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# THE DARK SIDE OF CHOCOLATE

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AN ANALYSIS OF THE CONVENTIONAL,  
SUSTAINABLE AND FAIR TRADE  
COCOA CHAINS

BY BASIC (BUREAU FOR THE APPRAISAL OF SOCIETAL IMPACTS  
AND COSTS), FOR THE FRENCH FAIR TRADE PLATFORM



## EDITORIAL

BY MARC DUFUMIER

The fair trade movement seeks to demonstrate that farmers can maintain a decent and dignified livelihood through their work and adopt agricultural practices that preserve the environment and biodiversity – as long as they benefit from remunerative and stable prices.

For this purpose, the fair trade movement promotes and develops an alternative economic model which strives to regularly assess its impacts in order to reinforce its strengths and fix its weaknesses in a transparent and accountable way.

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### OUR COMMUNITY AS A WHOLE BEARS THE LOSSES AND EXPENSES GENERATED BY MAINSTREAM ECONOMIC ACTIVITIES

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Simultaneously, it aims to shed light on unsustainable economic models whose social and environmental destructive impacts are a burden for the entire society. At present, our community as a whole bears the losses and expenses generated by mainstream economic activities.

The purpose of this report is to analyse the hidden costs of the cocoa chain, an iconic product, both of fair trade and unsustainable conventional agro-food chains.

The ever-expanding chocolate market fostered the emergence of industrial empires in cocoa processing and chocolate manufacturing. The standardisation and massification of cocoa production created an abyssal asymmetry between a handful of transnational companies and millions of small farmers who do not have access to information on market trends, and very little capacity - if any - to negotiate the price they receive for their cocoa.

This downward pressure maintains most of the producers below the poverty line and pushes them to develop short-term strategies in order to increase their income: chemical inputs and deforestation to enhance productivity, child labour to reduce labour costs...

Based on the analysis of a large number of scientific articles, specialised reports and interviews, this study compares the societal costs of conventional cocoa chains with the results obtained within “sustainable” and “fair trade” certified chains in Peru and Ivory Coast. We learn from this study that certification schemes encounter varying degrees of success, but we can also identify powerful levers for sustainability.

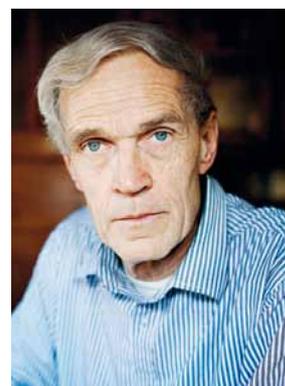
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### THE SUSTAINABILITY OF COCOA PRODUCTION CAN ONLY BE ACHIEVED THROUGH COLLECTIVE AND CONCERTED ACTIONS INSPIRED BY THE CORE PRINCIPLES OF FAIR TRADE IN ORDER TO EXPAND ITS POSITIVE IMPACTS TO THE ENTIRE CHAIN.

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In particular, the study demonstrates that fair trade can significantly improve the sustainability of the cocoa chain if the following conditions are respected: the guarantee that prices received by cocoa producers cover the costs of production and the basic needs of their families; the strengthening of grass-root producer organisations; substantial investments in basic social services and local infrastructures. The successful examples described in the report rely on alternative agricultural practices, especially agroforestry, and on chocolate chains that value the cocoa origins.

The results of this meta-analysis remind us that the sustainability of cocoa production can only be achieved through collective and concerted actions inspired by the core principles of fair trade in order to expand its positive impacts to the entire chain.



**MARC DUFUMIER**

*President of  
the French Fair Trade Platform*



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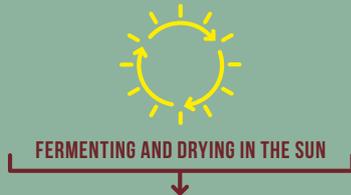
# FROM COCOA BEAN TO CHOCOLATE

## STEP BY STEP



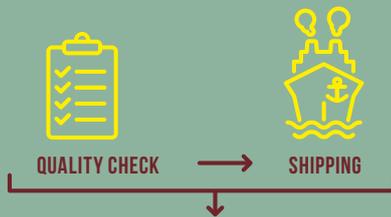
### GROWING AND HARVESTING

The cocoa trees grow in tropical climates within the cocoa belt along the equator. They are cultivated by over five million smallholder farmers on plots of less than 10 hectares. A cocoa pod takes five to six months to ripen and contains 30 to 40 beans.



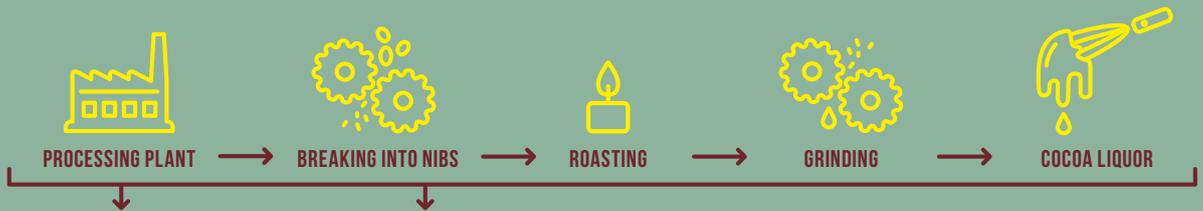
### FERMENTING AND DRYING

The beans are surrounded by a juicy and sweet white pulp. Beans and pulp ferment for five to seven days, then dry in the sun for a week. In Ivory Coast, fermenting and drying processes are handled by the farmers themselves while in Peru, they deliver the beans "fresh", leaving the cooperatives or local intermediaries/middlemen to ferment and dry them.



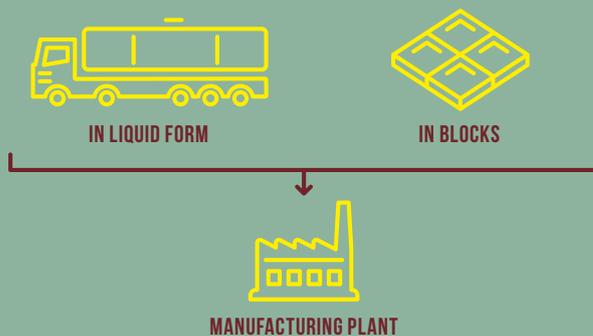
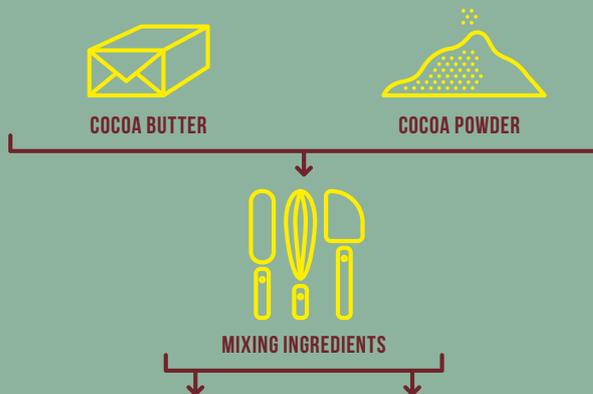
### COLLECTING AND TRANSPORTING

Beans are collected, weighed and checked for quality. Packed in jute bags, they are transported to the harbours of the producer countries and then stored in bulk within the cargo holds of vessels or containers. Organic beans and some fair trade ones are transported in jute bag until they reach destination to ensure traceability.



### PROCESSING COCOA BEANS

Upon arrival at the processing plant, beans are cleaned, dried, blended and broken to remove the thin shell surrounding them. The nibs inside are roasted and ground to a fine mass called cocoa liquor which is then pressed into cocoa butter and cocoa powder. Cocoa powder is the basis for a wide variety of chocolate and confectionery products: sweets, ice creams, spreads etc. Some producer countries now have processing plants: for instance, 35% of the Ivorian cocoa production is processed into cocoa liquor, butter or powder prior to shipment.



### MANUFACTURING CHOCOLATE

Cocoa liquor and butter are mixed with other ingredients such as sugar or milk to make chocolate. The industrial chocolate or couverture chocolate is often produced by processors who offer a wide variety of chocolate to choose from to large manufacturers as well as artisanal chocolate makers. Industrial chocolate can be delivered either in liquid forms or in blocks. With the industrial chocolate they bought, manufacturers produce the final chocolate products for their own brands or for other customers (such as private labels). Some manufacturers chose to keep in-house the entire supply chain, from processing to marketing.

## SIX MAJOR MANUFACTURERS ACCOUNT FOR 50% OF THE GLOBAL CHOCOLATE MARKET<sup>11</sup>



### INTRODUCTION

#### MOST OF THE FIVE MILLION SMALLHOLDER FARMERS WHO PRODUCE THE WORLD'S COCOA LIVE BELOW THE POVERTY LINE

Having long been the preserve of the rich, over the past century chocolate has become a common food item throughout Europe and North America, available in a wide variety of forms: spreads, sweets, chocolate bars, truffles, cocoa powder, etc. Behind this myriad of products lies a heavy concentration of production: six major manufacturers account for 50 percent of the global chocolate market. At the other end of the chain, over five million<sup>12</sup> smallholder farmers and their families produce of the world's cocoa crop. Located in the tropical 'cocoa belt', most of these producers live below the poverty line. Since the early 2000s, civil society awareness-raising campaigns<sup>13</sup> on the issue of child labour, along with legal proceedings against leading chocolate brands, have shed light on living and working conditions on cocoa plantations<sup>14</sup>. In parallel, a steady increase in global demand for cocoa beans has begun to raise questions for experts about the industry's capacity to secure long-term supplies.

Some manufacturers have therefore forged partnerships with NGOs and sustainable certification bodies (UTZ, Rainforest Alliance) whose schemes are focused on compliance with environmental guidelines and labour laws<sup>15</sup>, and support to help producers to increase yields.

Other companies have chosen to become involved in fair trade approaches that have grown out of older movements focusing on improving producers' living conditions through a better return on their work and collective organisation.

**What are the impacts of these sustainable and fair trade approaches in producer countries? What effects do they have on the structure of the cocoa supply chain? Are there marked differences between the impacts of these two approaches? What are the costs of these impacts for society? What are the necessary conditions for sustainable and fair trade approaches to achieve their objectives?**

In order to provide some answers to these questions, this study has in particular endeavoured to:

- Understand the cocoa value chain and how it has developed over time – the workings of the conventional industry, the tensions to which it is prey and the actions of the players that drive it;
- Analyse the impacts caused by the conventional industry and the ensuing societal costs in Ivory Coast and Peru, the world's largest and ninth-largest cocoa producers respectively;
- Objectively assess the differences in the societal impacts and costs generated by the sustainable and fair trade supply chains;
- Identify practices that appear to promote positive impacts that have the potential to kickstart virtuous circles of development, and learn wider lessons that might make the cocoa industry more sustainable and lasting.

<sup>11</sup> Mars: 13.3%; Mondelez International: 11.2%; Nestlé: 8.8%; Ferrero: 8.8%; Hershey: 5.3%; Lindt & Sprüngli: 2.4% (Candy Industry, January 2014).

<sup>12</sup> Between five and six million producers according to UNCTAD estimates (Dr Samuel K. Gayi, 'Improving the efficiency and transparency of the Cocoa Global Value Chain (GVC). Market structure and potential impacts on smallholder farmers' June 2014); 6.5 million producers according to estimates by M.P. Squicciarini & J. Swinnen, *The Economics of Chocolate*, Oxford University Press, 2016.

<sup>13</sup> The European 'Make Chocolate Fair' campaign; the International Labour Rights' 'Cocoa Campaign'; O. Nieburg 'Oxfam aftermath: Women central to the future of cocoa, says Mars', *Confectionery News*, 2 January 2014.

<sup>14</sup> O. Nieburg, 'Mars, Nestlé and Hershey face fresh cocoa child labor class action lawsuits', *Confectionery News*, 30 September 2015; O. Nieburg, 'Ivorian cocoa embargo likely if Nestlé, ADM and Cargill child slavery case succeeds, says judge', *Confectionery News*, 1 June 2015.

<sup>15</sup> Each sustainable certification body defines its own social and environmental standards based on international norms such as the World Health Organization's (WHO) list of banned chemicals and the International Labour Organization's (ILO) labour conventions (especially for defining child labour).



## CHOCOLATE: A MASS CONSUMER GOOD IN THE HANDS OF A FEW TRANSNATIONALS

Having become a mass-market product, chocolate is now mainly used as an ingredient in products containing a high percentage of sugar and fats that are marketed by a handful of large brands.

In mature markets such as Western Europe and North America, competition is driven by product innovation and advertising against a backdrop of stagnating or even falling consumption. Leading manufacturers are now turning to emerging economies such as China and India, whose booming demand is driving rising global consumption.

The specificity of the French market lies in its appetite for chocolate bars and the existence of a large number of artisanal chocolate makers.

### A great concentration of actors in the middle of the chain

#### THE FIVE LARGEST COCOA BEAN PROCESSORS ACCOUNT FOR 81% OF THE MARKET

Only the largest companies currently have the logistical and financial capacity to cope with the volumes of cocoa required by a mass market. In France, for instance, the five largest cocoa bean processors account for 81 percent of the market. Barry Callebaut leads the way with almost 24 percent of the total volume<sup>95</sup>.

Having commenced at the start of 20th century, the mass market for cocoa has boomed in the past two decades due to two phenomena:

- Standardisation over the last century with the goal of assuring cocoa production of constant quality, regardless of the origin of the bean or production methods<sup>96</sup>. Cocoa beans have become a commodity that is subject to speculation, its price fluctuating according to developments on the world market;
- The liberalisation of the cocoa trade in the late 1980s, which brought an end to various attempts at international regulation. This notably triggered the arrival of the major commodity traders, ADM and Cargill, on the market and, in response, to the merger of Cacao Barry and Callebaut (now Barry Callebaut, the world leader in cocoa processing). These three players have dominated world cocoa processing ever since and are currently strengthening their presence in producer countries by investing in ever larger, ever more powerful processing plants.

<sup>95</sup> Xerfi, La fabrication de chocolat, 2016.

<sup>96</sup> The forastero variety now makes up 95% of world cocoa volumes (A. Caligiani, L. Palla, D. Acquotti, A. Marseglia and G. Palla, 'Application of 1H NMR for the characterisation of cocoa beans of different geographical origins and fermentation levels', Food Chemistry 157, 2014.

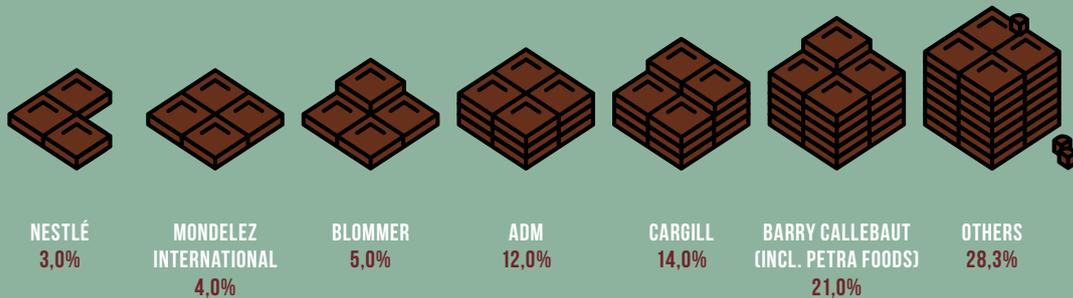
### INDUSTRIAL CHOCOLATE - WORLD (2013)



### CHOCOLATE BRANDS - WORLD (2013)



### COCOA PROCESSORS - WORLD (2013)



## MARKET SHARE OF THE MAJOR CHOCOLATE BRANDS, INDUSTRIAL CHOCOLATE MANUFACTURERS AND COCOA BEAN PROCESSORS RESPECTIVELY

Source: BASIC, based on data published by Barry Callebaut and Candy Industry (2014)



## COCOA: AN ECONOMICALLY, SOCIALLY AND ENVIRONMENTALLY UNSUSTAINABLE VALUE CHAIN

The polarisation of the value chain, with manufacturers on one side and processors on the other, results in a huge power imbalance between the beginning and end of the chain, and the fallout is evident in cocoa-producing countries.

### A model of family farming under severe economic strain

The majority of the world cocoa crop is produced by smallholder farmers and their families on farms of less than 10 hectares, as most large plantations struggle to demonstrate any economic advantage<sup>10</sup>.

The effect of this fragmentation of production is a lack of organisation that penalises smallholder farmers in their negotiations with cocoa bean buyers. Coordinated and financed by the major cocoa processing firms, the latter find it easy to force down prices.

<sup>10</sup> M.P. Squicciarini & J. Swinnen, *The Economics...*, op. cit.

### Cocoa producers' incomes remain far too low and unstable

**LOW AND UNSTABLE INCOMES, LACK OF INVESTMENT, DECREASING YIELDS: THE PRODUCERS ARE TRAPPED IN A VICIOUS CIRCLE**

Low and unstable incomes deprive smallholder farmers of the finances they need to maintain their plots, thereby exacerbating the natural reduction in yields as cocoa trees get older. The producers are trapped in a vicious circle in which a lack of investment and decreasing yields perpetuate low and unstable incomes.

In Ivory Coast, the world's largest producer, a regulatory system introduced in 2012<sup>11</sup> has led to an increase in producer incomes. Nevertheless, most farmers still live

below the poverty line and remain vulnerable to future slumps in the world cocoa price. In a fully liberalised system such as the one operating in Peru, there is no mechanism to guarantee a minimum price to smallholder producers.

<sup>11</sup> This system sets a 'producer price' at 60% of the cocoa export price, which is in turn indexed to the world price.

<sup>12</sup> A new field established on a plot of cleared forestland produces up to three times the yield of a middle-aged plot.

<sup>13</sup> M. Koné, Y. L. Kouadio, D. F. R. Neuba, D. F. Malan and L. Coulibaly, 'Évolution de la couverture forestière de la Côte d'Ivoire des années 1960 au début du 21<sup>e</sup> siècle', *Innovative Space of Scientific Research Journals*.

<sup>14</sup> Monitoring of the Andean Amazon Project (MAAP), 'MAAP #25: Deforestation Hotspots in the Peruvian Amazon, 2012-2014', 20 February 2016.

<sup>15</sup> J. Ng, 'United Cacao replicates Southeast Asia's plantation model in Peru, says CEO Melka', *The Edge Singapore*, 13 July 2015.

### Deforestation as the sole prospect

As they seek to maintain their yields and their incomes, one of producers' only possibilities is to expand their farms by clearing forestland<sup>16</sup>.

It is estimated that around 13 million hectares of forest, or 80 percent of Ivory Coast's original forest cover, have disappeared since the 1960s<sup>17</sup> partly for cocoa production.

Peru has so far been spared, thanks to an agroforestry model of cocoa production that conserves the forest. Nevertheless, concerns have been raised about United Cacao's unauthorised deforestation of more than 2,000 hectares<sup>18</sup>. Its CEO, Dennis Melka, declared that his company wanted to apply the South-East Asian agro-industrial model to cocoa farms in Peru, presenting it as a place where the costs of production were among the lowest on Earth, with high yields and no export tax<sup>19</sup>.

This deforestation disturbs the local pedo-climatic balance and amplifies the phenomena of drought and pluviometric variation, with direct effects on the cocoa crop.

**80% OF IVORY COAST'S ORIGINAL FOREST COVER HAVE DISAPPEARED SINCE THE 1960S, PARTLY FOR COCOA PRODUCTION**

### Children: a sacrificed work force

**MANY KIDS FIND THEMSELVES WORKING IN DANGEROUS CONDITIONS**

In the cocoa-producing zones of Ivory Coast and Peru, children generally combine going to school and working in the field – a free workforce that enables farmers to improve their incomes.

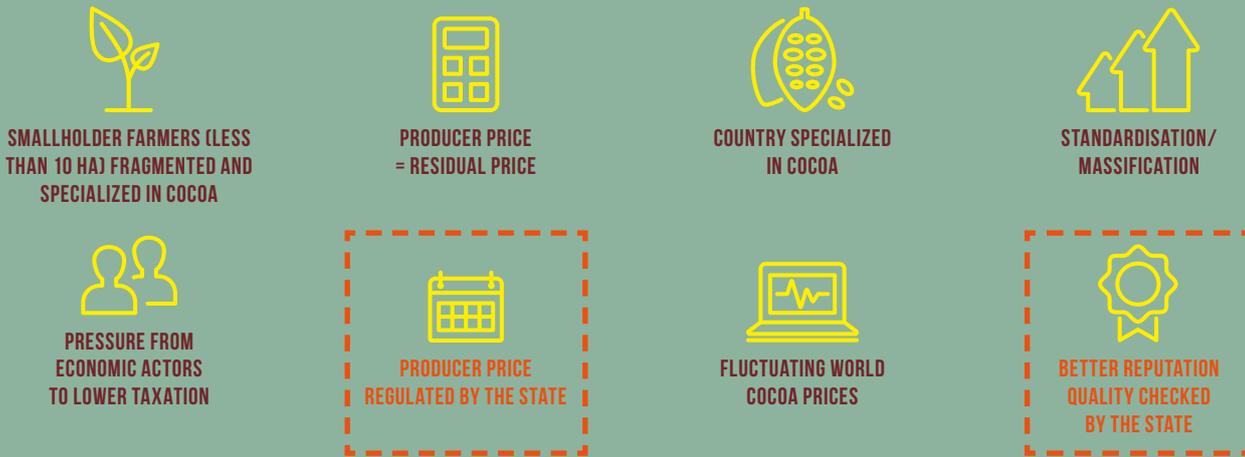
Many kids find themselves working in conditions described as dangerous<sup>20</sup>, as they have to apply chemical inputs

<sup>20</sup> Notably by UNICEF and the ILO.

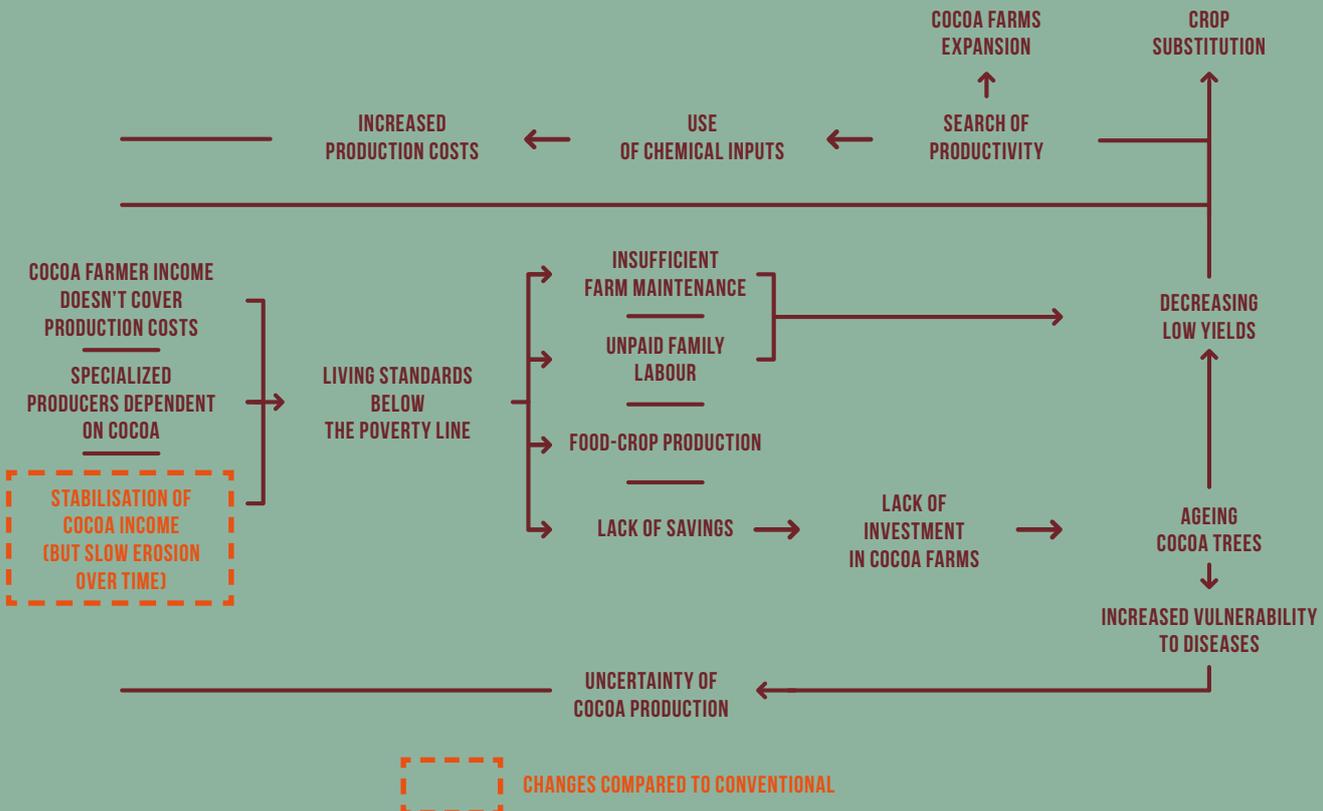
# IMPACT PATHWAYS AND LOOPS IN THE CONVENTIONAL COCOA CHAIN IN IVORY COAST AFTER STATE REGULATION

Source : BASIC

## KEY FEATURES OF THE VALUE CHAIN



## IMPACT PATHWAYS AND LOOPS





The main sustainable certification schemes are the Rainforest Alliance and UTZ Certified labels. They spread in Ivory Coast and Peru in the 2000s. They account for about 10% of Ivorian cocoa exports<sup>6</sup>.



<sup>6</sup> J. Potts, M. Lynch, A. Wilkings, G. Huppé, M. Cunningham, V. Voora, *The State of Sustainability Initiatives Review 2014*, IISD et IIED, (2014) and 25% of Peruvian cocoa exports (C. Huamanchumo de la Cuba, *Análisis de la cadena de valor del cacao en la región de San Martín*, Perú, Swisscontact Perú, 2013).



or handle machetes. In Ivory Coast the absence of control of human trafficking amid the violence of the past few years explains the increase in the number of documented cases of child slave<sup>7</sup>, a phenomenon that does not appear to exist in Peru<sup>8</sup>. This form of work has a negative effect on children’s wellbeing and health. It also has longer-term effects including a waste of human capital through inadequate or indeed no schooling.

**When economic dependence creates food insecurity**

Cocoa producers often rely on cocoa as a cash crop, even if it is only rarely their sole source of income. This dependence on cocoa is all the more problematic because low and volatile returns prevent farmers from investing in the food crops they need to feed their families. The resulting food insecurity directly damages farmers’ health and wellbeing.

<sup>7</sup> School of Public Health and Tropical Medicine, Survey Research on Child Labor in West African Cocoa Growing Areas 2013/2014, Tulane University, 2015.

<sup>8</sup> International Labour Organization (ILO) and Peru’s National Institute of Statistics and Information Technology (INEI), ‘Trabajo infantil en el Perú. Magnitud y perfiles vulnerables. Informe nacional 2007-2008, 2009’.

**OVERALL ASSESSMENT: THE CONVENTIONAL SUPPLY CHAIN IS UNSUSTAINABLE BECAUSE ITS OBJECTIVE IS FINANCIAL PROFITABILITY**

Deforestation, child labour and food insecurity are the three primary impacts of the cocoa value chain on smallholder farmers and their families. These negative impacts express themselves as hidden costs for each particular country, i.e. costs that are not borne by the structures that cause them, leaving local people to pick up the tab. These societal costs are estimated at 2.85 billion for Ivory Coast and 62 million for Peru, compared with 3.7 billion and 166 million respectively in income from cocoa exports. In other words, for every euro of value created, the cocoa and chocolate industry generates 77 cents of societal costs in Ivory Coast and 37 cents in Peru. These figures are a very conservative estimate, but they nevertheless place an objective value on the unsustainability of an industry that has been increasingly structured around an objective of financial profitability.



## SUSTAINABLE CERTIFICATION SCHEMES MAKE LITTLE DIFFERENCE FOR PRODUCERS

### Cocoa producers' incomes remain low and unstable

Sustainable certification bodies focus their schemes on producer training and better use of chemical inputs to increase yields from their land. However, this support does not appear to be bearing much fruit. Recent studies show that certified cocoa producers have trouble achieving significant increases in yields, despite working harder<sup>19</sup>.

However, the quality premium paid per tonne of sustainable cocoa is a source of motivation for farmers, even if it ultimately represents only a 6%<sup>20</sup> to 7%<sup>21</sup> increase in price. Overall, the increases in income are insufficient to allow cocoa farmers to escape from the vicious cycle in which their conventional counterparts are caught.

### Persistent process of deforestation

Although environmental issues feature prominently in the standards of the main sustainable certification schemes, studies do not report any reversal of the process of deforestation<sup>22</sup>. What is more, some certified sustainable farms are said to be former plots of forestland that were cleared in the late 2000s<sup>23</sup>.

### No evidence of a reduction in child labour

Sustainable certification schemes include in their standards a ban on child labour, but the available studies provide no evidence of any structural change on cocoa farms<sup>24</sup>. Farmer's knowledge of the ILO's conventions on child labour remains very poor, despite the training provided<sup>25</sup>.

### Chemical inputs still being used

Sustainable certification schemes make it easier for producers to access chemical inputs to increase their productivity. Some cooperatives have instituted teams of professionals, trained and equipped to apply chemical inputs, which reduces the health risks for producers<sup>26</sup>.

The studies show that the number of treatments is the same on certified cocoa farms as on their conventional counterparts, while fertiliser use is on the up<sup>27</sup>. There has therefore been no reduction in the air, water and soil contamination caused by these inputs.

### OVERALL ASSESSMENT: SOCIETAL COSTS SLIGHTLY DOWN

Sustainable certification schemes have little impact on deforestation, child labour and the use of chemical inputs – three major issues in the cocoa supply chain. The living and working conditions of certified producers remain more or less the same as those of conventional cocoa farmers. The difference in terms of societal costs between sustainable and conventional cocoa/chocolate supply chains is moderate: our estimates reveal an average reduction of 12% in Ivory Coast and 34% in Peru, primarily due to an improvement in producer incomes.

<sup>19</sup> For Ivory Coast: V. Ingram et al., *Impact of UTZ Certification of cocoa in Ivory Coast: Assessment framework and baseline*, Wageningen University-CIRAD-ALP, 2014, and M. A. Schweisguth, 'Evaluating the effects of certification on smallholders' net incomes, with a focus on cacao farmers in cooperatives in Côte d'Ivoire', University of California Davis, Master's Thesis, 2015. For Peru: K. Laroche, R. Jimenez, and V. Nelson, 'Assessing the impact of fairtrade for Peruvian cocoa farmers', Natural Resources Institute, University of Greenwich, June 2012, and C. Huamanchumo de la Cuba, 'Análisis de la cadena'..., op. cit.

<sup>20</sup> M. A. Schweisguth, 'Evaluating the effects of certification...', op. cit.

<sup>21</sup> V. Ingram et al., 'Impact of UTZ Certification of cocoa...', op. cit.

<sup>22</sup> For example, the Ivorian certified sustainable farms have two trees per hectare of cocoa on average, the same number as conventional farms (S. Lemeilleur, Y. N'Dao and F. Ruf, 'The productivist rationality behind a sustainable certification process: evidence from the Rainforest Alliance in the Ivorian cocoa sector', *International Journal Sustainable Development*, January 2015).

<sup>23</sup> S. Lemeilleur, Y. N'Dao and F. Ruf, 'The productivist rationality behind...', op. cit.

<sup>24</sup> V. Ingram et al., 'Impact of UTZ Certification of cocoa...', op. cit.

<sup>25</sup> V. Ingram et al., 'Impact of UTZ Certification of cocoa...', op. cit.

<sup>26</sup> S. Lemeilleur, Y. N'Dao et F. Ruf, 'The productivist rationality behind...', op. cit.

<sup>27</sup> M. A. Schweisguth, 'Evaluating the effects of certification...', op. cit.

THE NUMBER OF TREATMENTS  
IS THE SAME ON CERTIFIED  
COCOA FARMS AS ON  
THEIR CONVENTIONAL  
COUNTERPARTS



## THE IMPACT OF FAIR TRADE CAN BE SIGNIFICANT IF SOME CONDITIONS ARE MET

**IN IVORY COAST, FAIR TRADE HAS A GREATER IMPACT THAN SUSTAINABLE CERTIFICATION SCHEMES, BUT DOES LITTLE TO CHANGE THE OVERALL SITUATION, AS IT DOES NOT ALTER THE STRUCTURE OF THE CHAIN.**



### A rapid expansion of fair trade certification

Fair trade developed concurrently with sustainable certification schemes in Ivory Coast and spread rapidly, notably due to the labelling of Kit Kat bars on the UK market in 2009<sup>27</sup>. Many cooperatives, sometimes instrumentalised by Ivorian traitants or pisteurs<sup>28</sup>, have both fair trade and sustainable certification.

### Most fair trade cocoa producers in Ivory Coast cannot rise out of poverty

Recent studies show that there is no significant difference between the income of a sustainable cocoa producer and that of a Fairtrade cocoa farmer in Ivory Coast. Producers of sustainable cocoa and fair trade cocoa earn a slightly (6%)<sup>29</sup> higher annual income than conventional cocoa producers, but it does not allow them to rise above the poverty line. Fair trade cocoa farmers thus find themselves trapped in the same vicious circle as conventional producers.

### Investment of the fair trade premium in essential services remains too low

One of the features of fair trade certification schemes is the payment of a premium (per tonne of cocoa sold)<sup>30</sup> to the cooperative, whose members then decide together how it will be used.

In Ivory Coast, half of this premium is used to strengthen cooperative structures whose profitability is often weak, and on average 30 percent of the premium is paid directly to producers<sup>31</sup>. Only 20 percent of the fair trade premium goes towards basic local services, which is too little to create a multiplier effect.

The weakness of any local development dynamic is reflected in the small reduction in societal costs. These are 6 percent lower than for sustainable schemes, and 18 percent lower than in the case of conventional production.

<sup>27</sup> Fairtrade International, Annual Report 2009-2010.

<sup>28</sup> In the conventional cocoa/chocolate supply chain in Ivory Coast, the farmer sells his or her crop to a pisteur (a stringer) who works under contract for a traitant (trader). The traitant can either be self-employed or associated with an international exporter.

<sup>29</sup> M. A. Schweisguth, 'Evaluating the effects of certification...', op. cit.

<sup>30</sup> It is currently set at US\$200 per tonne of cocoa sold (Fairtrade Cocoa in West Africa, 2014).

<sup>31</sup> Fairtrade Cocoa in West Africa, 2014.

**IN IVORY COAST, HALF OF THE FAIR TRADE PREMIUM IS USED TO STRENGTHEN COOPERATIVE STRUCTURES WHOSE PROFITABILITY IS OFTEN WEAK, AND 30% IS PAID DIRECTLY TO PRODUCERS**

**IN PERU, FAIR TRADE CONSIDERABLY ATTENUATES THE IMPACTS OF THE COCOA SUPPLY CHAIN AND INITIATES VIRTUOUS CIRCLES OF LOCAL DEVELOPMENT**



### Fair trade in Peru has benefited from a structured cooperative movement

Peruvian cooperatives first developed on the coffee market before reinvesting their knowledge in cocoa<sup>32</sup>, with the aid of international development cooperation as a means of fighting coca production after the end of the civil war.

The fact that they are embedded in a structured cooperative movement partially explains why 8 percent of Peruvian cocoa is now exported at fair trade conditions<sup>33</sup>.

<sup>32</sup> Personal conversation with a cooperative leader in Peru.

<sup>33</sup> C. Huamanchumo de la Cuba, 'Análisis de la cadena...', op. cit.



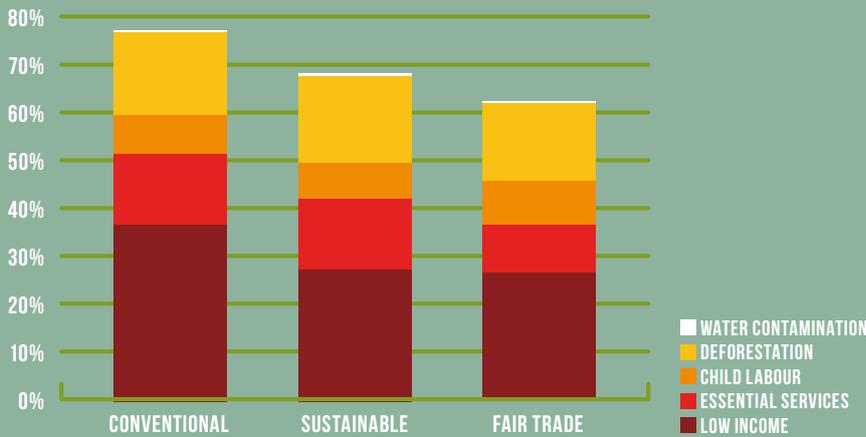
The main Fair Trade certifications on the French market are Fairtrade / Max Havelaar, Ecocert, WFTO, Biopartenaire and SPP. They started in the 1960s, with the objective to challenge globalized conventional food chains.



## SOCIETAL COSTS CAUSED BY THE CONVENTIONAL, SUSTAINABLE AND FAIR TRADE COCOA SUPPLY CHAINS (% OF EXPORT VALUE)

Source : BASIC

### IN IVORY COAST



### IN PERU





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THE FAIR TRADE PREMIUM  
PAID TO THE PERUVIAN  
COOPERATIVES HAS ENABLED  
THEM TO INVEST IN ESSENTIAL  
LOCAL SERVICES

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**INCREASED AND STABLE INCOMES ALLOW FARMERS TO LOOK AFTER THEIR FARMS, INCREASE THEIR YIELDS AND, ULTIMATELY, THEIR INCOMES**

#### **Fair trade cocoa producers obtain a higher and more stable income**

Recent studies show that fair trade cocoa producers have a significantly higher income (50% and more) than conventional cocoa farmers<sup>34</sup>. Alongside having more money, farmers emphasise the income stability<sup>35</sup> that they derive from long-term contracts between producers, cooperatives and cocoa buyers.

This increased and stable income allows farmers to cover the costs of producing cocoa and their living costs. Most of them have managed to rise out of poverty, creating a virtuous circle maintained by investments in cocoa, crop diversification and improved access to basic services.

<sup>34</sup> K. Laroche, R. Jimenez and V. Nelson, *Assessing the impact...*, op. cit.

<sup>35</sup> K. Laroche, R. Jimenez and V. Nelson, *Assessing the impact...*, op. cit.

#### **Agricultural diversification reduces food insecurity**

Producers with the financial wherewithal to invest in cocoa tend to specialise more, as they are integrated into a system that remunerates cocoa production more generously<sup>36</sup> and in a more stable manner. These investments allow them to look after their farms, increase their yields<sup>37</sup> and, ultimately, their incomes.

This specialisation is accompanied by an increase in the area of land given over to food crops. Periods of food scarcity and insecurity decrease, and the health and wellbeing of farmers and their families improve<sup>38</sup>.

<sup>36</sup> K. Laroche, R. Jimenez and V. Nelson, *Assessing the impact...*, op. cit.

<sup>37</sup> O. Tuesta Hidalgo, A. Julca Otiniano, R. Borjas Ventura, P. Rodriguez Quispe and M. Santistevan Mendez, 'Tipología de fincas cacaoteras en la subcuenca media del río Huyabamba, distrito de Huicungo (San Martín, Perú)', *Ecología Aplicada*, 13(2), 2014.

<sup>38</sup> K. Laroche, R. Jimenez and V. Nelson, *Assessing the impact...*, op. cit.

#### **Less use of chemical inputs reduces health risks and pollution**

The Peruvian cocoa producers rarely use chemical inputs, because their system of agroforestry naturally protects the crop from diseases that are more prevalent in the treeless plots of Ivory Coast<sup>39</sup>.

In addition, the technical assistance provided by the Fairtrade cooperatives encourages them to reduce the use of pesticides and fertilisers<sup>40</sup>. This moderate usage of chemical inputs reduces the health risks<sup>41</sup> and, as a result, improves producers' health as well as helping to protect the environment.

<sup>39</sup> P. Jagoret, O. Deheuevls et P. Bastide, 'S'inspirer de l'agroforesterie', CIRAD, Perspective n°27, May 2014.

<sup>40</sup> Thus, only between 3 and 13% of producer state that they use chemical inputs (K. Laroche, R. Jimenez and V. Nelson, *Assessing the impact...*, op. cit.)

<sup>41</sup> Aronomes et Vétérinaires sans Frontières (AVSF), *Le développement du cacao péruvien. Stratégies pour promouvoir et renforcer la filière cacao*, 2013.

<sup>42</sup> S. Bowall and S. Pettersson Dahlgren under the supervision of A. Sandoff, 'How to Create a Sustainable Supply of Goods. NPOs' Impact on Peruvian Cocoa Farmers' Quality of Life', School of Business, Economics and Law, University of Gothenburg, 2014.

**AGROFORESTRY NATURALLY PROTECTS THE CROP FROM DISEASES**

#### **Investments by the cooperative facilitate access to health and education**

Given that producers earn an adequate living, the fair trade premium paid to the Peruvian cooperatives has enabled them to invest in essential local services and make up for the lack of government infrastructure.

Some cooperatives have been able to hire medical staff and teachers and to help parents pay their children's school fees<sup>42</sup>.

#### **OVERALL ASSESSMENT: IN SOME PERUVIAN COOPERATIVES, FAIR TRADE HAS SUCCEEDED IN MITIGATING THE NEGATIVE IMPACTS OF THE COCOA SUPPLY CHAIN AND HAS KICKSTARTED VIRTUOUS CIRCLES OF LOCAL DEVELOPMENT**

**Analysis of certain Peruvian fair trade cooperatives demonstrates that fair trade can not only considerably mitigate the negative effects of the cocoa supply chain, but also kickstart developments that have a positive impact on the lives of producer families and their communities.**

**These impacts of fair trade in Peru are reflected in a reduction in societal costs: 80% less than the conventional cocoa supply chain.**

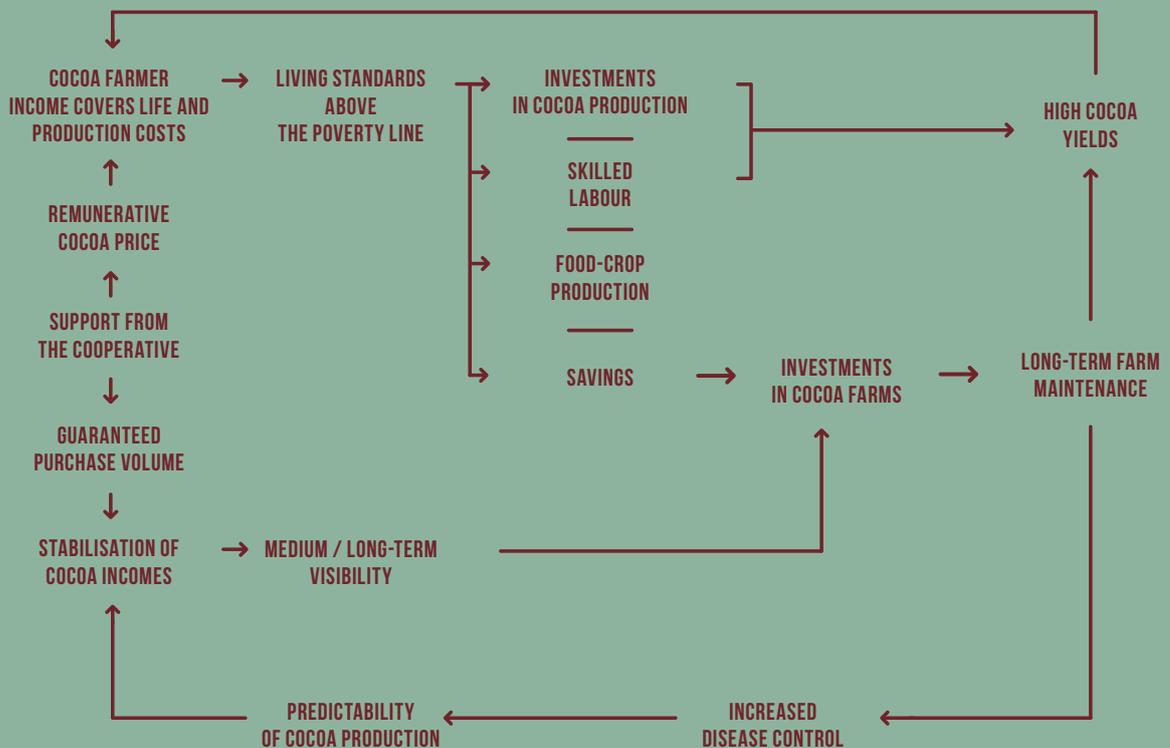
# IMPACT PATHWAYS AND LOOPS IN THE FAIR TRADE COCOA CHAIN IN PERU

Source: BASIC

## KEY FEATURES OF THE VALUE CHAIN



## IMPACT PATHWAYS AND LOOPS



## CONCLUSION

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Based on the available studies, our analysis shows that there are at least two necessary conditions for kickstarting virtuous circles for producers and their communities:

- A **sufficiently solid cooperative dynamic** that is rooted in the communities and supported by the members;
- A **price that is sufficient** to allow producers to meet the needs of their families, and **a collective premium** that is sufficient to strengthen the cooperative and allow it to invest in local services.

However, the positive effects documented in these 'virtuous' cases may be jeopardised in the long term by the **diminishment of forest resources**, the main – or even only – alternative being to **introduce agroforestry practices**.

To be sustainable the cocoa supply chain must combine all of these conditions (producer organisation, price, premium and agroforestry). These conditions are, however, complex and entail significant extra costs (something in the order of 40-90 percent extra), which are difficult to reconcile with a standardised mass product.

Hence, the introduction of **supply chains that value the cocoa's origin** and the farmers' efforts would appear to be an essential lever if the negative impacts in producer countries are to be alleviated and reversed.

## RECOMMENDATIONS

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From our analysis of the examples of virtuous models that have been created thanks to the fair trade cocoa supply chain, we have derived a series of complementary recommendations that can bring about the necessary changes in the conventional value chain, overcome its critical challenges and ensure its survival in the medium and long term.

These measures should not be taken in isolation but implemented in a joint, concerted and coherent manner by a complementary group of stakeholders operating at a variety of levels (businesses, institutions, citizens).

For fair trade stakeholders (labels, associations, business groups) these are potential options for reinforcing their approach, in particular through the promotion of agroforestry and value chains that promote the origin of the cocoa to consumers.



## 1 \_ MAKE IT POSSIBLE TO COMPARE COCOA PRICES AND PRODUCERS' MINIMUM INCOME NEEDS



Develop a system for calculating the costs of production and 'living income', country by country, which is multipartite, transparent, public and regularly reviewed



Use these calculations of the costs of production and living income as part of cocoa and chocolate companies' 'due diligence' to ensure that their purchasing policies do not compel producers to sell at a loss, forcing them into poverty

TARGETS/ADDRESSEES  
OF THESE RECOMMENDATIONS



INTERNATIONAL  
ORGANISATIONS



FAIR TRADE BODIES



GOVERNMENTS



CIVIL SOCIETY



ECONOMIC ACTORS

## 2 \_ ENSURE AN ADEQUATE CONTRIBUTION BY THE ACTORS OF THE COCOA VALUE CHAIN FOR INVESTMENTS IN ESSENTIAL LOCAL SERVICES



An adequate financial contribution (tax, premium, etc.), above and beyond the purchase price, which is allocated in an agreed manner to strengthening essential services



A differential tax on (large) farms based on their social and environmental impacts

## 3 \_ STRENGTHEN THE CAPACITY OF COCOA PRODUCER ORGANISATIONS AND REBALANCE POWER RELATIONS IN COCOA CHAINS



Tackle the structural imbalances in the cocoa value chain by:

- Strengthening the management and investment capacity of cocoa producer organisations by establishing a European investment fund
- Revising the regulations on mergers and acquisitions by inserting sustainability clauses and by improving monitoring tools
- Introducing the principle of neutrality in the European competition law and enforce compliance



- Develop support programmes for producer organisations and for women's participation in those organisations
- Improve producer organisations' internal governance and supervision
- Develop and strengthen industry roundtables to enable producers, traders, processors and the authorities to discuss the issues of a sustainable value chain together

## 4 \_ PLACE THE AGROFORESTRY MODEL AT THE CENTRE OF THE COCOA AND CHOCOLATE VALUE CHAIN



- Raise consumer awareness about the importance of agroforestry for the chocolate industry
- Establish partnerships with organisations campaigning against deforestation and biodiversity conservation, which promote agroforestry as a solution



Finance via the REDD+ programme the development of cocoa agroforestry systems suited to local realities and including food-production and food security components



- Develop schemes to strengthen agroforestry systems
- Reinforce land tenure security for cocoa producers
- Encourage crop diversification schemes that combine cash crops and food crops



Reform land tenure laws to grant farmers ownership of the trees on their land

## 5 \_ DEVELOP AND PROMOTE VALUE CHAINS THAT PROMOTE COCOA AND ITS ORIGIN



Value cocoa as a key ingredient in products (origins and terroirs)



Raise consumer/citizen awareness about the importance of the link between producers and consumers in the chocolate and confectionery industry



- Require manufacturers to be transparent about the origin of the cocoa and to guarantee physical traceability during cocoa processing and chocolate manufacturing
- Introduce differential VAT according to social and environmental impacts of chocolate products

# METHODOLOGY: A STUDY ON THE SOCIETAL COSTS OF THE CONVENTIONAL, SUSTAINABLE AND FAIR TRADE VALUE CHAINS

## Documentary base

We read and analysed 469 documents (cocoa value chain studies, socio-economic analysis in Peru and Ivory Coast, social and environmental impact assessments, etc.), of which 130 are cited as references in the full report. These documents were published by academics, national and international institutions, civil society organisations, companies and specialist journals.

**469 DOCUMENTS, TEN INTERVIEWS, SEVEN PUBLIC DATABASES WERE USED AS SOURCES FOR THIS STUDY**

We also:

- Carried out ten interviews with cocoa experts (producers, processors, brands, NGOs, researchers);
- Collected and analysed information from seven public databases: World Bank, FAO, INEI (Peru), INS (Ivory Coast), United Nations (Comtrade), Eurostat, INSEE.

## Societal costs: an indicator of the sustainability (or lack of it) of the value chains

This study also puts forward a minimum estimation of the societal costs of the cocoa value chain, i.e. the costs of the damages caused in the producer country (poverty, child labour, deforestation, pollution, etc.). These are the social and environmental downside of the economic value created by the production and sales of cocoa.

Societal costs can be defined as ‘all the losses and expenses, both direct and indirect, present and future, borne by third parties or the whole of society due to the social, health and environmental impacts of systems of production and consumption’.

These costs are an indicator of the sustainability (or lack of it) of the value chains under investigation, where a society with ‘zero societal costs’ is close to the ideal proposed by advocates of a circular economy.

In order to assess these costs in Ivory Coast and Peru we have compiled both the real and necessary expenditure so that:

- Cocoa producers can cover their families’ basic needs (food, education, health, housing, savings);
- Essential infrastructure and services meet the needs of producers, their families and their communities (education, health, transport, etc.); and
- Reduce as far as possible the social and environmental impacts related to cocoa (deforestation, pollution, child labour, etc.)

FOR EXAMPLE, THE FIRST COMPONENT OF SOCIETAL COSTS HAS BEEN CALCULATED FOR EACH COUNTRY AS FOLLOWS:

$$\text{SOCIETAL COST} = \text{NECESSARY EXPENDITURE TO COVER THE BASIC NEEDS OF A COCOA-PRODUCING FAMILY} - \text{AVERAGE ANNUAL INCOME RECEIVED BY A COCOA-PRODUCING FAMILY} \times \text{NUMBER OF COCOA-PRODUCING FAMILIES}$$

A similar rationale was used to estimate the other two components (the costs of essential services, and the costs caused by social and environmental impacts). The final results were compared to the value of the cocoa sold by the producers. It was also adjusted to the scale of a bar of dark chocolate to give an estimation of the ‘hidden’ costs of this product to the cocoa-producing country.

THIS REPORT IS A META-ANALYSIS THAT CONSOLIDATES AND ANALYSES EXISTING STUDIES TO PROVIDE AN OVERVIEW OF THE COCOA VALUE CHAIN, ITS SOCIAL AND ENVIRONMENTAL IMPACTS, AND THE DIFFERENCES THAT FAIRTRADE AND SUSTAINABLE VALUE CHAINS CAN MAKE

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