	0	0	0	0	0.01
5	TG 608	Thân Cửu nghĩa (canal)	110	6.4	0.3	235	100	0.05	10	0.01	0	0	0	0	0

Source: Analyzing Department – Southern sub-institute of Agricultural Planning

To survive, farmers in the region have created a cropping system in two manners: subsistence farming as well as commercial production. For self subsistence, farmers often grow vegetables and medicinal herbs in small quantities. In contrast, they grow fruit trees for commercial purposes, applying intensive farming practices in which chemical fertilizers, insecticides, and herbicides are applied in high levels.

However, coconuts are generally planted extensively with very little fertilizer and watering. The most common density is about 200 – 300 trees/ha. Coconut is a traditional crop and has become the symbol of Ben Tre province. In addition to copra, the white and edible part of the fruit, other parts of the coconut tree are very useful. Coconut juice is a fresh drink, husks are used as fuel or mulching material, or alternatively, as bases to grow orchids or other ornamental plants. Coconut trunks are widely used in the construction industry. Fibers from the husk of the coconut are used in ropes, mats, brushes, caulking boats and as a stuffing fiber; it is also used extensively in horticulture for making potting compost. The leaves provide materials for roofing thatch, mulching and fuels. Hard shells can be used for handicrafts, as fuel or as source for charcoal.

In the past few years, coconut trees have been greatly damaged by the attack of a pest, the coconut hispine beetle (Brontispa Longissima Gestro), which feeds on young leaves and damages seedlings and mature coconut palms, resulting in significant yield reduction. Many types of insecticides were trialled, either by spraying the canopy or by injecting the coconut trunk. These efforts were not successful until the IPM program of the plant protection department of NLU in which parasitoid Asecodes hispinarium was introduced to Ben Tre and Tien Giang, this successfully controlled the number of hispine beetles. The program has raised farmers' awareness on the benefit of protecting natural enemies of pests for the benefit of agricultural cultivation.

In a relatively small farm, many types of plants ranging from vegetables and herbs to fruit and industrial trees can be observed. Husbandry is also popular, mainly with poultry and small animals like pigs or goats. Cattle are seldom raised, except for the Cho Gao district of Tien Giang province.

Table 4: Different types of plants observed in a home garden in Chau Thanh district, Ben Tre province

Common name	Scientific name	Common name	Scientific name
Durio zibethinus	Durian	*Nephelium lappaceaum*	Rambutan
Morinda citrifolia	Great morinda	*Dimorcarpus longan*	Longan
Sesbania grandiflora	Agati	*Chrysophyllum cainito*	Star apple
Dimorcarpus longan	Longan	*Malpighia glabra*	Acerolla
Garcinia mangostana	Mangusteen	*Averrhoa carambola*	Carambola (star fruit)
Spondias pinnata	Spondias	*Manilkara achras*	Sapodilla
Polyscias fruticosa	Polyscias	*Annona muricata*	Sour sop
Polyscias fruticosa	Polyscias	*Cymbopogon citrates*	Lemongrass
Lansium domesticum	Langsat	*Curcuma domesticum*	Yellow ginger
Baccaurea ramiflora	Burmese grape	*Zingiber officinale*	Ginger
Artocarpus heterophyllus	Jackfruit	*Flemingia macrophylla*	Plemingia
Artocarpus heterophyllus	Jackfruit	*Carica papaya*	Papaya
Mangifera indica	Mango	*Paederia tomentosa*	Paederia scandens
Citrus grandis	Pomelo	*Alpinia purpurata*	Red ginger
Mentha arvensis	Corn mint	*Piper longum*	Piper lolot
Ocimum basilicum	Sweet basil	*Ipomoea aquatica*	Water spinach
Allium ascalonicum L	Green onion	*Capsicum annuum*	Chilly
Eryngium foetidum	Saw-leaf herb	*Centella asiatica*	Asiatic pennywort
Glycine max	Soy bean	*Perilla frutescens*	Green shiso
Psidium guajava	Guava	*Cymbopogon winterianus*	Lemon grass

Ditch-dike system in Tien Giang

Cocoa planted among banana, sesbania, mangusteen, orange, spondias in a home garden in Chau Thanh, Ben Tre.

Farmers in Ben Tre and Tien Giang are famous for the cultivation of fruit and ornamental trees. Seedlings from the two provinces are purchased in almost all the other southern provinces. Many farmers are highly skilled in asexual plant propagation techniques such as grafting, cutting, and layering.

As both provinces are accessible to the China Sea coast, they are affected by tide and sea water. Water sources of regions close to the sea are somewhat saline in the dry season. Coconut is the main crop of

these areas because of its tolerance to salty water. In the upstream regions where water is fresh, crop systems are much more diverse.

Cultivating techniques vary from region to region and depend on the crops. Fruit farmers often apply highly intensive techniques, using fertilizers, insecticides and watering in dry season. In contrast, coconut farmers use extensive farming techniques, with little chemical inputs or watering. Farmers in Cho Gao district, Tien Giang province have been very successful in applying VAC models which means "Vuon Ao Chuong" (Garden - Fish pond – Livestock system). Pigs and cattle are raised in almost all households. In some breeding farms, chickens are raised in large numbers, ranging from 2,000 – 15,000 fowls/farm.

As a result of the development of livestock raising, animal manure is readily available, not only to meet the local demand, but also for surplus to be sold to other provinces in the south east like Binh Phuoc, Binh Duong and Dong Nai. Cow dung is often dried and stored in heaps without adding any organic materials because rice straw and grasses are used to feed cattle and also because of the lack of labor. Chicken manure, mainly obtained from breeding farms, is usually packed in nylon bags and then sold to local farmers or transported to other provinces. Pig manure is mostly used in a farm in the following ways:

- Dumped in ditches to gradually decompose and then pumped into home garden.
- Dumped directly in fish ponds.
- Dumped in the biogas cellar and then used as organic fertilizer or fish feed.

A typical intercropping model in a farm household in Cho Gao (Tien Gian province) often includes:

- 3-10 cattle
- 10-20 pigs
- 1000-2000 m2 of elephant grass for cattle
- 500 – 1000 m2 of fish pond
- 4000 – 7000 m2 of fruit trees (dragon fruits, mango, coconut, and banana)
- 2000 – 4000 m2 of rice fields

Besides from animal husbandry, organic fertilizer is also available in form of plant material. Water hyacinths are abundant in most ditches and canals. This is a very good source of green manure, but unfortunately, local farmers have not recognized the benefit of water hyacinths in making green manure. In some dragon fruit farms, water hyacinths have been used as mulching materials and so far brought good results. Organic materials from the pruning are also not used properly. Most farmers put the cut branches in piles for gradual drying and decomposing. Some just simply burn them.

Cattle in Cho Gao district, Tien Giang province

Water hyacinth in a ditch in home garden. Source of organic matters

Dragon fruit are cultivated in a large area of about 1700 ha. Some farms are practicing EureGAP (Good Agriculture Practice for Europe) model and applying for the certificate. Many farmers have paid attention to this program, saying that certified produce can easily be accessible to niche markets at a much higher price than that of conventional fruits. In conventional farms, growth hormones like Giberellins are often injected into the fruits to make them bigger. Similarly, insecticides are heavily applied to destroy pests and pathogens. The EureGAP program has brought a good opportunity for farmers to get access to good agricultural practices, which are environmentally friendly and ensure fruit safety.

Dragon fruits applying EureGAP standards in Cho Gao district, Tien Giang province

7.2. Background information of cocoa in Ben Tre and Tien Giang

The development of cocoa in Ben Tre and Tien Giang has similar milestones to those in other provinces. In the 1980s, cocoa was introduced into the two provinces in a large scale, but chopped down in the next few years due to the lack of availability of a market. Previously, some farmers in Ben Tre had started growing cocoa in the 1960s with cultivars imported from the U.S. However, these trees did not develop well because of hardship during the war. At present, in Tien Thuy commune, Chau Thanh district, there are still some cocoa trees being grown dating from the 1960s. These trees are in good condition and still bear fruits.

In 2000, the cocoa program of Nong Lam University (NLU) established three combined cocoa and coconut models in Tien Thuy commune, Chau Thanh district, using F1-hybrids and clone cultivars. Results of these models revealed that cloned cultivars gave high productivity and could then be used as planting materials for other future projects afterwards. In 2002, the seedling project of ED&F Man was carried out on 50ha of An Khanh commune, Chau Thanh district. In this program, the company signed buying contracts and guaranteed to purchase all cocoa bean produced by participating farmers.

The SUCCESS program sponsored by USDA and USAID started its operations in Ben Tre in 2004 and in Tien Giang in 2005. The 3 main components of the program were:

- Provide technical training for cocoa farmers
- Increase cocoa growing area
- Support to set up purchasing network

The SUCCESS program took advantage of the experimental results of the NLU such as cultivars, intercropping models, cultivating techniques and applied these techniques on a larger scale. The project operated in Chau Thanh and Giong Trom districts of Ben Tre province; and in Cho Gao and Go Cong Tay districts of Tien Giang province. As a result of this program, the cocoa growing areas in the two provinces have increased considerably.

Table 5: Cocoa area in Ben Tre province in 2006

TT	DISTRICT	COCOA PLANTED AREA (in ha)
1	Chau Thanh	1,453
2	Binh Dai	15
3	Giong Trom	434
4	Mo Cay	98
5	Downtown	1
6	Cho Lach	2
	TOTAL	**2,003**

7.3. Current status of cocoa in Ben Tre and Tien Giang

7.3.1. Planting materials

Like other provinces, Ben Tre and Tien Giang have three types of cocoa cultivars including (1) unidentified trees, (2) hybrids from selected parent trees and (3) commercial clones. At present, the commercial clone cultivars account for more than 80% of the total growing area. Farmers have been encouraged to use commercial clones and to improve existing unidentified and hybrid trees by grafting clone cultivars onto existing limbs. So far, MARD has officially recognized 8 clone cultivars named TD1, TD2, TD3, TD5, TD6, TD8, TD10, and TD14. The two cultivars TD9 and TD11, though not officially recognized by MARD, have been widely accepted by farmers because of their good growth and high productivity.

7.3.2. General practices

The ecological conditions of Ben Tre and Tien Giang are very suitable for cocoa in the establishment period. Wind speed is generally not so strong, shade under the coconut canopy is sufficient for young cocoa and fresh water is available all year round owing to the integrated canal and ditch system. Mulching materials from organic matter, such as coconut leaves and husks, water hyacinths and rice straw are ready for use.

Affected by salt water, cocoa leaves are burnt at the edges

The main difficulty for young cocoa in the establishment period is nutritious competition with coconut. To support the development of young cocoa, it is advised to frequently cut off coconut roots in areas around a cocoa tree. In the business stage, the root systems of cocoa have sufficiently developed and cocoa trees are able to compete with coconuts. Water affected by saline and/or metal sulphates in the dry season is another constraint for cocoa development. As the survey results, cocoa trees can be tolerant to a saline content up to 0.4%, but the edge of young leaves might be slightly burnt. This symptom generally disappears after a few early rains.

7.3.3. Plant density

If intercropped with coconut, the most suitable density is 500-800 cocoa trees per hectare. In the first two years, cocoa trees in such density often develop well if the number of coconut palms is about 250-300 plants per hectare. However, when cocoa trees are fully grown, such density becomes unreasonably thick and thus needs to be reduced. When sunlight is not enough, cocoa branches do not develop well, becoming long, soft and drooping. These symptoms make it hard to take care of the plants and greatly reduce the yield. Cocoa trees, when intercropped with longan, also develop well in the establishment period, but lack sunlight in the production stage. If the number of longan is not reduced, the yield of cocoa falls significantly.

7.3.4. Pest control

Mirid bug (*Helopeltis antonii*) and black garden ants (*Lasius niger*)

So far, there is no uncontrollable pest on cocoa farms in the Mekong Delta region, consequently insecticides are not applied much. In the cocoa and coconut cropping system, many natural enemies such as spiders, mantis *(disambiguation*) and especially cocoa black ants exist. Black ants are an efficient natural enemy of mirid bug *Helopeltis antonii*. If black ants develop on a cocoa farm, most fruits will maintain very good conditions with minimal pest damage. It is technically possible to develop ant colonies and transfer them to other farms. It usually takes 4-6 months for a new colony to fully develop. First experiences and tests have been carried out within the Success project of Acdi/Voca.

Diseases

The two main diseases on cocoa are "vascular string die-back-VSD" caused by *fusarium* and "Phytophthora". Phytophthora is by far the most important one. This disease can attack all parts of a plant resulting in leaf burn, stem cancer and black pod. Phytophthora is the main cause of reduction in yield, particularly during the wet season. To bring this disease under control, farmers often apply chemicals like Metalaxyl (Ridomil, Mataxyl, and Rampart), Fosetyl-Al (Aliette, Alpine, Fungal) and use Potassium phosphates (Agrifos-400) to inject into the trunk. Farmers are also encouraged to apply IPM procedures as follows:

- Prune properly to reduce humidity in the air. Especially areas around trunks and flower bearing branches which need more ventilation.
- Keep the farm clean, cut down fruits and branches affected by diseases.
- Bury or decompose cocoa pods after harvest, avoid the dispersion of diseases and insects.
- Maintain good water drainage systems, avoid partial flooding or water logging.
- Destroy moving paths of ants, as they could transfer pathogens from the ground to the plant.
- Apply organic manures, particularly chicken dung.
- Apply mulching to prevent soil splash bringing pathogens from the ground.
- Put mirid bug Helopeltis sp under control to avoid damages on fruits.

Additionally, phytopthora could be controlled by using antagonist fungi such as specific trichoderma genus. Field testing in a small scale has confirmed the impact of antagonist fungi on preventing and curing phytophthora.

7.3.5. Fertilizer

Most cocoa farmers in Ben Tre and Tien Giang provinces are members of a cocoa club, established by the SUCCESS program. They have been trained and often follow the fertilizing doses:

- From the 1st to the 3rd year (the establishment period): each tree is fertilized 200g, 400g and then 600g respectively. NKP 16 – 16 – 8 is often applied.
- From the 4th year on (the production period): each tree often receives 600-1000g of NPK in which the Nitrate content is reduced lower or equal to P or K amount such as NPK 15-15-15 and 10-20-20.

Mulching

Farmers here are getting used to mulching practices using locally available materials such as coconut leave and husks, banana stems, etc. Mulching maintains ground moisture and prevents water evaporation in the dry season, consequently helping plants to grow well.

Mulching is commonly practiced in the Mekong Delta

7.3.6. Irrigation

Though the annual rainfall in the region is rather low (1250 – 1500mm), fresh water is generally sufficient for crop cultivation, mostly owing to integrated canal and ditch systems. Farmers often pump water from ditches to water individual plant.

7.3.7. Harvest and post-harvest

At present most farmers and collectors are applying the harvesting and processing procedures proposed by the NLU cocoa program with the following main points:

- Harvest when fruits are ripe
- Store fruits for 7 – 9 days before fermentation
- Ferment within 5 – 6 days with two turns
- Sun dry

7.3.8. Drying

After fermenting, cocoa bean needs drying. Sun drying is simple to do and cheap, but still produces good quality beans. However, it is difficult to dry beans during the rainy season because drying times are longer, possibly resulting in fungi. A CARD program has developed solar-driers which are very efficient. At present, Ben Tre province has 3 solar driers. So far, the owners of most purchasing points are members of the SUCCESS program and have been thoroughly trained in fermenting techniques. They often strictly follow the fermenting procedure. However, according to some analysis results, cocoa bean in this region is relatively sour. The reason is so far unidentified. Possible reasons might be a combination of cultivars, environmental and fermenting procedures.

7.4. Stakeholders' analysis

The cocoa value chain in Ben Tre and Tien Giang presents the following stakeholders:

Farmers

Most farmers are small households owning a farm of about 0.3-0.5 hectares. Typically, cocoa is intercropped with coconut. Unlike those in the central highlands, there is no large scale, state-owned plantation in the two provinces. As the production from each farm is generally small, cocoa farmers often sell their fresh fruit to a local collector who is usually also a cocoa farmer. Some farmers, having sufficient quantity of fruits for a fermentation batch, can process by themselves and then sell the dry bean to an exporter.

Cocoa clubs
Most cocoa farmers in Ben Tre and Tien Giang provinces are members of a cocoa club, established by the SUCCESS program. Per club, there are 40 members. The main purpose of the clubs is technical training. In Tien Giang province, the project supported the establishment of the first cooperative, which also owns a fermenting point.

Purchasing and fermenting points
There are many small purchasing and fermenting points in Ben Tre province. In Tien Giang, the number of purchasing points is much smaller because the production is so far not big enough. Most owners of these buying points are cocoa farmers and training facilitators of the SUCCESS program, who have obtained a thorough grasp of fermentation techniques. They often buy fresh cocoa fruits and sell cocoa bean to one of the two exporters operating in Ben Tre. In Tien Giang, there is a cocoa cooperative which also plays a role as a purchasing and fermenting point. However, their volume is currently small.

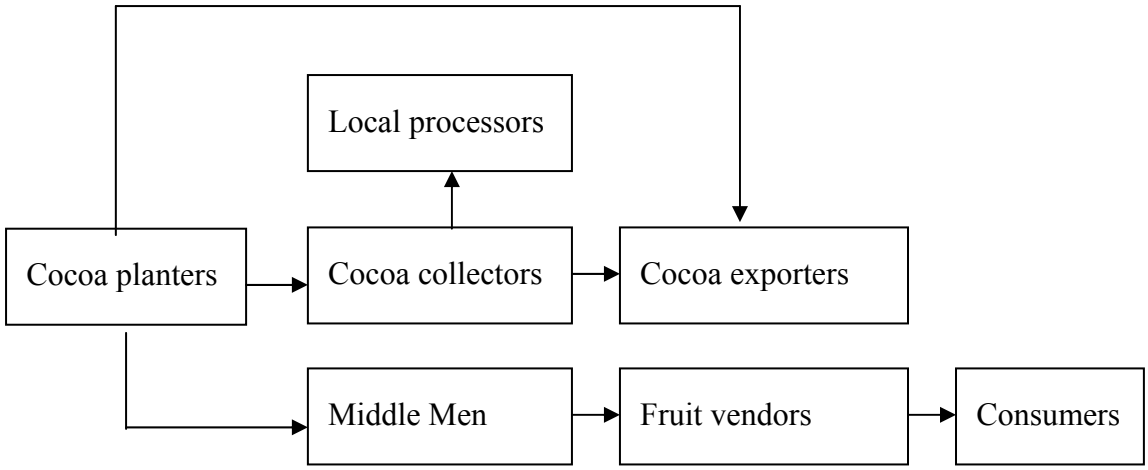
Cocoa as an exotic fruit
In addition to dry bean as the main product, cocoa fruits are now sold in Tien Giang and Ben Tre as an exotic fruit. Healthy fruit free from disease or pathogens are sold by street vendors. Most buyers are tourists who buy the fruits to enjoy the sweet pulp covering the beans. Products such as cocoa fresh juice, cocoa wine and cocoa liquor are already available in the local market or directly in the farm.

Healthy cocoa for the fruit market

Cocoa sold as fruits along the roadside

Exporters
At present, Cargill and ED&F Man have established warehouses and purchasing networks in Ben Tre and Tien Giang provinces. Their networks are currently operating relatively efficiently, being able to buy all the cocoa bean farmers can produce. While Cargill only buys dry beans, ED&F Man purchases both dry beans and fresh fruits to ferment themselves. Both companies export.

Summary of the value chain at Tien Giang and Ben Tre



7.5. Awareness of environmentally friendly production

- Farmers: via training provided by the SUCCESS project of ACDI/VOCA, farmers generally know the importance of environmentally sound farming practices. They are willing to be involved in any kind of farming as long as they can get a higher income or reduce the production costs. Furthermore, some of them know of the GAP project on dragon fruit and cat fish production.
- Farmers' Cocoa Clubs: most cocoa farmers mentioned here are members of cocoa clubs.
- Cooperatives: currently there is one established cocoa cooperative in Tien Giang province. The leaders expressed interest in being involved in the organic cocoa development project. In this province, another farmer cooperative is using GAP techniques for dragon fruit and has had good results so far.
- Exporters: same situation as the case in Dak Lak and Dak Nong
- Government (People's Committee, DARD, DPI, extensionists): the local government and line departments are familiar with the GAP concept (projects in dragon fruit, safe vegetables and fruit production). They are willing to support an organic cocoa project.
- Private certification agency: Qualiservice, a company representing an internationl certification agency made a first rapid assessment of the feasibility of organic cocoa in Tien Giang and came to the conclusion that the implementation of organic certified production would be possible[8].

7.6. Fairtrade assessment in Mekong Delta region

Social development requirements

Cocoa growers in the Mekong Delta are among low to average income groups. The majority of farmers are small farmers, having 0.3-0.5ha of cocoa. There is no big difference among families; prosperity disparity is not an issue here. Cocoa has been planted here since 2004-2005. Farmers have started to harvest and sell pods and dried beans. Cocoa is providing an alternative source of income for households since the price of other fruits like longan has gone down in the last few years. Similar to the central highland, the cocoa price is quite high in the global market. However the concern is always price stability. Accessing the fairtrade market could contribute to the social and economic development of the farmers through the fair trade premium and a long-term partnership.

[8] Boquillet Xavier, 2007: Possibilities of organic cocoa farming Cho Gao District, Tien Gang Province, Vietnam, Qualiservice

There are about 137 cocoa clubs in Ben Tre and 64 cocoa clubs in Tien Giang, which were set up with the support from the SUCCESS project. Therefore in the Mekong delta region cocoa farmers have more experience in working in groups than in the central highlands. Each group includes 40 members who joined on a voluntary basis. So far the members of the clubs do not have to pay fees. The main activity of the group is to organize training for members and share information (technology transfer). Under the SUCCESS project, the members of the clubs had also a facilitated access to seedlings and fertilizers (reimbursement only after a period of 30 months). The club's organizational structure is simple and not formal. There is no management board or regulations. There is no book-keeping system. Each group has a chairperson and a person in charge of training (trainer of trainees) to guide other members on technical aspects. After the phasing out of the SUCCESS projects, the clubs had no formal plans for further common activities, apparentely information exchange events finished in 2007. Thouhg they did say they would meet to share experiences if their members requested.

There is no discrimination in membership. However, women's participation is still limited. There is no concrete percentage of participation of women. None of the 11 group leaders that participated in the interviews were female. They also said they have never met any female leaders from other groups. The explanation was that women did not like to participate in public functions. In Mekong delta, women participate in production less than men do. The general thinking is women should stay at home and play only substitute roles to men in production.

The case of the Cho Gao Cocoa Cooperative

There is a cooperative in Tien Giang Province, Cho Gao Cocoa Cooperative. The cooperative was set up in 2006 and currently has 32 members. They already have a management structure with one chairperson, one vice chairperson, one accountant and one treasurer. They started to collect cocoa from members in 2007 (since cocoa trees were grown here in 2005 and first harvest was in 2007). The working capital of the cooperative is 600 million VND, including 200 million as a contribution of members, 200 million VND from loans and 200 million VND supported by the government as investment for cocoa processing. This is a model that is closest to the current Fairtrade certified group.

Economic development requirements

Similar to the central highland, Fairtrade is unknown to producers, so is Fairtrade Premium. If Helvetas chooses to work with producers here on getting Fairtrade certified, the producers need to be informed about the fairtrade system. The cocoa clubs have not sold collectively yet, the group leader as well as the TOT acts as a local collector. They buy cocoa pods from members, ferment and sell to the two companies. Currently, only group leaders and the TOT now the fermentation techniques and are able to do that. Normal members cannot do fermentation since TOT persons have not taught them. The main reason is each family still has very few fresh pods, not enough to do fermentation on their own. Farmers do not engage in exporting nor having logistics and communication equipment for this. None of the producers is able to communicate in English. Cocoa is mainly for the export market. The quality of cocoa varies among households. Some FLO certified traders show interest in cocoa from Vietnam. It is to say that there is a demand for cocoa, one of the requirements in economic development standards

Because they started to grow cocoa only 2-3 years ago, farmers harvested in a small quantity in 2006 and 2007. They sold directly to local collectors individually. There is no contract between buyers and households or groups. Cargill and ED&F Man are very active in the region. They all have collecting houses locally. As mentioned in the previously, there is a competition in collecting cocoa since the volume is quite small. Since the farmers have not exported directly if farmer's groups decide to get Fairtrade, they will need to discuss with these traders if they want to get Fairtrade certified also. There is quite a high-level of competition in collecting cocoa. A potential conflict is foreseen if outside Fairtrade certified traders get into the market. Another option is to assist farmer groups intensively to have them export directly.

Environmetal development requirements

Cocoa production is not close to protected areas and there is no practice of collecting wild products from natural areas. The Mekong Delta is characterized by canals and ditches; therefore, the use of chemicals, especially spraying, can easily cause water pollution.

Farmers are not aware of the FLO banned chemical list; however, there is no banned chemicals used for cocoa production. Since the cocoa trees are in their second or third years, there is no major disease or insect. Many households have not even used any chemicals for cocoa except chemical fertilizers (NPK). The skin of cocoa pods is currently buried to allow naturally decomposition. They said that this can be used to make bio-fertilizer. There is nobody in charge of environmental issues in the cocoa clubs in SUCCESS project. The FLO requirement of chemical storage and labeling is not a common practice here. It depends on households how they handle the chemical. Planting GMO plant and using GMO products is out of questions in the region though there are interesting models of cocoa inter-cropping with coconuts.

Labour conditions requirements

Cocoa does not require huge processing facilities with workers. Households can ferment and dry cocoa beans on their own, especially since they have quite small volumes; therefore, labour conditions are not an issue. No child labor at household level, children are sent to school.

8. PHÚ YÊN

Phu Yen is a province on the central coast, having both mountainous and Delta topographies. There are large and flat plains in the middle of Song Hinh and Son Hoa districts, very suitable for the development of industrial crops and livestock. Cattle are commonly reared in both districts. Most land here is sandy grey soil and relatively poor in fertility. The two main crops in the two districts are sugar canes and cassava. Farming techniques here are generally extensive, using little chemical fertilizers and highly dependent on rain fed water. However, animal manure is widely used because of the availability of organic matter from the livestock. Because of the development of livestock, cow dung is abundant and often sold to other provinces in the central highlands such as Dak Lak, Dak Nong and Gia Lai, mainly to fertilize pepper and coffee. Phu Yen has a tropical monsoon climate, affected by the oceanic climate. There are two seasons: the dry season from January to August and the rainy season, accounting for 70 – 80% of the annual rainfall, from September to December. In 1998 – 1999 cocoa was introduced to Phu Yen by some private companies. However, due to the unavailability of market information and inaccessibility to international markets, cocoa farmers felled most of the cocoa plants. Now, there are only a few cocoa trees in Phu Yen, mostly for household consumption of fruit pulp.

An overview of Song Hinh district

9. Lam Dong

In order to have a wider variety of information a private company in Lam Dong province named Laba Company Ltd was contacted. Laba is an agri-business company. The company owns 200 hectares of land in Tu Tra-Ka Đơn commune, Don Duong district and has planted temperate crops. Additionally, the company has 300 hectares of poor forest land in Bao Lam district, rented from the state in a 50 year contract and intended to grow cocoa. In the past, cocoa has been planted in trials in this region and brought fruitful results. The ecological conditions in the company's land are highly suitable for organic production with natural streams. The company will raise a large number of cattle and use cow dung to make compost and consequently improve soil fertility. The Laba Company is ready to participate in an organic program if technical guidance is provided and a permanent buying contract is available.

New premises of Laba Company, Bao Lam, Lam Dong

10. Cost-benefit analysis

General remarks on cocoa economics

Cocoa is the world's smallest soft commodity market. Cocoa is traded on two world exchange markets: London mainly for West African cocoa and New York predominantly for cocoa from South East Asia. The 2 mentioned indexes are published daily by the International Cocoa Organisation (ICCO) under http://www.icco.org/ . On January 30, 2008 the New York index for dried cocoa beans f.o.b was 2,310 USD/ton. As is the case for other agricultural crops, the current market conditions are favorable for cocoa. This was not always the case. Figure 1 here below shows the variability of the cocoa index over the last 7 years. Cocoa farmers in many countries lack information on marketing and prices. Many cocoa farmers sell their production at a low price which has helped to create a demand for Fairtrade cocoa and chocolate in some countries. However, this Fairtrade remains a tiny percentage of the total trade.

Fairtrade and organic

Figure 2 shows the relationship which exists between the FLO Fairtrade mimimum price and the world market price for the period 1998-2004. Under the Fairtrade FLO standards, the mimimum price of 1600 USD/ton has always to be paid. If the world market index is higher than that mimimum price, the world market applys. In this case, the FLO producers receive the world market price plus the premium for Fairtrade and for organic (if applicable). In the case of an organic cocoa production without the FLO standards, there are no fixed and established rules. Generally the market price and also the producer price for organic products are higher than the price for conventional products. Evene if there are no established rules, we can guess with a 20-40% price increase. Currently, a demand for both products, organic and Fairtrade Cocoa, exists.

Figure 1: Market index in USD/ton for dried Cocoa Beans (2000-2007)

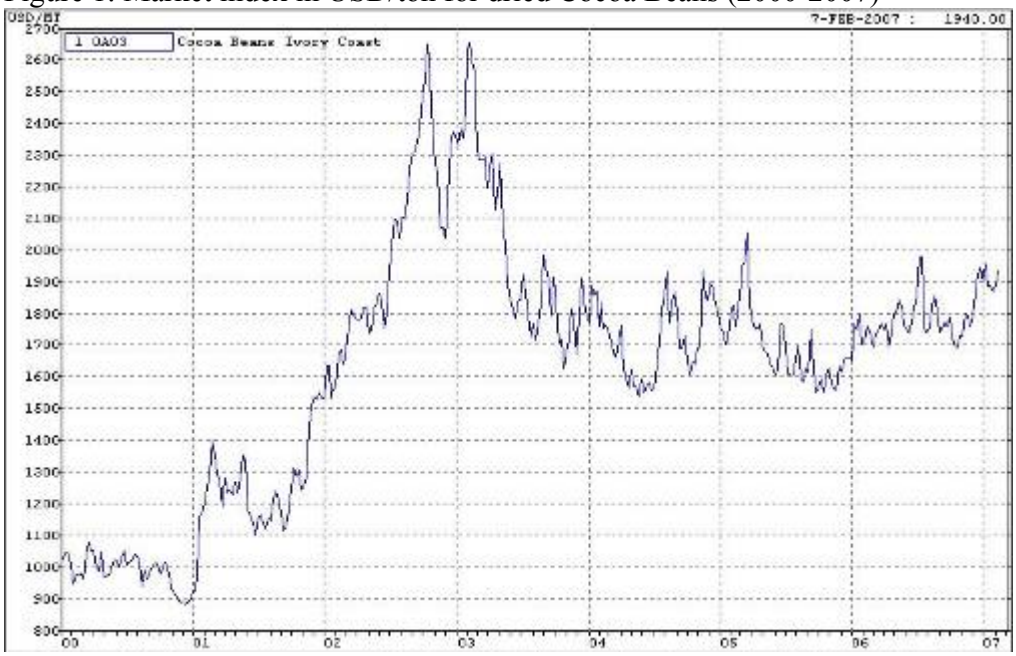
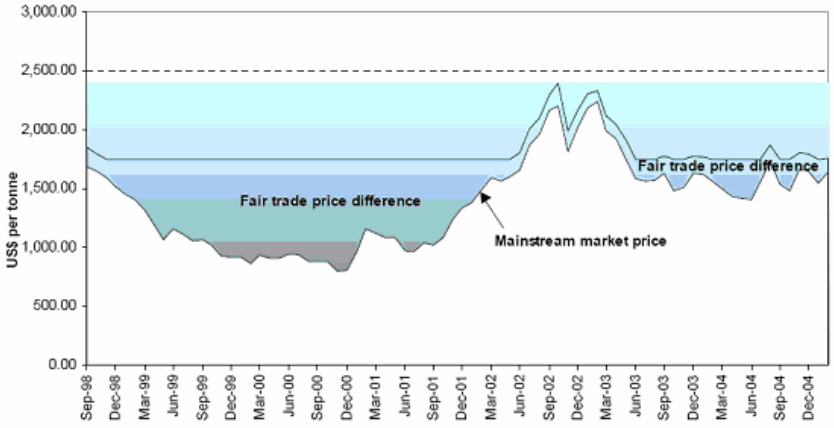


Figure 2: Relationsship between the FLO minimum price and the cocoa index on the world market

Chart 1: FLO f.o.b. prices versus f.o.b. market prices
Sept. 1998 – Feb. 2005



Cost and benefits in Vietnam

Cocoa production in Vietnam is still in its infancy and lacks a comprehensive economic data analysis. However, the mission received useful data from pilot farms which were helpful for a first analysis and to calculate a model comparison. The complete data of the production costs of one hectare of cocoa is shown in annex 4. Normally, it takes three years before a new cocoa plantation starts to produce and in the fifth year the production reaches the maximum expected yield. In the table here below the cost figures from annex 4 are summarized and the benefit of one hectare of cocoa is estimated. The calculated benefit amounts to a total of more than 23 million VND (1,428 USD). The estimated yield of 1,300 kg/ha is low and the price of 26,900 VND/kg was the price offered by the main cocoa purchasers (Cargill and ED&F Man) last October 2007 during the field visit.

Table 6: Estimated production costs and benefits of one hectare of cocoa in Vietnam (5 years after plantation)

Item	Total
Production cost cocoa per ha (material)	8,140,000 VND
Production cost cocoa per ha (labor)	3,000,000 VND
Total production cost	11,140,000 VND
Production à 1300 kg/ha x 26 900 VND/ha	34,970,000 VND
Benefit VND	23,830,000 VND
Benefit USD	1,480 USD

Exchange rate of 16,100 VND/USD (October 2007)

A model comparison

With the conversion to organic agriculture the composition of the production costs will change. In organic agriculture, the costs for imported or bought inputs are reduced. In organic, normally farmers use less imported inputs and spend less cash on fertilizer and pesticide but need more labor to produce organic fertilizers and also for the bio-control techniques. The figures in annex 4 show that 73% of the current production costs of conventional cocoa in Vietnam are used to buy material (seedlings, fertilizers, pesticide) and 17% are labor costs. More than 60% of the total costs are used to buy chemical inputs (fertilizers, insecticides and fungicides). For the model calculation we assumed a reduction of 30% of the production costs for organic in comparison to conventional farming. The presented model does not yet include the costs for certification and internal control.

Apart from the cost changes, the organic system normally produces a lower yield than the conventional system. For the model, we assumed that the yield decrease will be 30%. This yield decrease is not stable and can vary considerably. Especially, after some years and after the farmers are used to the organic techniques, the yield of the two systems can reach comparable figures. For the price, we assumed a 30% premium for organic in comparison to the conventional cocoa. The result of the comparison is shown in the table here below. In fact, under the mentioned assumptions, the benefits of the two systems are similar.

However, more than just a short term economic benefit, the conversion to organic will benefit the farmer in the long term: by reducing their dependency from imported inputs, by protecting the environment and by reducing the risk of poisoning. In annexes 8 and 9 model calculations with production scenarios and cost analysis are reproduced. These calculations have to be compared with real figures from the first converted pilot farms. It is very important to include from the outset, all costs related to certification (organic, fair-trade and the internal control sytem) in order to establish whether the premiums for organic and fair trade are able to cover these extra costs.

Table 7: Model comparison between production, cost and benefit of conventional and organic cocoa production in Vietnam (Helvetas, 2008)

Item	Conventional	Organic (estimation)	Remarks
Production cost cocoa per ha (material)	8,140,000	4,000,000	
Production cost cocoa per ha (labor)	3,000,000	4,000,000	
Total production cost	11,140,000	8,000,000	30% cost reduction
Yield kg/ha	1,300	900	30% yield reduction
Price (VND/kg)	26,900	34,000	30% price premium
Gross revenue VND/ha	34,970,000	30,600,000	
Benefit VND/ha	23,830,000	22,600,000	

11. Conclusions

The feasibility study was conducted in four regions; the central highlands (Dak Nong and Dak Lak provinces); the Mekong Delta (Ben Tre and Tien Giang provinces); Song Hinh district (Phu Yen province); and in Lam Dong province (see map in annex). Each region has its own advantages and disadvantages with regards to organic and fair trade production.

11.1. Central highlands

11.1.1. Organic Production

Advantages

- The visited provinces have a huge potential for the production of cash crops
- The soil is fertile
- The farmers are skilled in cash crop production
- The public and private sector in agriculture is developed (extension service, private services, input suppliers, processors, traders, etc.)
- There are other ongoing projects supporting the development of certified production (UTZ in coffee)
- Farms are 2-4 hectares, which is considered large in the Vietnamese context and is favorable in view of the effectiveness of the training of farmers and the monitoring of the production (certification)
- Cocoa production is already established
- One of the advantages of cocoa in comparison to coffee is that cocoa is less labor intensive than, for example, coffee. Labor is a limiting factor in the region especially during the peak of the coffee harvest period
- Some farmers are already accustomed to cocoa production and could apply organic procedures rapidly

Disadvantages

- The agro-climatic conditions are less favorable to cocoa because of the wind. The plantations have to be well protected with wind barriers, otherwise the yield will drop
- Farmers are used to applying very high doses of chemical fertilizers and pesticides. Organic techniques are relatively unknown and the drop in yield is expected to be high, especially in the first years of the conversion to the organic system
- The productivity of other cash crops (especially coffee and pepper) is very high. These cash crops are already well established (much more than cocoa). The development of cocoa as a new cash crop is threatened by these crops especially because the prices for coffee and pepper are very high in the global market
- Farmers are far better trained to produce coffee than cocoa. Many farmers try to apply the same coffee techniques in cocoa. But these techniques are not suited to cocoa
- There are not many sources of organic fertilizers. Normally farmers buy animal manure from other provinces
- Organic matter is not readily available and is costly. Farmers are unfamiliar with applying organic farming techniques
- Farmers are comfortable applying insecticides, thus it will probably be difficult to persuade them to alter cultivation habits
- There are no established farmer groups or associations, making it difficult to start a group certification system with an internal control system

11.1.2. Fairtrade production

- Even if the farms in the central highlands are considered to be large, for fairtrade the farms are still considered smallholders
- However the state owned farms are not eligible for fairtrade
- There is no major non-compliance at farmers' side to join fairtrade

- There is no farmer organization yet in the central highlands. The setup of a group certification is a requirement for fairtrade. This will require a lot of effort
- Soil erosion and intensive use of chemical inputs are the main environmental concerns and could be a problem

11.2. Mekong Delta

11.2.1. Organic production

Advantages:

- The agro-climatic conditions are suitable for cocoa cultivation
- Cocoa plantations are already established and the number of cocoa farmers is increasing in both provinces
- Cocoa is planted in a mixed orchard. In some orchards the variety of species is high
- The objective for planting cocoa is to improve the benefits. Cocoa normally replaces other fruits such as longan and banana.
- The existing cocoa-coconut combination is considered to be ideal for organic cultivation in the region as the use of chemicals is minimal and the coconut trees provide the necessary shade for the cocoa
- The yield decrease is expected to be small and this should be persuasive in convincing farmers to convert to organic agriculture
- Many farmers already know some principles of organic cultivation such as using natural enemies to control pests (black ant colonies), or are applying EureGAP procedures to other crops such as dragon fruit
- Some bio-control techniques, such as the development of colonies of black garden ants to control pests, have been successfully introduced
- Others techniques for the control of other pests and diseases exist and could be developed and promoted
- In Cho Gao district of Tien Giang province, livestock breeding is already developed and animal manure is available
- Other sources of organic matter, such as rice straw or water hyacinths, exist in the two provinces
- Farmers' groups (Cocoa Clubs) and cooperatives have been developed and will facilitate the application of organic production
- Local authorities strongly approve of the intercropping model of cocoa and coconut, which has already proven its profitability and to be environmentally friendly

Disadvantages:

- Farms are generally of a very small scale (0.3-0.5 hectares) thus making it difficult to transfer technology and to monitor production
- A large part of the two provinces is affected by saline water in the dry season, making it hard to develop cocoa areas on a larger scale
- Organic fertilizers from animal sources in Ben Tre province are not sufficient
- It takes time to examine the effect of controlling phytophthora, using antagonistic fungi or alternating cultivation techniques
- The quality of the irrigation water has to be monitored and the soil has to be analysed to assess the possible levels of chemical contamination

11.2.2. Fairtrade production

- The Mekong Delta region has favorable conditions for fair trade certification: there is demand from buyers, existing cocoa clubs and no major problems of non-compliance with environmental standards
- The effort will focus on strengthening the management of existing clubs to have them work more collectively through helping them to develop new functions to work as a structured group

- The participation of women in decision making and in management positions of groups needs to be addressed in the long term
- The widespread and intensive use of chemical inputs in agriculture seems not to be a major issue yet in the region
- One concern could be the certification fees for fair-trade certification. The amount produced could be insufficient to cover all the costs therefore this needs further analysis. One option could be that many cocoa clubs join together in a larger cocoa association with a view to avoid paying fees for every club and to envisage the certification of the second degree organization
- Finally, for fair trade certification it is not only the farmer groups that have to comply with the fair trade standards but also the processors and traders. That means, that negotiations with the processors and the traders have to start soon in order to identify whether and to what extent they are willing to participate in such a value chain

11.3. Phu Yen

11.3.1. Organic production

Advantages

- Biological conditions are suitable for the development of cocoa
- Current cultivation techniques are similar to organic principles
- The present yield is already low and therefore reduction after changing to organic production might be minimal. Thus it might be easier to persuade farmers to participate. Animal manure is already available and cheap.
- The profitability of cocoa is higher than that of the current crops making it easy to ask farmers to change

Disadvantage:

- Cocoa is not yet established as a cash crop therefore it will take time for the introduction of this new crop. The farmers have already experienced cocoa but this was not a positive experience
- The technical guidance and transfer to farmers will be difficult, especially as farmers are not very skilled and irrigation facilities are not available everywhere
- Farmers' groups are not available
- The province is remote and the roads are not well developed, making accessibility a problem

11.3.2. Fairtrade production

- There is no cocoa production or organized cocoa group in the province
- Nevertheless, this province could still remain a viable option for starting an organic and fair trade production site, especially considering that other products could be certified while waiting for the establishment of the cocoa production

11.4. Lam Dong

11.4.1. Organic production

Advantages:

- Biological conditions are suitable for organic production: clean water and virgin land are available
- Animal manure is available
- The land is easily controllable for certified production

- The large area is managed by a private company making it easy to establish business relations with an international company
- Monitoring and quality control is easier
- The company has financial capacity for investments

Disadvantages:

- Cocoa is not yet established and the plantation will take approximately four years
- There are as yet no farmers

11.4.2. Fair trade production

- Currently FLO-Cert has not certified the Hired Labour scenario in Vietnam. Acquiring this certification has not been and probably will not be an option for the foreseeable future

12. Recommendations

12.1. Location

Considering the advantages and disadvantages for organic and fair trade cocoa production and marketing, the conditions in the two provinces of the Mekong Delta region (Ben Tre and Tien Giang) seem to be more favorable. The first priority should be given to the two districts Cho Gao (Tien Giang province) and Chau Thanh (Ben Tre province) where cocoa is already well established. The ideal combination is the coconut-cocoa association. The production should start in collaboration with existing cocoa clubs and with cocoa farmers which would volountarily accept all conditions of the organic and fair trade certification system.

12.2. Vision of a support project

12.3. Relevance of organic and fair trade cocoa

- Vietnam is making strong progress in socio-economic development
- The agricultural sector is focussing intensively on the export market
- The experiences with certified and high quality production and marketing are few, which is particularly true for the organic and the fair trade sector
- The cocoa sector is a newly emerging sector with a high growth potential
- The poverty rate among the farmers in the targeted region in the Mekong Delta is high and justifies external support
- Higher and more stable incomes for farmers when certified products get access to potential export markets
- High levels of environmental and social sustainability
- Concrete orientation for a higher sustainability of the conventional market

12.4. Contribution to poverty alleviation

Following a recent comprehensive literature revue completed by the Food and Agriculture Organisation of the United Nations (FAO)[9] on organic agriculture, a growing body of case studies supports the link between the introduction of organic practices and an increase in total farm yields, with an increased access to food. The essence of organic agriculture is its reliance on local assets. These include productive resources such as land, water, forests, biodiversity, and environmental services. Access to land means the ability to secure long-term ownership of productive areas to improve soil fertility. When farmers have access to a broad range of productive resources and use organic systems, they are able to increase yields, diversify their crops and improve their incomes. Greater productivity coupled with lower input costs and reduced debt mean higher net incomes for households.

Poverty in the Mekong Delta

There is not yet enough data to answer the main question which is whether the production and marketing of organic and Fairtrade Cocoa can contribute to substantial and effective poverty reduction. Baseline surveys and monitoring of farmer incomes before and after the conversion to organic agriculture have to be performed before, during and after the project. The region of the Mekong Delta counts 12 provinces and a population of around 17 million (20% of the population of Vietnam). Despite a considerable decline in poverty since 1998, there are still around 4 million poor people living there. The Mekong Delta region has the highest number of poor people of any of Vietnam's 7 regions. Addition-

[9] FAO, 2007 : International Conference on Organic Agriculture and Food security, Rome 3-5 May, 2007

ally, there are a high percentage of people vulnerable to falling back into poverty through adverse economic shocks. The region of the Mekong Delta is also prone to natural disasters, which leads to a precarious existence for the poor. There are various ways to define and understand poverty in Vietnam. The General Statistical Office (GSO) calculates 2 poverty lines - the food poverty line and the general poverty line. The food poverty line is calculated according to the expenditure required to deliver 2100 calories per person per day. The general poverty line is calculated on the basis of a 'basket of goods essential for well-being'. The GSO estimates the rate of poverty using national household surveys. The last published data was conducted in 2004. Selected results as follows:

- Poverty remains concentrated in rural areas: 26% of rural people are below the poverty line while only 8% of urban dwellers are in poverty
- 31% of the poor in the Mekong Delta have no land, and 16% have less than 2,500 square meters (0,25 hectares), the level below which the Bank for the Poor classifies households as having 'little land'
- The poverty in the Mekong Delta is also closely related to poor access to credit; limited access to markets and market information such as fluctuations in output prices and violations of sale-purchase contracts; poor services of agricultural extension and unstable employment.

The picture regarding poverty reduction in the Mekong Delta is complex. Poverty rates have improved for the majority of people in the region, but there appears to remain a hard core of static poor who have missed the economic and other opportunities opened up in recent years. These groups are spread unevenly within and between provinces. In addition, there remains a high level of vulnerability in the region. Reliance on unskilled labour opportunities, and lack of investment in education and training, risk the Mekong region missing investment opportunities.

12.5. General objective

The establishment of a sustainable organic and fair trade cocoa value chain contributes to poverty alleviation in selected provinces of the Mekong Delta region (Ben Tre and Tien Giang)

12.6. Outputs and results

- Long term trade negotiations between producers, local buyers, exporters and importers
- Organic certification of a given quantity of dried cocoa beans
- Fair Trade certification of a number of farmer groups
- Improved skills of farmers via training, visits and support
- Increased capacities of farmer groups
- Better organization of farmers
- Farmers are more involved in marketing and know market conditions better
- Improved environment and less use of chemical inputs in the area
- Improved land tenure and land security for small scale farmers via long term purchasing contracts and commitments on prices and quantities
- Improved capacity in organic and fair trade knowledge of local authorities, university, extension services, technical assistance, private sector, traders, and processors among others.
- First research results on improved bio-control system of phytophtora and other diseases and pests in cocoa
- Quality monitoring and assessment (cocoa quality, organic and fairtrade certificates established by international certification agencies).

12.7. Partners

An alliance between the different stakeholders is recommended. The main partners involved should be:

- The farmers and the farmers cocoa clubs and the existing cooperatives
- The local processors and traders
- The exporters of cocoa
- The importers and the chocolate industry
- The local authorities at provincial, district and commune level (People's Committees) to make sure that all components are working in respect to what is signed in the agreements among the different partners
- The technical line departments (DARD and DOST) of the provinces, districts and communes
- The Agricultural University of HCMC and other institutes and laboratories for technical assistance, research, and quality monitoring
- The private service providers in charge of the certification (organic and fair trade)

12.8. Milestones for planning and project implementation

- Finalising feasibility study (March – April, 2008)
- Planning mission (April, 2008)
- Planning workshop (April, 2008)
- Approval and fundraising (May-June, 2008)
- Project implementation: 4 years (July, 2008 – June, 2012)

Annex 1A: Meetings during the mission

Ben Tre province

Ms. Nguyễn Thị Kim Loan: Buying station. ED&F MAN in Ben Tre
Mr. Trần Văn Ánh: Cocoa farmer; Cocoa training facilitator
Mr. Lê Văn Báu: Cocoa farmer; Cocoa training facilitator An Khanh commune, Chau Thanh district
Mr. Huỳnh Văn Tư: Cocoa farmer, cocoa training facilitator, An Khanh commune, Chau Thanh district
Trần Hùng Sơn: Cocoa farmer, cocoa training facilitator, cocoa collector. Phu Duc commune, Chau Thanh district.
Huỳnh Khánh Trường:
Mr. Lê Văn Nghĩa: Cocoa farmer, cocoa TF, Phu Duc, Chau Thanh
Mr. Trần Quang Hùng: Provincial extentionist
Đỗ Văn Phúc: Cocoa farmer, local cocoa collector, Phu Tuc, Chau Thanh
Ms. Suong: Local cocoa collector, An Khanh, Chau Thanh
Mr. Châu Văn Lâm: Cocoa farmer, TF, local cocoa collector, An Phuoc, Chau Thanh
Mr. Nguyen Van Ne Cocoa farmer, An Khanh, Chau Thanh
Mr. Thế: (gan nha Lap)Cocoa farmer, An Khanh, Chau Thanh
Mr. Nguyễn Văn Lập Cocoa farmer, TF, cocoa collector, An Khanh, Chau Thanh
Lê Thị Phấn: Provincial coordinator of Ben Tre, SUCCESS project
Ms. Truc: Project management board, cocoa project Ben Tre
Ms. Cuc: Project management board, cocoa project Ben Tre
Ms. Nguyễn Thị Hoa PhươngTechnical staff. SUCCESS project

Tien Giang province

Mr. Hồng Phúc Extentionist; Cocoa training facilitator. Chợ Gạo
Mr. Nguyễn Văn Tư Chairman, Cocoa Cooperative Cho Gao
Mr. Phạm Thế Minh Cocoa farmer; cocoa facilitator; cocoa collector;
Mr. Võ Quang Rạng Cocoa farmer; cocoa facilitator.
Mr. Nguyễn Xuân Ron
Mr. Nguyễn Hòang Hạnh Vice director of DOSTE Tien Giang; Director of Tien Giang Cocoa project
Mr. Nguyễn Hữu Định:Provincial coordinator of SUCCESS project
Ms. Nguyễn Thị Mỹ Hạnh
Mr. Ngo Quang Trong Cocoa farmer, Hoa Dinh commune, Cho Gao district
Mr. Phach Cocoa farmer, Hoa Dinh commune, Cho Gao district
Mr. Mao Cocoa farmer, Go Cong Tay district
Mr. Đặng Hưng Phước Extentionist of Tiền Giang
Mr. Trí Extentionist of Tiền Giang
Mr. Nguyễn Văn Cội: Ấp Tân Hòa, xã Tân Thuận Bình, Chợ Gạo
Mr. Nguyễn Hữu Đẹp Farmer practices VAC. Tan Binh 2, Tân Thuận Bình, Chợ Gạo.
Mr. Nguyễn Văn Phích Cocoa farmer. TF, Hòa Định, Chợ Gạo
Chú 7: chicken farm owner
Pine aple factory.

Dak Nong province

Mr. Hung, Chairman of People's Committee of Tuong Xuan commune, Dak Song district
Nguyen Van Tro, Farmer raising cattle. Gia Nghia
Mr. Võ Thiện Kiểm, Cocoa farmer. Truong Xuan commune, Dak Song district.
Mr. Tuan Anh, Director of Duc Lap Coffee Company. Dak Min
Mr. Phan Thanh Dung, Technical staff. Cargil Vietnam. Dak Min,
Mr. Danh Provincial extentionist
Mr. Trần Xuận Phụ Cocoa farmer. Dak Rla commune. Dak Min
Mr. Thiện Cocoa farmer. Dak Rla commune. Dak Min
Mr. Vương Văn Hiền Cocoa farmer. Dak Rla commune. Dak Min
Mr. Sinh Cocoa farmer. Dak Rla commune. Dak Min

Dak Lak province

Mr. Ba, Cocoa farmer. Chu Sue commune, Cu M'nga district
Mr. Quay LinCocoa farmer. Chu Sue commune, Cu M'nga district
Ms. Mơ: Thang Muoi Coffee Company
Mr. Trung: Head of technical office. Thang Muoi Coffee Company
Mr. Nguyen Tuan Thanh: Provincial coordinator of SUCCESS project. Buon Ma Thuot
Mr. Thong Provincial extentionist
Mr. Y Hoang Technical staff of SUCCESS project

Tuy Hoa district (Phu Yen province)

Mr. Sự, Vice head of Song Hinh Economic Office, head of Extension station
Mr. Dậu, Song Hinh Economic Office
Mr. Bảnh, Farmer, Song Hinh district

Lam Dong province

Mr. Nguyễn Bá Hùng , GAP vegetable producer, Dalat
Ms. Trần Thị Xuân Thu, Director, Laba company, Thanh My, Don Duong

Annex 1B: Relevant documents and links

Boquillet Xavier, 2007	Possibilities of organic cocoa farming Cho Gao District, Tien Gang Province, Vietnam, Qualiservice
CB 2005	Facts and figures on Fairtrade Cocoa, Consultative Borad on the World Cocoa Economy, 2005
CB 2006	The Cocoa Market Analysis, Consultative Board on the World Cocoa Economy, 2006
Embassy Netherlands	Workshop on Private – Public Partnership of Vietnam and the Netherlands: Cocoa Sector, (see under http://www.netherlands-embassy.org.vn/agricultural_section
EU organic standards	Council Regulation EC834/2007, see under http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2007:189:0001:0023:EN:PDF; or for a general presentation see under http://www.organic-europe.net
FLO 2007	Standards, costs, list of prohibited materials, geographical scope (see under http://www.fairtrade.net)
Helvetas 2007	Documents related to Organic Cotton Comptence center (see under http://www.helvetas.org)
Helvetas Laos, 2005	Organic Agriculture: Foundations for the ecological management of pests (see under http://www.laosorganic.com)
ICCO 2007	The Accra Agenda for sustainable Cocoa (see under http://www.icco.org)
MARD, 2007	Cocoa development strategy in Vietnam, (non official translation)
Naturland 2000	Organic Agriculture in the Tropics: Cocoa
SDC 2007	Donor Interventions in Value Chain Development, working paper, (see under http://www.sdc-valuechains.ch)
SIPPO and FIBL, 2005	Production Guidelines for organic Coffee, Cocoa and Tea (see under: http://www.sippo.ch/files/publications)
WWF 2005	An Overview of the Cocoa sector in Vietnam

Annex 2: Assessment Faire Trade Cocoa in Central highlands

Minimum requirements:	*Level*	*Evidence/Reasons for the assessment*
1 Social Development		
1.1 Fairtrade adds Development Potential		
(1.1.1.1) Producer organization can demonstrate that FT revenues will promote social and economic development of small farmers	Yes	Cocoa growers are among poor population of the province. Currently cocoa price is quite high in the market. The concern is always the stability of the market. Accessing FT market will continue to contribute to social and economic development of the farmers through premium and long-term partnership.
1.2 Members are Small Producers		
(1.2.1.1) Majority of FT group members are small producers	Yes	
(1.2.1.2) Of every FT certified product sold by the organization, more than 50% of the volume must be produced by small producers	N/A	There is no group yet
1.3 Democracy, Participation and Transparency		
(1.3.1.1) An organisational structure is in place which enables control by the members. There is a General Assembly with voting rights for all members and an elected Board.	No	Not yet organized
(1.3.1.2) The organisation holds a General Assembly at least once a year.	No	Not yet organized
(1.3.1.3) The annual report and accounts are presented to and approved by the General Assembly.	No	Not yet organized
(1.3.1.4) Administration is in place.	No	Not yet organized
1.4 Non-Discrimination		
(1.4.1.1) No restriction of membership due to the discrimination of particular social groups.	No	Not yet organized
(1.4.1.1) Participation of women in decision making	No	Not yet organized
(1.4.1.1) Participation of women in the management team	No	Not yet organized
(1.4.1.1) Any social prejudices against women	No	
2 Economic Development		
2.1 Fairtrade Premium		
(2.1.1.1) Aware about Fairtrade Premium	N/A	Producers don't know about FT
(2.1.1.1) Have tentative plans on how to use FT Premium	N/A	Producers don't know about FT
2.2 Export Ability		
(2.2.1.1) Logistics and communication equipment are in place.	No	Not yet organized; producers sell fruits to collectors. Supply chain ends here.
(2.2.1.2) Meet current export quality standards, preferably through previously exported products which were accepted by importers.	Yes	See in the report// Quality is different among households; however cocoa is now largely for export market
(2.2.1.3) Demand for the producers' Fairtrade product exists. Letter of intent exist?	Yes	Cocoa is a quite hot product now. At the locality, Cargill and ED&F Man collect all the fruits and nuts. There is a FT buyer in Vietnam who is interested in cocoa.
(2.2.1.4) Have experience in the commercialisation of a product as an organisation.	No	Sell fruits to local collectors
3. Environmental Development:		
3.1 Impact Assessment, Planning and Monitoring: The organization is expected to assess the environmental impacts, to develop plans designed to mitigate those impacts and to monitor the implementation of those plans.		
(3.1.1.1) A person within the organization: ensuring the production of a plan giving details of how to comply with the FLO environmental standards	N/A	Not yet organized.
(3.1.1.4) Any harvesting of wild specimen or their products from natural areas by members: must ensure sustainability fo the species.	Yes	The region is not close to forest/protected areas
3.2 Agrochemicals: Producers are expected to continually reduce the volumes and types of agrochemicals used in production to the maximum possible extent.		
(3.2.1.1) Aware of FLO prohibited materials List and no use of prohibited materials	N/A	There is however no banned chemical using for cocoa Overuse of chemical in other production (i.e. coffee). Unable to verify if they you 2.4D weed killer
(3.2.1.2) agrochemicals stored and used correctly	N/A	This varies from household to household; mainly done by practice of each household

Minimum requirements:	*Level*	*Evidence/Reasons for the assessment*
(3.2.1.3) all agrochemicals clearly labeled	N/A	This varies from household to household; mainly done by practice of each household
3.4 Soil and Water: Producers are expected to maintain and enhance the fertility and structure of soil. Water resources are managed with the objectives of conservation and non-contamination.		
(3.4.1.1) No erosion problems	No	Huge issue in Central Highland; the issue has not been taken care of
(3.4.1.2) Sustainable soil building and crop rotation is practiced	No	Cocoa is a sided products; coffee is still the main business
3.6 Genetically Modified Organisms (GMO): Producers do not use GMOs in either the production or processing of products.		
(3.6.1.1) Do not grow any GMO products.	Yes	Not an issue
4 Standards on Labour Conditions		
4.1 Forced Labour and Child Labour		
(4.1.1.1) No forced labour	Yes	Children are sent to school. No child labour in processing
(4.1.1.2) No children under 15 are not employed (contracted)	Yes	Children are sent to school. No child labour in processing
(4.1.1.3) Working does not jeopardise schooling or the social, moral or physical development of the young person.	Yes	Children are sent to school. No child labour in processing
(4.1.1.4) Minimum age of admission of work, which is likely to jeopardise the health, safety or morals of young people, shall not be less than 18 years.	Yes	Children are sent to school. No child labour in processing
(4.1.1.5) Employment is not conditioned by employment of the spouse.	Yes	Children are sent to school. No child labour in processing
4.2 Freedom of Association & Collective Bargaining		
(4.2.1.1) Recognises in writing the right of all employees to join an independent trade union, free of interference of the employer, the right to establish and join federations, and the right to collective bargaining.	N/A	No worker at family level as for cocoa production
(4.2.1.2) Trade union organisers are allowed to meet all the workers; workers are allowed to hold meetings and organise themselves without the interference of the management.	N/A	No worker at family level as for cocoa production
4.2.1.3 The organisation does not discriminate against workers on the basis of union membership or union activities.	N/A	No worker at family level as for cocoa production
4.3 Conditions of employment		
(4.3.1.1) Salaries: in line with or exceeding regional average and official minimum wages for similar occupations.	N/A	No worker at family level as for cocoa production
(4.3.1.2) Payment: made regularly and in legal tender and properly documented.	N/A	No worker at family level as for cocoa production
4.4 Occupational Health & Safety		
(4.4.1.1) Workplaces, machinery and equipment are safe and without risk to health.	N/A	No worker at family level as for cocoa production
(4.4.1.2) Persons younger than 18 years, pregnant or nursing women, persons with incapacitated mental conditions; persons with chronic, hepatic or renal diseases, and persons with diseases in the respiratory ways: not allowed to work with the application of pesticides	N/A	No worker at family level as for cocoa production
Minimum requirements:	Level	Evidence/Reasons for the assessment
1 Social Development		
1.1 Fairtrade adds Development Potential		
(1.1.1.1) Producer organization can demonstrate that FT revenues will promote social and economic development of small farmers	Yes	Cocoa growers are among poor population of the province. Currently cocoa price is quite high in the market. The concern is always the stability of the market. Accessing FT market will continue to contribute to social and economic development of the farmers through premium and long-term partnership.
1.2 Members are Small Producers		

Minimum requirements:	*Level*	*Evidence/Reasons for the assessment*
(1.2.1.1) Majority of FT group members are small producers	Yes	
(1.2.1.2) Of every FT certified product sold by the organization, more than 50% of the volume must be produced by small producers	N/A	There is no group yet
1.3 Democracy, Participation and Transparency		
(1.3.1.1) An organisational structure is in place which enables control by the members. There is a General Assembly with voting rights for all members and an elected Board.	No	Not yet organized
(1.3.1.2) The organisation holds a General Assembly at least once a year.	No	Not yet organized
(1.3.1.3) The annual report and accounts are presented to and approved by the General Assembly.	No	Not yet organized
(1.3.1.4) Administration is in place.	No	Not yet organized
1.4 Non-Discrimination		
(1.4.1.1) No restriction of membership due to the discrimination of particular social groups.	No	Not yet organized
(1.4.1.1) Participation of women in decision making	No	Not yet organized
(1.4.1.1) Participation of women in the management team	No	Not yet organized
(1.4.1.1) Any social prejudices against women	No	
2 Economic Development		
2.1 Fairtrade Premium		
(2.1.1.1) Aware about Fairtrade Premium	N/A	Producers don't know about FT
(2.1.1.1) Have tentative plans on how to use FT Premium	N/A	Producers don't know about FT
2.2 Export Ability		
(2.2.1.1) Logistics and communication equipment are in place.	No	Not yet organized; producers sell fruits to collectors. Supply chain ends here.
(2.2.1.2) Meet current export quality standards, preferably through previously exported products which were accepted by importers.	Yes	See in the report// Quality is different among households; however cocoa is now largely for export market
(2.2.1.3) Demand for the producers' Fairtrade product exists. Letter of intent exists?	Yes	Cocoa is a quite hot product now. At the locality, Cargill and ED&F Man collect all the fruits and nuts. There is a FT buyer in Vietnam who is interested in cocoa.
(2.2.1.4) Have experience in the commercialisation of a product as an organisation.	No	Sell fruits to local collectors
3. Environmental Development:		
3.1 Impact Assessment, Planning and Monitoring: The organization is expected to assess the environmental impacts, to develop plans designed to mitigate those impacts and to monitor the implementation of those plans.		
(3.1.1.1) A person within the organization: ensuring the production of a plan giving details of how to comply with the FLO environmental standards	N/A	Not yet organized.
(3.1.1.4) Any harvesting of wild specimen or their products from natural areas by members: must ensure sustainability fo the species.	Yes	The region is not close to forest/protected areas
3.2 Agrochemicals: Producers are expected to continually reduce the volumes and types of agrochemicals used in production to the maximum possible extent.		
(3.2.1.1) Aware of FLO prohibited materials List and no use of prohibited materials	N/A	There is however no banned chemical using for cocoa Overuse of chemical in other production (i.e. coffee). Unable to verify if they you 2.4D weed killer
(3.2.1.2) agrochemicals stored and used correctly	N/A	This varies from household to household; mainly done by practice of each household
(3.2.1.3) all agrochemicals clearly labeled	N/A	This varies from household to household; mainly done by practice of each household
3.4 Soil and Water: Producers are expected to maintain and enhance the fertility and structure of soil. Water resources are managed with the objectives of conservation and non-contamination.		
(3.4.1.1) No erosion problems	No	Huge issue in Central Highland; the issue has not been taken care of
(3.4.1.2) Sustainable soil building and crop rotation is practiced	No	Cocoa is a sided products; coffee is still the main business
3.6 Genetically Modified Organisms (GMO): Producers do not use GMOs in either the production or processing of products.		
(3.6.1.1) Do not grow any GMO products.	Yes	Not an issue
4 Standards on Labour Conditions		
4.1 Forced Labour and Child Labour		

Minimum requirements:	*Level*	*Evidence/Reasons for the assessment*
(4.1.1.1) No forced labour	Yes	Children are sent to school. No child labour in processing
(4.1.1.2) No children under 15 are not employed (contracted)	Yes	Children are sent to school. No child labour in processing
(4.1.1.3) Working does not jeopardise schooling or the social, moral or physical development of the young person.	Yes	Children are sent to school. No child labour in processing
(4.1.1.4) Minimum age of admission of work, which is likely to jeopardise the health, safety or morals of young people, shall not be less than 18 years.	Yes	Children are sent to school. No child labour in processing
(4.1.1.5) Employment is not conditioned by employment of the spouse.	Yes	Children are sent to school. No child labour in processing
4.2 Freedom of Association & Collective Bargaining		
(4.2.1.1) Recognises in writing the right of all employees to join an independent trade union, free of interference of the employer, the right to establish and join federations, and the right to collective bargaining.	N/A	No worker at family level as for cocoa production
(4.2.1.2) Trade union organisers are allowed to meet all the workers; workers are allowed to hold meetings and organise themselves without the interference of the management.	N/A	No worker at family level as for cocoa production
4.2.1.3 The organisation does not discriminate against workers on the basis of union membership or union activities.	N/A	No worker at family level as for cocoa production
4.3 Conditions of employment		
(4.3.1.1) Salaries: in line with or exceeding regional average and official minimum wages for similar occupations.	N/A	No worker at family level as for cocoa production
(4.3.1.2) Payment: made regularly and in legal tender and properly documented.	N/A	No worker at family level as for cocoa production
4.4 Occupational Health & Safety		
(4.4.1.1) Workplaces, machinery and equipment are safe and without risk to health.	N/A	No worker at family level as for cocoa production
(4.4.1.2) Persons younger than 18 years, pregnant or nursing women, persons with incapacitated mental conditions; persons with chronic, hepatic or renal diseases, and persons with diseases in the respiratory ways: not allowed to work with the application of pesticides	N/A	No worker at family level as for cocoa production

Annex 3: Assessment faire trade cocoa in Mekong Delta

Minimum requirements:	*Level*	*Evidence/Reasons for the assessment*
1 Social Development		
1.1 Fairtrade adds Development Potential		
(1.1.1.1) Producer organization can demonstrate that FT revenues will promote social and economic development of small farmers	Yes	Cocoa growers are among poor population of the province. Currently cocoa price is quite high in the market. The concern is always the stability of the market. Accessing FT market will continue to contribute to social and economic development of the farmers through premium and long-term partnership.
1.2 Members are Small Producers		
(1.2.1.1) Majority of FT group members are small producers	Yes	There is no big difference among families: prosperity disparity is not issue here.
(1.2.1.2) Of every FT certified product sold by the organization, more than 50% of the volume must be produced by small producers	N/A	The cocoa clubs have not sold collectively yet. Group leader as well as TOT person acts like a local collector. They buy fresh fruits from members, ferment, dry and sell to the two companies. Currently, only group leaders and the TOT persons know the ferentation techniques and are able to do that. Normal members cannot do fermentation since TOT persons have not taught them. The main reason is each family still has very little fresh fruits, not enough to do fermentation on their own.
1.3 Democracy, Participation and Transparency		
(1.3.1.1) An organisational structure is in place which enables control by the members. There is a General Assembly with voting rights for all members and an elected Board.	Partly	There are about 137 cocoa groups in Ben Tre. Each group includes 40 members who joined on voluntary basis; they don't have to pay fees. The main activity of the group was to organize training for members. They could also meet to share experience. However, the club has been quite loose. They don't have a management board or regulations. Each group has a chairman and a TOT person to guide other members on technique aspects.
(1.3.1.2) The organisation holds a General Assembly at least once a year.	No	The group mainly works on technique transferring; not a group in its full meaning. Benefits for group members included: receiving free training; receiving per diem of 80,000/day and had access to seedling, they would have to pay after 30 months
(1.3.1.3) The annual report and accounts are presented to and approved by the General Assembly.	No	No accounting/book-keeping system
(1.3.1.4) Administration is in place.	No	No management board. After the project finished in 2007, all groups have no plan for further activity. They said they would meet to share experience if their members requested.
1.4 Non-Discrimination		
(1.4.1.1) No restriction of membership due to the discrimination of particular social groups.	No	Members participate on voluntary basis
(1.4.1.1) Participation of women in decision making	No	There is no concrete percentage of participation of women. None of the 11 group leaders that participated in the interviews was female. They also said they have never met any female leaders from other groups. The explanation was: women did not like to participate in public

Minimum requirements:	*Level*	*Evidence/Reasons for the assessment*
		functions.
(1.4.1.1) Participation of women in the management team	No	
(1.4.1.1) Any social prejudices against women	Partly	In Mekong Delta, women participate in production less than men do. The general thinking is women should stay at home and play only substitute roles to men in production.
2 Economic Development		
2.1 Fairtrade Premium		
(2.1.1.1) Aware about Fairtrade Premium	N/A	Producers don't know about FT
(2.1.1.1) Have tentative plans on how to use FT Premium	N/A	Producers don't know about FT
2.2 Export Ability		
(2.2.1.1) Logistics and communication equipment are in place.	No	The group is quite loose: no office or logistics for business
(2.2.1.2) Meet current export quality standards, preferably through previously exported products which were accepted by importers.	Yes	See in the report// Quality is different among households; however cocoa is now largely for export market
(2.2.1.3) Demand for the producers' Fairtrade product exists. Letter of intent exist?	Yes	Cocoa is a quite hot product now. At the locality, Cargill and ED&F Man collect all the fruits and nuts. There is a FT buyer in Vietnam who is interested in cocoa.
(2.2.1.4) Have experience in the commercialisation of a product as an organisation.	No	Since they start to grow cocoa only 2-3 years ago, farmers start to harvest in a small quantity: they sell directly to local collectors individually. There is no contract between buyers and households nor groups.
3. Environmental Development:		
3.1 Impact Assessment, Planning and Monitoring: The organization is expected to assess the environmental impacts, to develop plans designed to mitigate those impacts and to monitor the implementation of those plans.		
(3.1.1.1) A person within the organization: ensuring the production of a plan giving details of how to comply with the FLO environmental standards	N/A	The groups don't know about FT. There is no assigned person to take care of environmental issues
(3.1.1.4) Any harvesting of wild specimen or their products from natural areas by members: must ensure sustainability fo the species.	No	The region is not close to forest/protected areas; however they are very close to water body since Mekong Delta are full of small canals
3.2 Agrochemicals: Producers are expected to continually reduce the volumes and types of agrochemicals used in production to the maximum possible extent.		
(3.2.1.1) Aware of FLO prohibited materials List and no use of prohibited materials	N/A	There is however no banned chemical using for cocoa. Since the cocoa trees are at its second or third years, there is no major disease or insect. Majority of households have not used chemical pesticide; they are using normal chemical fertilizers. Skin of fruits is currently buried. They said that this can be used to make bio-fertilizer
(3.2.1.2) agrochemicals stored and used correctly	N/A	This varies from household to household; mainly done by practice of each household
(3.2.1.3) all agrochemicals clearly labeled	N/A	This varies from household to household; mainly done by practice of each household
3.4 Soil and Water: Producers are expected to maintain and enhance the fertility and structure of soil. Water resources are managed with the objectives of conservation and non-contamination.		

Minimum requirements:	*Level*	*Evidence/Reasons for the assessment*
(3.4.1.1) No erosion problems	Yes	Not an issue in Mekong Delta
(3.4.1.2) Sustainable soil building and crop rotation is practiced	Yes	There are interesting models of cacoa inter-cropping with cocoa
3.6 Genetically Modified Organisms (GMO): Producers do not use GMOs in either the production or processing of products.		
(3.6.1.1) Do not grow any GMO products.	Yes	Not an issue
4 Standards on Labour Conditions		
4.1 Forced Labour and Child Labour		
(4.1.1.1) No forced labour	Yes	Children are sent to school. No child labour in processing
(4.1.1.2) No children under 15 are not employed (contracted)	Yes	Children are sent to school. No child labour in processing
(4.1.1.3) Working does not jeopardise schooling or the social, moral or physical development of the young person.	Yes	Children are sent to school. No child labour in processing
(4.1.1.4) Minimum age of admission of work, which is likely to jeopardise the health, safety or morals of young people, shall not be less than 18 years.	Yes	Children are sent to school. No child labour in processing
(4.1.1.5) Employment is not conditioned by employment of the spouse.	Yes	Children are sent to school. No child labour in processing
4.2 Freedom of Association & Collective Bargaining		
(4.2.1.1) Recognises in writing the right of all employees to join an independent trade union, free of interference of the employer, the right to establish and join federations, and the right to collective bargaining.	N/A	Small processing at family level, no worker at family level
(4.2.1.2) Trade union organisers are allowed to meet all the workers; workers are allowed to hold meetings and organise themselves without the interference of the management.	N/A	Small processing at family level, no worker at family level
4.2.1.3 The organisation does not discriminate against workers on the basis of union membership or union activities.	N/A	Small processing at family level, no worker at family level
4.3 Conditions of employment		
(4.3.1.1) Salaries: in line with or exceeding regional average and official minimum wages for similar occupations.	N/A	Small processing at family level, no worker at family level
(4.3.1.2) Payment: made regularly and in legal tender and properly documented.	N/A	Small processing at family level, no worker at family level
4.4 Occupational Health & Safety		
(4.4.1.1) Workplaces, machinery and equipment are safe and without risk to health.	N/A	Small processing at family level, no worker at family level
(4.4.1.2) Persons younger than 18 years, pregnant or nursing women, persons with incapacitated mental conditions; persons with chronic, hepatic or renal diseases, and persons with diseases in the respiratory ways: not allowed to work with the application of pesticides	N/A	Small processing at family level, no worker at family level

Annexe 4: Assessment for the conversion to organic cocoa standards in the Mekong Delta region

Applicable Organic Standard	Current Situation	Improvement to be made
1. Synthetic fertilizers are prohibited	Chemical NPK fertilizers are used by farmers (rates and forms)	Soil fertility management should include a variety of materials for example compost, aged animal manure, green manure and possibly additional mineral inputs from natural sources. Compost making especially with the cocoa buds is absolutely recommended. Green manure technologies have to be trained and mainstreamed
2. Chemical plant protection is prohibited	Farmers are using insecticides (list…..) and fungicides (list……) to control pests (list….) and diseases (list….). Anti termites products are used during by planting (products…..) Herbicides are not used? If yes, please specifiy products……	Organic pest and disease management should be based on growing a healthy crop and the application of a variety of preventive measures. In emergency situation, BT could be used against caterpillars.
3. Synthetic hormones are prohibited.	No use of hormones in cocoa production. Use of growing hormones in seedling production	Seedling production without use of synthetic growth hormone should be studied
4. Farmer must maintain records of sources of all farm inputs as well as of harvested products. Records include sales records. Annual production plans are also required.	Farmers do not keep records of the following: area, plantation density, date of plantation, cultivation. The cocoa processor is keeping record of quantities and qualities of purchased cocoa buds per farmer.	Once farmers start organic conversion, they should start to keep records. The record keeping could also be provided by the Club/Cooperative
5. Parallel production is not allowed: crops in organic fields must be different from crops in conventional fields.	Most farmers grow cocoa in a mixed orchard.	The entire orchard has to be converted in organic (no use of prohibited chemicals)
6. If prohibited substances are used on adjacent fields, the organic field must have a buffer area to prevent chemical contamination.	Some Cocoa plantations border fields with other crops	Buffer zones and plant border crops are required
7. Clearing primary forest for organic farming is prohibited.	Not applicable in the delta	No forest should be cut for Cocoa planting
8. All farm inputs containing GMOs are prohibited	Not applicable in Cocoa	None GMO varieties in Cocoa yet (sure?)
9. If available, organic seed and plant material should be used.	There is no organic seedling producer for the moment	Once organic Cocoa is established in Vietnam, the production and multiplication of organic seedlings should also be considered
10. Organic fertilizers should include a variety of materials for example compost, aged animal manure, green manure and possibly additional mineral inputs from natural sources	Presently only mulching and manure is being used by most farmers	Organic fertilisers used in organic production should include compost, green manures, animal manure, mulches and, in certain situations, allowed mineral fertilisers
11. Animal manure can only be used when it is aged or hot composted. When manure is not composted before use, it should be applied at least 120 days before harvesting	Ageing and hot composting are normally not used for manure applied in Cocoa	All animal manure should go through an aging or hot composting process. EM could be used.

Applicable Organic Standard	Current Situation	Improvement to be made
12. Burning of stalks and straw is prohibited	Although this was not observed during the study, it is a common practise among Vietnamese farmers. It's not the case in the Mekong Delta	To be followed
13. Night soil and urban compost are prohibited	Not the case in Mekong Delta region	To be followed
14. For brought-in poultry (ducks, chicken and birds) manure only the manure from poultry raised in free-range farms is allowed	Not the case in the Mekong Delta region	To be followed
15. Farmer must have measures to prevent soil erosion and soil salination.	Soil erosion is not an issue in the Mekong Delta region. Salination is a major topic	Measures to prevent salination: avoid cocoa
16. Measures shall be taken for the provision and improvement of landscape and biodiversity	Cocoa is planted as mixed crop	Measures to increase biodiversity
17. Bag and container used for transporting and storing organic product must be clean or new. Synthetic fertilizer bags are not allowed.	Farmers visited do not use prohibited bags. However, transport itself is mostly by bus and farmer has no control over what is happening during transportation.	Establishing processing unit close to production site makes it possible for producers to deliver themselves so that the process can be controlled.
18. Materials used in or produce from organic production must not be stored in the same area as materials/produce from conventional production	This will be a major issue in the value chain	Set up separate fermentation units for organic cocoa. Separate storage areas for organic and non-organic when only one processing unit used for both. Separate product flow
19. Spraying of prohibited pesticides in storage and containers is prohibited.	The use of chemicals is common. There are alternative technologies available in HCMC for container decontamination	To be followed

Annex 5: Estimated cost of 1 ha cocoa in Dak Lak province in VND (data provided by NLU, HCMC)

Particulars Cost for one hectar	Unit	Quantity	Price (d)*	Year after planting 1st	2nd	3rd	4th	5th	6th
1. Material									
Plating material	plant	1 100	5 000	5 500 000	-	-	-	-	-
Phosphate	kg	200	1 200	240 000	240 000	240 000	240 000	240 000	240 000
Inorganic fertilizer	kg	200	5 000	1 000 000	2 000 000	3 000 000	4 000 000	5 000 000	5 000 000
Lime	kg	500	700	350 000	210 000	210 000	-	-	-
Insecticide	lít	6	100 000	600 000	600 000	600 000	800 000	800 000	800 000
Fungicide	kg	4	150 000	600 000	600 000	600 000	800 000	800 000	800 000
Foliar fertilizer	liít	6	50 000	300 000	300 000	400 000	500 000	500 000	500 000
Organic manure	ton	10	150 000	1 500 000	-	-	-	-	-
Fuel	lít	40	9 000	360 000	360 000	360 000	800 000	800 000	800 000
Total Material				10 450 000	4 310 000	5 410 000	7 140 000	8 140 000	8 140 000
2. Labor				-					
Land preparation	manday	30	50 000	1 500 000	-	-	-	-	-
Irrigation	manday	20	50 000	1 000 000	1 000 000	500 000	500 000	500 000	500 000
Pruning	manday	12	50 000	600 000	250 000	250 000	300 000	300 000	300 000
Spraying (Pesticide)	manday	12	50 000	600 000	900 000	900 000	900 000	900 000	900 000
Applying fertilizer	manday	12	50 000	600 000	600 000	600 000	375 000	375 000	375 000
Hauling	manday	45	50 000	2 250 000	-	-	-	-	-
Weeding and others	manday	25	50 000	1 250 000	1 250 000	1 000 000	300 000	300 000	300 000
Harvesting	manday	50	50 000	2 500 000	-	450 000	500 000	625 000	625 000
Fermentation and drying	manday	40	50 000	2 000 000					
Total Labor				12 300 000	4 000 000	3 700 000	2 875 000	3 000 000	3 000 000
Total				22 750 000	8 310 000	9 110 000	10 015 000	11 140 000	11 140 000
Shade tree				-					
Crotalaria	kg	10	30 000	300 000	-	-	-	-	-
Wind breaker	plant	800	1 000	800 000	-	-	-	-	-
Rock phosphate	kg	200	1 200	240 000	-				
Inorganic fertilizer	kg	200	5 000	1 000 000	-	-			
2. Labor									
Applying fertilizer	manday								
Hauling	manday				-	-	-		
Thining shade tree	manday			-	100 000	200 000	200 000		

Mekong Delta the seedling costs are 3500VND/seedling

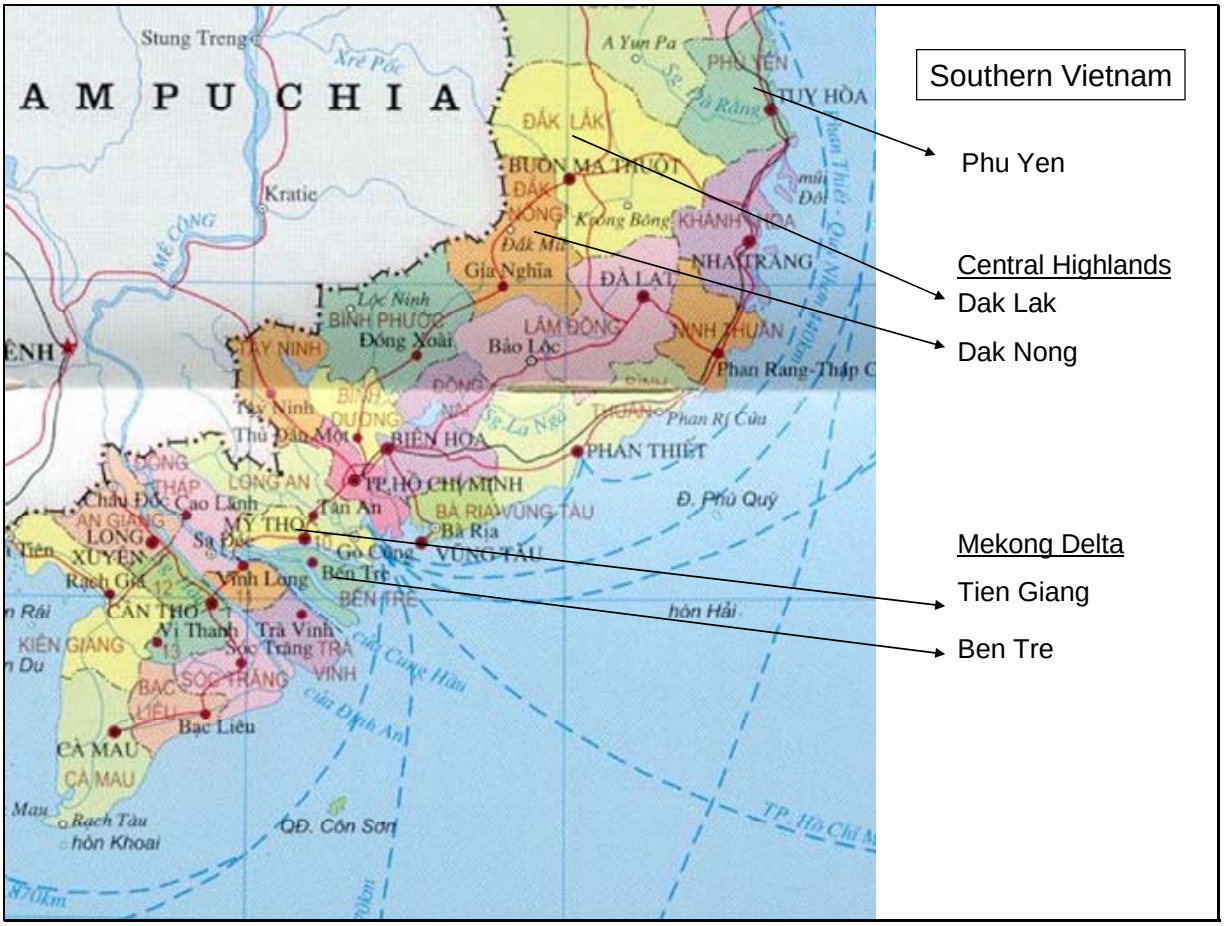
Annex 6: Model calculation for production and trade of organic and faire trade cocoa in Vietnam (estimations by Helvetas 2008)

Nb	Reference	Curency	Price/Unit	Unit	Remarks
1	FOB Cocoa price world market (basis on 26.10.07	USD	1 950,00	t	
2	Cocoa price at collectors place in Vietnam (ED&F/Cargill in Mekong Delta)	VND	26 900,00	kg	ex-ch.rate 16 100 VND / USD
3	Cocoa price at collectors place in Vietnam (ED&F/Cargill in Mekong Delta)	USD	1,67	kg	
4	Transport and handling costs	USD	0,28	kg	nb1 / 1000 - nb 3
5	FOB Cocoa Minimum Producer price for FLO-Standards	USD	1 600,00	t	cf. FLO Standards
6	FOB Cocoa Producer Fairtrade premium	USD	150,00	t	cf. FLO Standards
7	FOB Cocoa Producer Organic minimum premium (FLO std.)	USD	200,00	t	cf. FLO Standards
8	Farm gate price for Ripe Cocoa Buds in Vietnam (26.10.07)	VND	2 000,00	kg	in Ben Tre on 26.10.07
9	Farm gate price for Ripe Cocoa Buds in Vietnam (26.10.07) x 12	VND	24 000,00	kg	average 12 kg fresh / 1 kg dry fermented beans
10	Collector, fermenter and driyer revenu	VND	2 900,00	kg	#2 - #9
11	Imaginary fix term FOB contract price for Cocoa (organic and FT)	USD	2 500,00	t	HYPOTHESIS !
12	Transport and handling costs	USD	200,00	t	
13	Fairtrade premium	USD	150,00	t	
14	Certification costs organic	USD	50,00	t	2% of 2500
15	Certification costs Fairtrade	USD	50,00	t	2% of 2500
16	Internal control system	USD	50,00	t	2% of 2500
17	FOB Producer price (fermented and dried)	USD	2 000,00	t	
18	FOB Producer price (fermented and dried)	VND	32 160,00	kg	
19	Collector, fermenter and driyer revenu	VND	2 900,00	kg	same as nb 10
20	Farm gate price for Ripe Cocoa Buds in Vietnam / 12	VND	2 438,33	kg	20% price increase in comparison to nb 8
21	Year 1: 1 container à 16 t à 2500 USD	USD	40 000,00		
22	Year 2: 2 containers à 16 t à 2500 USD	USD	80 000,00		
23	Year 3: 3 containers à 16 t à 2500 USD	USD	120 000,00		
24	Year 4: 4 containers à 16 t à 2500 USD	USD	160 000,00		
25	Year 5: 5 containers à 16 t à 2500 USD	USD	200 000,00		
26	Year 6: 6 containers à 16 t à 2500 USD	USD	240 000,00		
27	Year 7: 7 containers à 16 t à 2500 USD	USD	280 000,00		
28	Year 8: 8 containers à 16 t à 2500 USD	USD	320 000,00		
29	Year 9: 9 containers à 16 t à 2500 USD	USD	360 000,00		
30	Year 10: 10 containers à 16 t à 2500 USD	USD	400 000,00		

Annex 7: Production scenarios and break even points for trade of organic and faire trade cocoa in Vietnam for the Mekong Delta region (estimations Helvetas 2008)

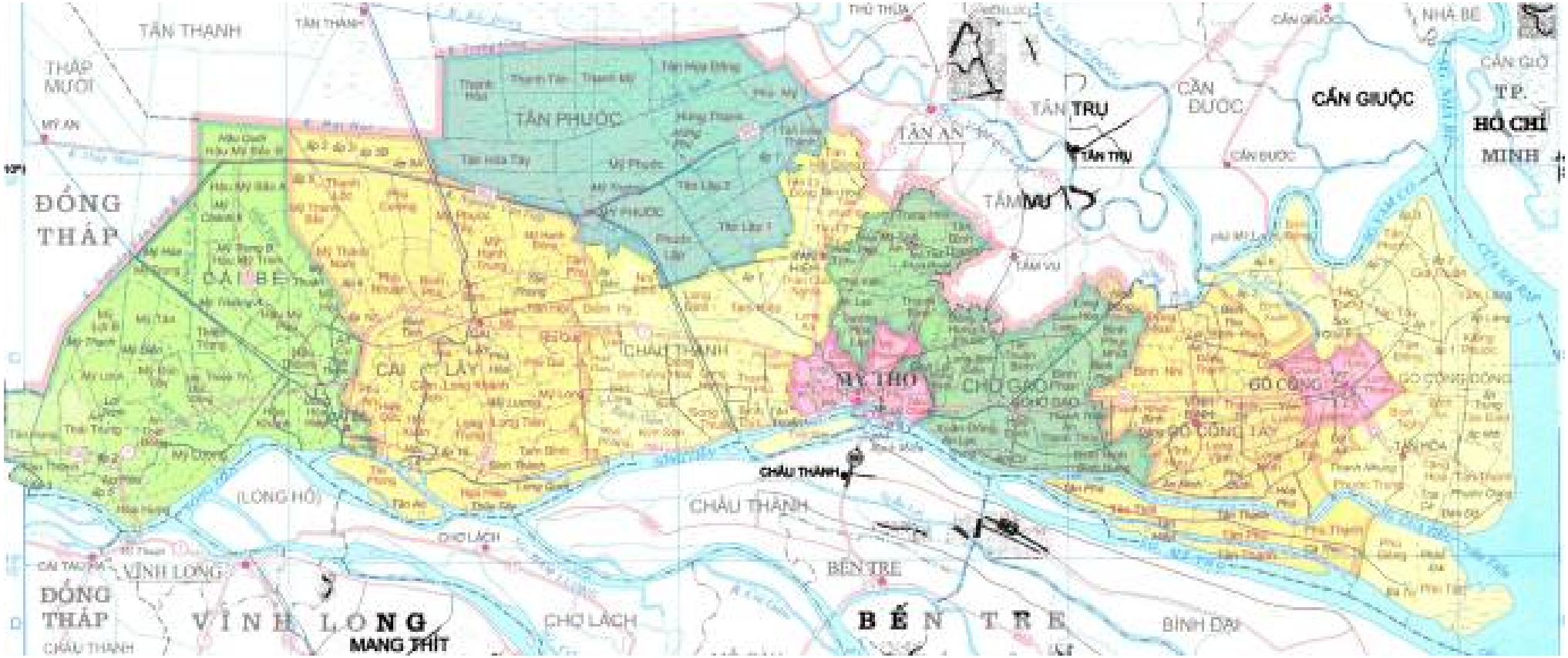
Year	Nb con-tainer	Weight	Price/t	Total	Fairtrade premium	Organic cert-fication costs	Fairtrade certfication costs	Internal control system costs	Area 1t/ha/year	Nb of framers 0,3ha/farmer	Nb of farmer groups 60/group
nb	*nb*	*t*	*USD*	*USD*	*USD*	*USD*	*USD*	*USD*	*ha*	*nb*	*nb*
1	1	16	2 500	40 000	2 400	800	800	800	16	53	1
2	2	32	2 500	80 000	4 800	1 600	1 600	1 600	32	107	2
3	3	48	2 500	120 000	7 200	2 400	2 400	2 400	48	160	3
4	4	64	2 500	160 000	9 600	3 200	3 200	3 200	64	213	4
5	5	80	2 500	200 000	12 000	4 000	4 000	4 000	80	267	4
6	6	96	2 500	240 000	14 400	4 800	4 800	4 800	96	320	5
7	7	112	2 500	280 000	16 800	5 600	5 600	5 600	112	373	6
8	8	128	2 500	320 000	19 200	6 400	6 400	6 400	128	427	7
9	9	144	2 500	360 000	21 600	7 200	***7 200***	7 200	144	480	8
10	10	160	2 500	400 000	24 000	***8 000***	8 000	***8 000***	160	533	9
		Break even points									

Annex 8: Map of Southern Vietnam with the concerned provinces

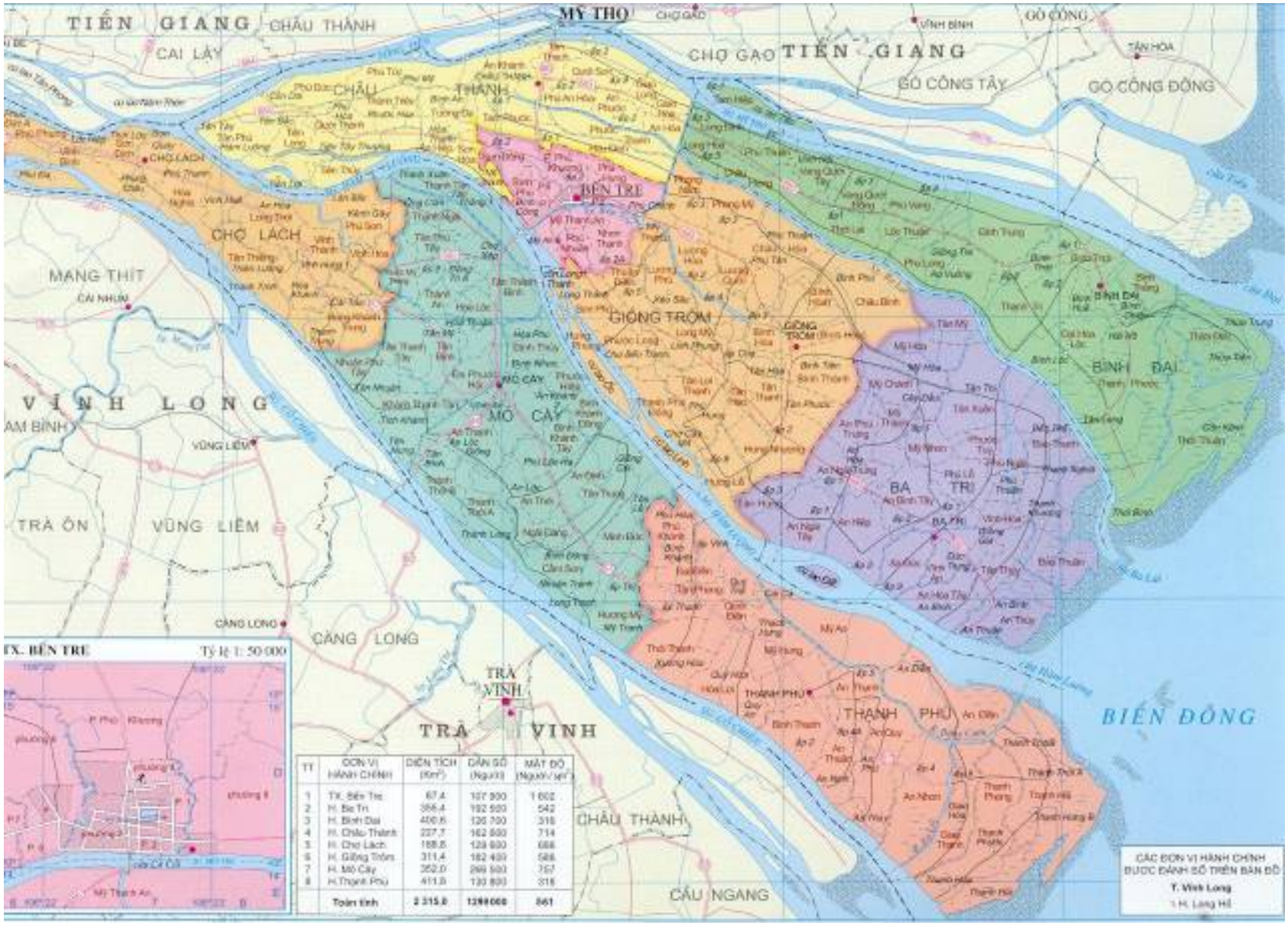


Annex 9: Provincial maps

Tien Giang province

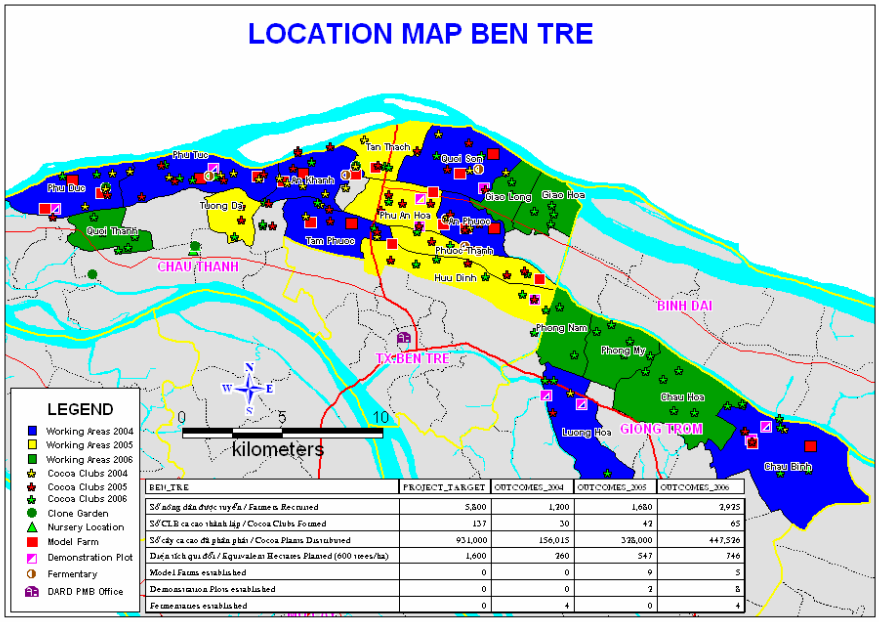


Ben Tre province



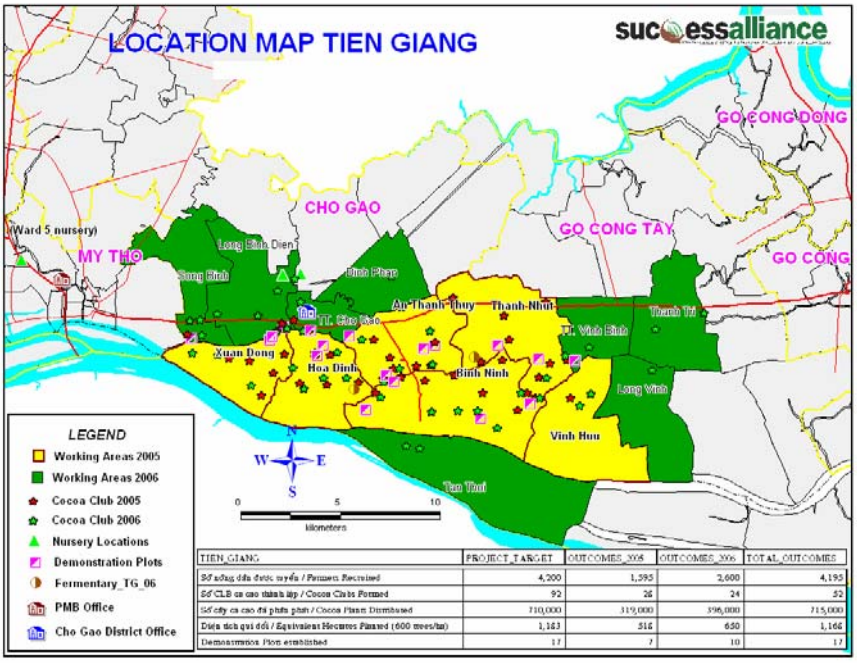
TT	ĐƠN VỊ HÀNH CHÍNH	DIỆN TÍCH (Km²)	DÂN SỐ (Người)	MẬT ĐỘ (Người/ km²)
1	TX. Bến Tre	67.4	107 900	1 602
2	H. Ba Tri	366.4	192 500	542
3	H. Bình Đại	400.6	126 700	316
4	H. Châu Thành	227.7	162 600	714
5	H. Chợ Lách	188.8	129 800	688
6	H. Giồng Trôm	311.4	182 400	586
7	H. Mỏ Cày	352.0	266 500	757
8	H.Thạnh Phú	411.8	130 800	318
	Toàn tỉnh	2 315.8	1299000	561

Cocoa producers in Ben Tre



BEN_TRE	PROJECT_TARGET	OUTCOMES_2004	OUTCOMES_2005	OUTCOMES_2006
Số nông dân được tuyển / Farmers Recruited	5,800	1,200	1,650	2,925
Số CLB ca cao thành lập / Cocoa Clubs Formed	137	30	42	65
Số cây ca cao đã phân phát / Cocoa Plants Distributed	931,000	156,015	325,000	447,526
Diện tích qui đổi / Equivalent Hectares Planted (600 trees/ha)	1,600	260	547	746
Model Farms established	0	0	9	5
Demonstration Plots established	0	0	2	8
Fermentaries established	0	4	0	4

Cocoa producers in Tien Giang



TIEN_GIANG	PROJECT_TARGET	OUTCOMES_2005	OUTCOMES_2006	TOTAL_OUTCOMES
Số nông dân được tuyển / Farmers Recruited	4,200	1,595	2,600	4,195
Số CLB ca cao thành lập / Cocoa Clubs Formed	92	26	24	52
Số cây ca cao đã phân phát / Cocoa Plants Distributed	710,000	319,000	396,000	715,000
Diện tích qui đổi / Equivalent Hectares Planted (600 trees/ha)	1,183	516	650	1,166
Demonstration Plots established	17	7	10	17