

Value Chains
& Trade



SMALL-SCALE FARMERS, CERTIFICATION SCHEMES AND PRIVATE STANDARDS: IS THERE A BUSINESS CASE?



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**COSTS AND BENEFITS OF CERTIFICATION AND
VERIFICATION SYSTEMS FOR SMALL-SCALE PRODUCERS
IN COCOA, COFFEE, COTTON, FRUIT AND
VEGETABLE SECTORS**

Michiel Kuit^a
and
Yuca Waarts^b

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a M. Kuit, Kuit Consultancy, Heelsum, the Netherlands. michiel@kuit-consultancy.com
b Y.R. Waarts, LEI Wageningen UR, Wageningen, the Netherlands. yuca.waarts@wur.nl



The Technical Centre for Agricultural and Rural Cooperation (CTA) is a joint international institution of the African, Caribbean and Pacific (ACP) Group of States and the European Union (EU). Its mission is to advance food and nutritional security, increase prosperity and encourage sound natural resource management in ACP countries. It provides access to information and knowledge, facilitates policy dialogue and strengthens the capacity of agricultural and rural development institutions and communities.

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Technical Centre for Agricultural and Rural Cooperation ACP-EU (CTA)
P.O. Box 380
6700 AJ Wageningen
The Netherlands

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Foreword

Certification of agricultural products is an increasingly common tool that is expected to contribute to agricultural improvement, farmer well-being, poverty alleviation, reduced environmental impact and food safety. In an increasingly competitive market, processors, manufacturers and retailers use certification to demonstrate their green and sustainable credentials and differentiate their products. In some commodity sectors, such as coffee and cocoa, products certified as sustainable are on track to reach majority market share in important producing and consuming nations. This development poses a major challenge for farmers in general, and small-scale farmers in ACP and other developing countries, in particular.

This publication, commissioned by CTA, presents the findings of a study of the impact of certification on farmers in coffee, cocoa, cotton, fruit and vegetables. Substantial investments have been made by the private sector and donors to promote the uptake of certification by small-scale farmers. Understanding the effects these programmes have on small-scale farmers is vital as certification continues to expand.

Certification agencies and the NGOs that help to implement their programmes, sometimes provide a rosy view of expected benefits. The picture that emerges from this study is that the benefits for small-scale farmers are less obvious than usually stated. Nevertheless, certification can be part of a viable strategy for companies, farmer groups and farmers. However, whether dealing with a donor-funded project or a commercial supply chain, the decision to invest in certification must rest on sound economic and market fundamentals.

This is the fifth publication in CTA's new "Value Chains & Trade" series. We trust that it will give sufficient pointers for farmers, farmer groups, companies, governments, donors and NGOs to critically examine certification in order to ensure that investments are only undertaken when the benefits for small-scale farmers are clear.

Michael Hailu
Director, CTA

Acknowledgements

We used mostly information from the literature, such as peer-reviewed journal articles, reports, presentations and internet sources for this study. As information on certification costs was particularly difficult to find, we contacted certifiers, companies, NGOs, research institutes and consultancy firms. We are greatly indebted to them for their help and the information received, which was invaluable for improving our assessments.

Thanks to Vincent Fautrel and Andrew Shepherd of CTA who both provided us with editorial support and guidance on the structure of this report.

M. Kuit
Y.R. Waarts

List of abbreviations

4C	Common Code for the Coffee Community
ACP	Africa, Caribbean and Pacific group of States
ADM	Archer, Daniels Midland
BCI	Better Cotton Initiative
bn	billion
BSCP	business social compliance initiative
CMiA	Cotton Made in Africa
CSR	corporate social responsibility
DDT	dichlorodiphenyltrichloroethane
ETI	Ethical Trade Initiative
EU	European Union
FT	Fair Trade
GAP	good agricultural practice
GSCP	Global Social Compliance Programme
ha	hectare
ICS	internal control system
IFOAM	International Federation of Organic Agriculture Movements
IMOFFL	Institute for Marketecology Fair for Life
IMS	internal management system
ISEAL	International Social and Environmental Accreditation and Labelling Alliance
kg	kilogram
lb	pound
NGO	non-governmental organisation
RA	Rainforest Alliance
t	tonne or metric ton
USD	US dollar
USDct	US dollar cent
UTZ	UTZ Certified

Executive Summary

Background

Certification of products and production processes dates back to the early 1900s. Up to the late 1980s, organic certification was the single most important agricultural certification scheme. The concept of fair trade had been around since the 1950s but in late 1988, the first Max Havelaar Fairtrade-certified coffee appeared on the shelves in Dutch supermarkets. From coffee, Fairtrade expanded into other product categories such as fruit and vegetables, cotton, cocoa and flowers. Today it certifies 15 different single products and numerous composite ones.

In the 1990s, growing concerns over food safety, workers' rights, deforestation and farmers' livelihoods led to a substantial number of new certification initiatives. The Rainforest Alliance certified its first farm (a large-scale banana plantation) in 1993. UTZ Certified started in 1998. GLOBALG.A.P. (then called EUREPGAP) started at that time as an initiative of European retailers in the horticultural sector. Towards the end of the 1990s and during the next decade, the certification movement gained momentum, with companies using it as an insurance policy that demonstrated their commitment to responsible sourcing.

The study

This publication reports on an analysis of 270 studies of certification and verification schemes in the cocoa, coffee, cotton and fruit and vegetable sectors for small-scale farmers. These were supplemented with information obtained through standard-setting bodies, organisations that implement certification initiatives, supply-chain actors, universities and consultants. Eight certification schemes were considered:

1. 4C
2. Better Cotton Initiative (BCI)
3. Cotton Made in Africa (CMiA)
4. Fairtrade

5. GLOBALG.A.P.
6. Organic
7. Rainforest Alliance (RA)
8. UTZ Certified (UTZ).

Particular emphasis is placed on 19 of the studies, which used a methodology that allows the impacts found to be attributed to the specific certification scheme. The coffee sector, for which certification has been used since the 1980s, is covered by 15 such studies. For sectors where certification is a more recent phenomenon, the number is more limited. We can only draw firm conclusions on the impact of certification for the coffee sector. However, the numerous studies consulted allowed us to make some important general conclusions on the use of certification by small-scale farmers.

Evidence for a positive impact of coffee certification is limited

Certified coffee farmers, especially Fairtrade certified producers, have achieved price increases but they have failed to achieve productivity increases that would further leverage positive price effects, with one exception. The evidence on production costs is mixed, with 40% of the studies showing that costs for certified coffees are higher. Farming efficiency was not affected by certification. Despite price increases, effects on income were neutral, due to increased production and control costs. Certified producers have more access to services such as training.

Lack of data on certification costs for small-scale farmers and certificate-holders

Many certification programmes are co-funded by donors, leading to programme costs that are not always transparent and to a difficulty in assessing the benefits of certification if no donor support is available. Information on costs is often scattered throughout different organisations involved in supporting farmers to become certified. Further, companies that act as certificate-holders do not share information on implementation costs as this is regarded as competitive information. As a result, even the studies on costs and benefits of certification that have been published usually lack information on several cost items. Many studies base their calculations on assumptions about factors such as membership of producer organisations, volumes produced per farmer, or premiums received by farmers. This leads to unrealistic calculations on the net benefit of certification programmes.

Certification costs can only be recovered by farmers producing above-average volumes

The factors which determine whether a farmer will invest in certification, apart from client demand, are: implementation costs, production volumes per farmer, premium levels and marketability rates, i.e. the percentage of certified produce that receives premiums. Implementation costs are a function of the number of farmers with whom a company or farmer organisation implements a certification programme, whereas benefits in the form of premiums are a function of the volume sold. Low-volume farmers are more costly to certify and frequently sell insufficient quantities to cover their certification costs.

While it is frequently argued that sustainability certification assists small-scale producers, more organised small-scale producers with relatively high production levels are more likely to reach or surpass break-even point on certification costs. Depending on the level of implementation costs, above-average volumes per small-scale farmer must be produced for certification to be profitable. This is true for all commodities analysed in this study.

Although company-led implementation of sustainability certification is becoming the predominant model, implementing certification cost-effectively in countries with low production per farmer is likely to remain a challenge, even for well-funded companies. Donor funding (or so-called public-private partnerships) is likely to remain important for field-level implementation. If such funding is withdrawn, certificate-holders and farmers may be required to meet certification costs that can only be partly recovered through premiums.

Factors influencing certification costs

There are several factors that influence the costs of certification. These include:

- the starting situation of farmers prior to certification
- organisational presence (e.g. farmer organisations, NGOs) and the availability of trainers
- the scale of a programme
- the number of farmers that are already organised in producer groups, and the organisational capacities of such groups
- access to donor funding, at least in the short-term.

Factors influencing certification benefits

The factors that influence the potential benefits include:

- the volume produced per farmer
- the standard technical assistance provided
- the security of markets and buyer commitment
- the availability of contracts between farmers and buyers and direct procurement
- organic farming, which may lead to income loss due to the conversion period
- farmer characteristics, such as capacities, assets and ability to export.

Recommendations to improve the certification business case and impact on smallholders

When considering whether to become certified, producers and potential certificate-holders should investigate the potential financial benefits, the expected costs, and the factors that would influence the business case for certification. Based on the information acquired from such research, a conclusion can be drawn on the expected net benefit of certification.

The apparent lack of significant benefits to small-scale farmers from certification leads us make a number of recommendations.

1. Certification schemes must improve transparency about their costs and benefits. Based on more insights on net benefits, farmers and certificate-holders would be in a better position to decide whether or not to opt for certification. In addition, donors could use the information to decide whether or not to invest in certification programmes.
2. For prospective certificate-holders it would be beneficial to have access to high quality market data on the different certificates. Only 4C,ⁱ UTZ Certified and BCI provide reliable aggregate production and demand figures. All certification schemes should make available country-level supply and demand information to the general public and prospective certificate-holders and producers.
3. Certification implementation costs could be reduced by loosening requirements for certificate-holders that have shown consistently good

ⁱ 4C annual reports since recently also include coffee supply and demand data for Fairtrade and Rainforest Alliance.

performance over a certain period. They could be rewarded with a lower frequency of audits, for example, or customised codes of conduct that only target those issues that are relevant to their situation. Harmonisation of certification standards and combined audits by different certifiers could significantly reduce certification costs.

4. Donors and others should compare the costs and benefits of certification programmes with the costs and benefits of other supply-chain interventions, such as different kinds of service-delivery programmes or contract-farming schemes. Certification is not the only way of improving small-scale farmer livelihoods and there is evidence that it benefits primarily the more affluent farmers as certified farmers are often better educated, have more assets and larger farms, are located closer to market outlets and are situated in favourable agro-ecological zones. It would be helpful if the impact of the different interventions could be compared, so enabling all concerned to assess the opportunity cost of certification interventions compared with other development activities.

Four scenarios for future developments around certification

In some markets, such as coffee and cocoa, certified products are on track to become mainstream. The general expectation is that as certification becomes mainstream, premium payments will erode. At the same time, producing certified products may become essential for entry into certain markets. Based on experiences of the implementation of certification systems, we foresee the following possible developments of (sustainability) certification, examples of which can already be found:

1. ***Certificate-holders will cease to be certified because certification costs cannot be recovered.*** Because of the ambitious certification targets now being set by manufacturers, a widespread abandonment of certification is considered unlikely. However, farmers who have relied on significant donor support to meet certification costs may struggle to continue if that support is withdrawn, particularly if their marketability rates are low.
2. ***Producers or certificate-holders bear the costs of certification if certification becomes an essential requirement to export to certain markets, and premiums disappear.*** When something becomes a *de facto* standard there ceases to be a reason to pay a premium for it. The premium price becomes the new norm. The more likely alternative is that no price increase occurs, the premium disappears, and the certification

costs are borne by the certificate-holders, who may attempt to pass on compliance costs to farmers.

3. **Alternative certification systems are created to decrease certification costs.** Certification may become too expensive, leading certificate-holders to consider setting up competing systems. The willingness of manufacturers and large retailers to accept such a move is not clear.
4. **Certification becomes the standard.** To keep differentiating themselves from other standards and in response to demand from manufacturers and retailers, certification schemes add more and more requirements to what already exists. If certification becomes a precondition for export to developed markets, certification agencies will want to keep distinguishing themselves from their competitors. Several have recently added climate change requirements to their code or are developing them. Gender may follow in the near future.

1

Introduction

Certification of agricultural products is an increasingly common tool that is expected to contribute to agricultural improvement, farmer well-being, poverty alleviation, reduced environmental impact and food safety. Processors, manufacturers and retailers use certification to demonstrate their green and sustainable credentials. They are also known to use certification to distinguish their offerings from those of their competitors. Certified farmers adhere to a set of predefined principles and practices that are captured in a code of conduct. An outside organisation, usually a commercial company, NGO or stakeholder platform, owns and maintains the code of conduct and issues certificates to those farmers or farmer groups that were found to be in compliance during regularly recurring audits. Being certified is supposed to confer numerous benefits on farmers, ranging from better farming to environmental protection and access to markets and, sometimes, premium payments. Substantial investments have been made by the private sector and donors to promote the uptake of certification by small-scale farmers. In some commodity sectors, such as coffee and cocoa, products certified as sustainable are on track to reach majority market share in important producing and consuming nations. In such a situation, certified products are understood to have become mainstream. As certification becomes mainstream, premium payments will erode. At the same time, producing certified products may become a required entry licence for certain markets.

This development presents challenges to those small-scale farmers who are not yet certified, but who supply to markets where certification is growing in importance. It also presents challenges to public and private sector organisations that work with these producers. Similarly, already certified farmers and their value-chain partners will have to deal with the likelihood of eroding premiums combined with recurring implementation costs.

Given the importance of agricultural exports for many developing and emerging countries and a lack of coherent information on both the costs and benefits of certification for small-scale farmers in countries from the

Africa, Caribbean and Pacific group of States (ACP), this study addresses the following research questions:

- What are the net results of certification and verification in the cocoa, coffee, cotton and fruit and vegetable sectors for small-scale farmers?
- What are the contextual factors that affect certified producers?
- What steps could be taken to maximize benefits and minimise costs of certification for small-scale farmers?

In Chapter 2 we explain the methodologies we used for this study, i.e. which certification systems we reviewed, how we selected the information, which indicators we assessed and how we calculated the costs of certification. In Chapter 3 we provide a historical background to certification systems. In Chapters 4 to 7 we analyse the different sectors: coffee (Chapter 4), cocoa (Chapter 5), cotton (Chapter 6), and fruit and vegetables (Chapter 7). In these chapters we describe the relevant market and sector, discuss the benefits for small-scale farmers, and provide a cost-benefit analysis. Chapter 8 provides an overview of contextual factors influencing certification costs and benefits. Chapter 9 presents some conclusions. As information on concrete financial costs and benefits for small-scale producers is scarce in the literature, Chapter 10 outlines recommendations for producers and certificate-holders, aimed to assist their decision-making on whether or not to become certified. General recommendations for improving the business case for certification, and maximising benefits and minimising costs of certification for small-scale farmers, are presented. Chapter 11 presents four different scenarios for future certification development.

2

Methodology

2.1 Which certification and verification systems are reviewed, and for which sectors?

A total of 148 certification and verification schemes related to food and agriculture were operational at the end of 2012.¹ A number of organisations make a distinction between certification and verification, but that distinction is not consistently applied or commonly accepted. The ISEAL Alliance, a global membership organisation for sustainability standards, defines certification as ‘assuring compliance with a sustainability standard. Often this is done through a third-party audit, whereby an independent auditor or auditing team visits the operation to assess practices against the standard.’² According to 4C, which calls itself a verification scheme, a third-party verifier will visit the group that wishes to become or remain 4C verified and checks its compliance against the 4C standard.³

Given the ambiguous distinction between the two, we will use the term ‘certification’ in this report to mean both certification and verification schemes.

The term small-scale farmers refers to small-scale family farms where farming is the mainstay of family income. The definition of small-scale varies from country to country and crop to crop, but typically ranges from less than 1 ha to around 10 ha.

Eight certification schemes are considered in this study (Table 1).ⁱⁱ

ii Originally, 14 standards systems were to be investigated, but as we did not find (good quality) information on six of them (Business Social Compliance Initiative (BSCI), Ethical Trade Initiative (ETI), Global Social Compliance Programme (GSCP), IMO Fair for Life (IMOFFL), National standards/certification initiatives, Geographical indications), we have not included them in this report.

TABLE 1: CERTIFICATION SYSTEMS AND SECTORS UNDER REVIEW

Certification system	Cocoa	Coffee	Cotton	Fruit & vegetables
4C	•	X	•	•
Better Cotton Initiative (BCI)	•	•	X	•
Cotton Made in Africa (CMiA)	•	•	X	•
Fairtrade	X	X	X	X
GLOBALG.A.P.	•	•	•	X
Organic	X	X	X	X
Rainforest Alliance (RA)	X	X	•	X
UTZ Certified (UTZ)	X	X	•	•

2.2 How was information selected for the assessment?

This study is primarily a literature study. Information obtained from the literature was supplemented with information obtained through standard-setting bodies, organisations that implement certification initiatives, supply-chain actors, universities and consultants, to provide concise answers to the research questions (see Appendix 1 for the list of organisations contacted).

In the assessment we used a grading system for papers, articles and reports in order to make an objective judgment on the likely quality, accuracy and reliability of the sources. This grading system distinguishes between the following five categories of information sources:⁴

1. Impact studies that use a credible counter-factual scenario (quantitative assessment, comparing similar certified and non-certified farmers by at least two points in time)
2. Impact studies that do not use a credible counter-factual scenario (quantitative assessments comparing certified and non-certified farmers, using data from one point in time, or comparing the evolution of certified farmers over time)
3. Other impact studies (mostly qualitative)
4. Sources with information on the costs of certification
5. Sources that appeared relevant but for which the methodology used was not clear.

In our assessment we focused on papers in: Categories 1 and 2 for information on impact (and costs) and Category 4 papers with information on costs.

Category 1 papers are usually peer-reviewed; Category 2 papers are not always peer-reviewed. While the quality of top-graded academic papers is usually high, grey literature and interviews were still required as academic publications typically lag behind field developments by three to five years (see Appendix 4 for detailed categorisation of all of the reviewed studies).

Given the methodological limitations of the Category 2 impact studies, the benefits they identify should be considered as indicative only. By refraining from using groups of non-certified farmers who are otherwise similar to the certified farmers, or by failing to track changes over time, positive changes cannot be credibly attributed to a certification programme. Changes might have been caused by the tendency of certificate-holders (farmers, producer organisations or companies that own the certificate) to work with more productive farmers, or by changes in rainfall from one year to another. Conclusions on impact are only made where there are studies with quantitative assessments, in which similar certified and non-certified farmers are compared at at least two points in time. We have not included literature review papers and reports in our analyses, but have based our assessment on original sources reporting on certification impacts.

2.3 Which indicator categories are assessed?

In this study we have analysed information on the following indicator categories related to benefits:

- agronomy and the environment, including production, productivity, quality, farming efficiency and improvements related to soil, water and biodiversity
- economic aspects, including market access, prices, production costs, and income
- access to services, including organisational development, training, credit and inputs
- social aspects, including child labour, health and other social effects.

For each sector, the number and percentage of studies with evidence of impact on these indicators is presented, and overall conclusions on impact are drawn.

2.4 How are certification costs calculated and presented?

In this study we aim to provide a complete picture of certification costs per farmer. Cost data were compiled for each certification scheme and an attempt was made to break down costs into specific items and make a

distinction between upfront and recurring costs. Where possible, information on certification costs per farmer is presented for both farmers and certificate-holders. All cost data are converted to 2014 Euro values.

Table 2 shows the costs that are likely to be incurred when implementing certification and which we take into account. Not all cost items listed in Table 2 are applicable to each certification scheme. Fairtrade and GLOBALG.A.P. for example are the only schemes for which a registration fee is payable.

**TABLE 2: COST ITEMS AND COST TYPE
(UPFRONT AND/OR RECURRING)**

Cost item	Cost type
Yield loss during conversion period	Upfront investment
Set up internal control or management system	Upfront investment
Registration fee	Upfront & recurring
Materials	Upfront & recurring
Infrastructure	Upfront & recurring
Transport	Upfront & recurring
Staff training	Upfront & recurring
Producer training	Upfront & recurring
External audit	Upfront & recurring
Management attention	Upfront & recurring
Operation of internal control or management system	Recurring
Laboratory analysis	Recurring
Health check	Recurring
Service delivery to producers (other than training)	Recurring
Separating certified and non-certified product flows at farm, in transit, during processing, warehousing and export	Recurring
Premium payments	Recurring

As little information on costs was available from the literatureⁱⁱⁱ, we do not present costs for individual certification schemes, but we calculated average certification costs for all of the schemes combined. We indicate which certification scheme(s) costs have been included in the calculations. Costs are presented in the text as total certification costs per farmer, at farmer and/or certificate-holder level. The cost figures can be either a single cost figure or a range of costs, indicating a range with average minimum

iii In many studies in which certification costs were mentioned, the information was often not detailed enough to calculate certification costs per farmer for either certificate-holders or farmers. In some studies, no details on units of measurement were found, or cost figures were based on assumptions instead of empirical data.

and maximum costs found. Single cost figures are presented when only cost information from one study was available.

In Appendix 3, detailed information on average costs found in the literature is presented for each commodity, disaggregated by upfront and recurring costs, if such information is available. A total certification cost figure is presented. The total average cost and the sum of the average costs of the individual cost items are sometimes different. This is because not all studies provide a detailed cost breakdown; some provide only one figure for total certification costs. Thus the total average certification costs presented can be higher than the sum of the individual cost items. Appendix 4 contains information on which studies make reference to certification costs.

We find that the cost of implementation of certification appears to be primarily a function of the number of farmers that are certified. The volume of produce that is certified, the share of that volume that is sold as certified and any price differentials that may apply, determine to what extent the costs are recouped or profit is made. The volume of certified produce per farmer is a key determinant in analysing the potential profitability of implementing certification. We finalise our assessment for each commodity by calculating the volume-based break-even points at farm level. The break-even volume is calculated for two cost scenarios: the minimum certification cost and the maximum certification cost. This leads to insights into the production volumes at farm level that are required for certification to become financially viable. Our break-even analysis is not based on average certification cost figures, as an extremely wide range of certification costs has been found in our assessment.

In the break-even analysis, upfront investment in durable assets such as storage rooms or other infrastructure is amortised over eight years. All other upfront investment is amortised over three years. The financial benefits are calculated using information on premiums received per unit produced by certificate-holders and farmers and the average marketability rate, i.e. the share of certified product that is actually sold as such.

3

History

and aims of certification systems

3.1 History and origins of certification systems

Certification of products and production processes dates back to the early 1900s. The invention of synthetic nitrogen fertiliser in 1908 by Fritz Haber and Carl Bosch led to dramatic changes in agriculture. For the first time in history, yields could reliably be increased to unprecedented levels. A large share of the world population growth (from 1.6 bn in 1900 to over 6 bn today) can be credited to their invention. Around the same time, a group of farmers averse to the use of synthetic fertiliser and pesticides came together under the Demeter International label in Germany. Thus the world's first certification programme was born. Initiatives in other countries blossomed and developed. The organic movement received an impetus with the publication of Rachel Carson's *Silent Spring* in 1963. It described a future where accumulation of pesticides such as DDT led to a world where bird and fish populations were threatened and where people were eventually at risk. In 1972, a number of national organic movements formed the International Federation of Organic Agriculture Movements (IFOAM).

Up until the late 1980s, organic certification was the single most important agricultural certification scheme. The notion of fair trade had been around since the 1950s, with civic organisations trying to procure products from producer groups in developing countries. In 1987, the market share for 'fairly traded' coffee in the Dutch coffee market was no more than 0.2%. This was about to change. In late 1988, the first Fairtrade certified products appeared in Dutch supermarkets. By the end of 1989, Max Havelaar coffee captured 1.7%, a 9-fold growth in 1 year. Up to the mid-1990s, Fairtrade volumes grew continuously. Its market share in the Dutch market is currently around 4%. From coffee, Fairtrade expanded into other product categories such as fruit, cotton, cocoa and flowers. Today Fairtrade certifies 15 different single products and numerous composite ones; i.e. products with a minimum of 20% Fairtrade components by weight or volume.

Up until the 1990s, organic certification and the recently started fair trade

movement were the primary agricultural certifiers. In the 1990s, growing concerns over food safety, workers' rights, deforestation and farmers' livelihoods led to a substantial number of new certification initiatives. The Rainforest Alliance certified its first farm (a large-scale banana plantation) in 1993. UTZ Certified started in 1998 as the result of a collaboration between a Guatemalan coffee grower and Ahold, a Dutch retailer. GLOBALG.A.P. (then known as EUREPGAP) started around the same time as an initiative of European retailers in the horticultural sector.

Towards the end of the 1990s and during the next decade, the certification movement gained momentum, growing from a relatively niche market to becoming increasingly mainstream. Several companies had shown time and again that responsible behaviour towards suppliers was apparently difficult to reconcile with their obligation to make profits. Under pressure from NGO campaigns, companies in sectors ranging from sportswear (e.g. Nike), to coffee and many others, felt the need to demonstrate how their decisions were affecting their suppliers' living conditions and the environment. In the coffee sector, the Oxfam report *Mugged: Poverty in your coffee cup*⁵ held coffee roasting companies responsible for the hardship in origin countries caused by low world market prices around the turn of the century. In response, companies started to integrate fair trade, organic and other certified products in their commercial portfolios. Others engaged in partnerships with NGOs and developed internal codes of conduct. These developments proved instrumental for certification agencies; their number and share in consuming markets grew rapidly (Figure 1).

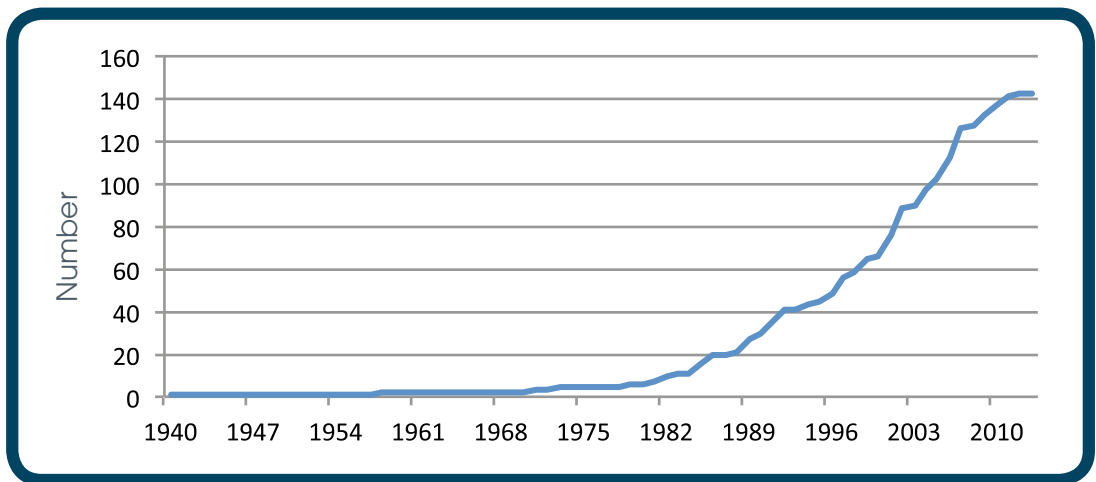


Figure 1: Number of agriculture related certification schemes in existence by calendar year. Source:⁶

Companies buying certified products use the certificate as an insurance policy as it demonstrates their commitment to responsible sourcing. As many of the certification agencies use third-party audits of certified producers, this makes their claims about responsible sourcing more robust. In return for the assurance that their suppliers are delivering sustainable or safe products, companies pay a fee to the certifier and/or the producer, or those that represent the certificate-holder.

For some, especially in the private sector, the position of premium payments is under discussion. Their arguments vary, but is essentially that: 'producers benefit from being certified; paying a premium for certified products is therefore not needed'. Other companies who are concerned with supply see certification and accompanying interventions as a way of securing supply by forging tighter bonds with producers. In the cocoa sector this argument is frequently used and has sparked substantial investment in production improvements by cocoa trading and processing companies such as Cargill, ADM and Olam. Coffee saw a similar development, albeit less driven by supply anxiety, at least initially. In 2010 and 2011, coffee became a sellers' market, leading to increased unease among buyers; producers were satisfied with price levels at that time. As so often happens, high price levels led to increased husbandry of existing plantations and establishment of new ones. So, despite strong growth in certified supply, conventional supply has expanded also and today there is nearly as much conventional coffee available as there was ten years ago.

3.2 Business models of certifiers

Two different business models dominate the certification sector. The most common model is one where manufacturers pay a membership or volume-based fee. Fairtrade and UTZ have business models that rely in part on payments from such members. The other business model relies on fees paid by certified producers for services rendered. Rainforest Alliance exemplifies this by earning around one-third of its turnover from auditing Rainforest Alliance certified farmers. Irrespective of the business model, donor funding is important for nearly all of them (Figure 2). Detailed information on the year of establishment, governance, business models and supposed benefits of the eight certification schemes in this study can be found in Appendix 2.

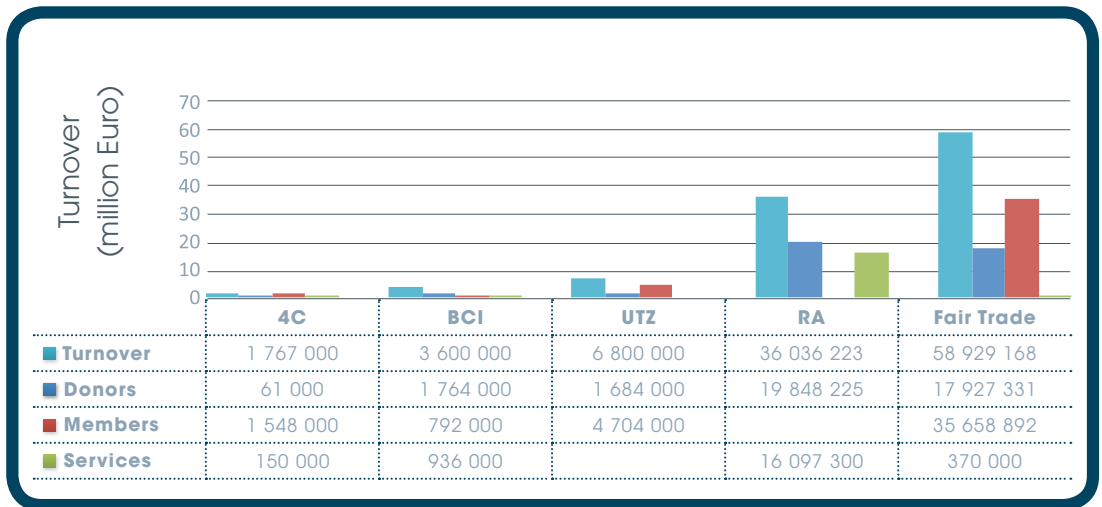


Figure 2: Income sources of certifiers for 2011 (Fairtrade: FLO and its country level organisations) or 2012 (others) and their turnover (all monetary values in Euros). Differences between turnover and sum of sources may occur, as no category 'other' has been included. Information on CMiA, Organic and GLOBALG.A.P. was not available.

Sources:⁷

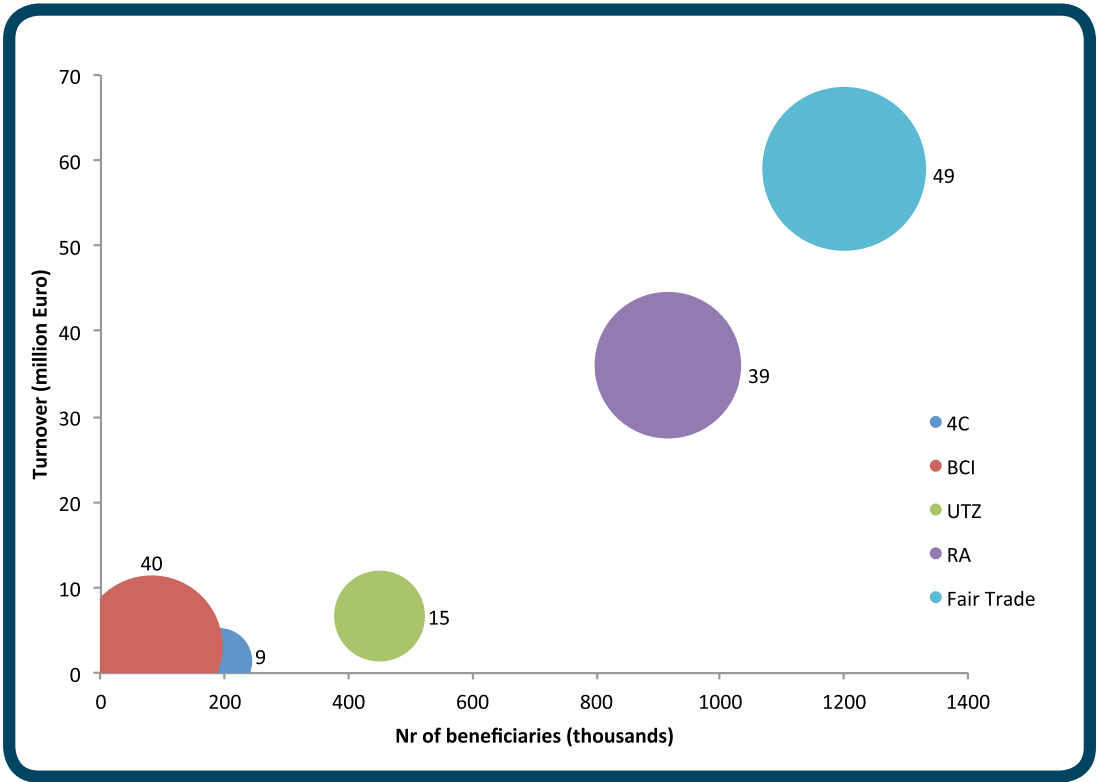
Fairtrade and GLOBALG.A.P. are the only schemes for which certified producers are required to pay a registration fee directly to the certifying organisation. The amount received is negligible for Fairtrade and not disclosed by GlobalG.A.P. The majority of Fairtrade's funding in 2011 came from payments by manufacturers that use Fairtrade products, referred to as payment from members. Rainforest Alliance^{iv} is the exception in that it does not receive fees from companies directly. Around 30% of its 2012 budget was derived from fees earned by auditing Rainforest Alliance certified producers by its subsidiary called RA Cert. RA Cert operates in a captive market as it is the only auditor allowed to audit for Rainforest Alliance.

This market was worth €16 million in 2012 alone. Fairtrade also earns from auditing certified producers through FLO-Cert which is fully owned by Fairtrade International, but here the earnings are very limited. Organisations that use third party auditing do not have this revenue stream. As noted above, all organisations rely on donor funding to varying degrees. Rainforest Alliance and Fairtrade are extremely successful in mobilising such funds to run their organisations.

A measure of the efficiency of certification organisations can be the amount of turnover of the organisation per farmer certified (Figure 3).

iv Exceptions are sometimes made, but NGOs that perform the audit instead of RA Cert all belong to the Sustainable Agriculture Network (SAN), which in turn owns the RA brand.

Figure 3: Number of beneficiaries^v certified versus turnover of the certification organisation in 2011 (Fairtrade) or 2012 (others), where the size of the bubble represents the organisation's turnover per farmer certified.



The turnover at the organisation is primarily spent on paying staff, marketing of the label, standard design and administration. Sums spent by certificate-holders, donors, companies and farmers to implement certification are *not* covered in this graph. Organisations' turnover values range from a relatively low amount per farmer for 4C to €49 per beneficiary per year for Fairtrade. BCI is high but it should be noted that the €40 per year per farmer at BCI pays for all the audits that take place at farm level. For Rainforest Alliance and Fairtrade this is also the case, but here the farmers (or their organisations) pay the audit fees to the auditing companies that belong to the (owners of the) certification agencies. At BCI, the audit fees are paid by donors and businesses that fund BCI. UTZ and 4C appear to be more efficient per beneficiary. However, real efficiency can only be judged in relation to the benefits that certifying organisations deliver.

^v The term beneficiaries is deliberate as this captures both farmers and other types of producers. This is important as Fairtrade also covers non-agricultural products.

3.3 Implementation of certification

Implementation of certification always involves compliance by (groups of) certified farmers to a standard, and in most cases a degree of training. In principle, any farm could opt to become certified. In reality, farmers need sufficient volume of produce over which to spread the implementation costs. An individual small-scale farmer typically does not produce enough to make certification feasible. In the rare cases that volume is not an impediment to becoming certified, the amount of managerial and administrative expertise needed might well be. Trading and exporting companies that buy from small-scale farmers often bridge the gap in volume and management skills by acting as a certificate-holder for a group of farmers. Another option is for groups or cooperatives of farmers to hold the certificate. In the case of some Fairtrade products such as coffee this is the only way to become certified.^{vi, 8}

A generic implementation model (Figure 4) fits all the certification schemes, although implementation details may vary from one standard to another.

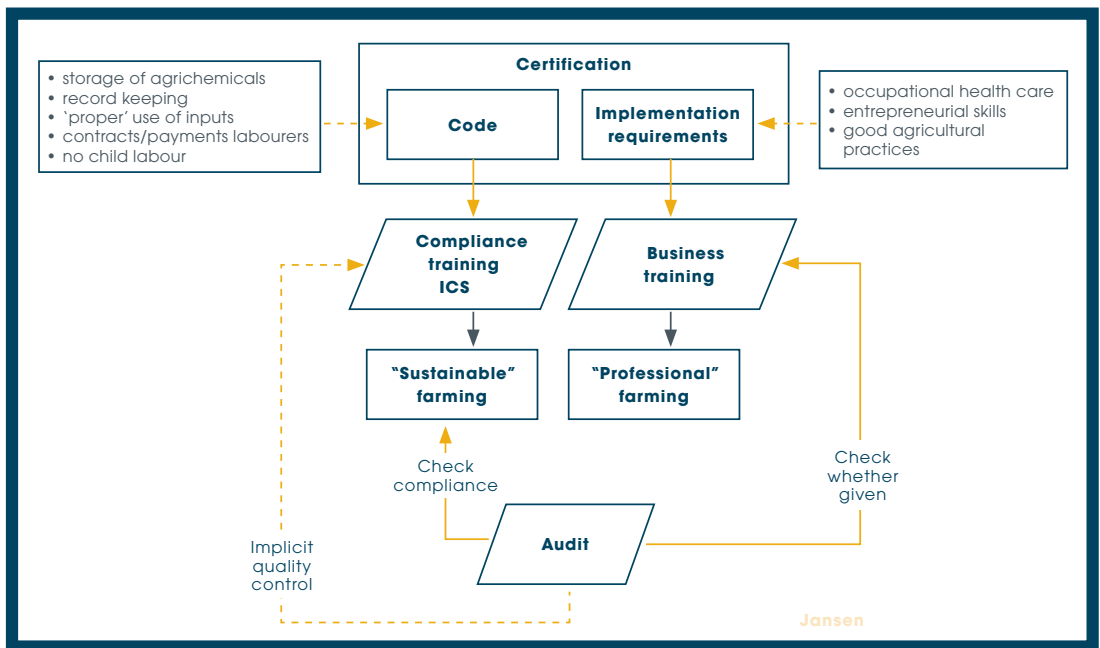


Figure 4: Generic implementation model for certification.

Source:⁹

vi The 2011 split between FLO and TransFair USA (now called Fairtrade USA) may bring about some change in this. TransFair USA allows farmers who are not part of a cooperative to become certified via group certification organised by commercial companies. It is estimated that the majority of coffee farmers is not part of a cooperative.

Implementation typically has two main activities. One is arranging for compliance with a code of conduct or standard. A number of requirements need to be met such as: establishing record-keeping, proper use of inputs, and banning child labour. Farmers usually receive some form of training and an internal control or management system (ICS) is implemented to assure that compliance is achieved and maintained. This is checked during an audit. In addition, most standards require the certificate-holder to provide a number of services to the farmers who are part of the certified group. Often this is training in occupational health and safety and good agricultural practices, but it could also be training in information supply or, in the case of Fairtrade, correct spending of the Fairtrade social premium. Compliance with these additional criteria is checked during the external audit.

The various certification systems use different ways to certify whether farmers comply with the requirements. Usually, audits are conducted by third-party auditors, take place every year, and are paid for by certificate-holders (farmers, producer organisations, or traders) (Table 3). Donors also provide funding to certificate-holders to implement and maintain certification. Unfortunately there is no consolidated information on the financial commitment towards certification by donor organisations. Not all farmers are audited every year; when a group of small-scale farmers is certified under group certification, audits typically take place on a randomly selected subset of the group.

TABLE 3: INFORMATION ON AUDITS PER CERTIFICATION SCHEME

Certifier	Who conducts audits?	How often do audits take place?	Who pays for audits?
4C	Third-party auditor	Once (Initial verification)	Certificate-holder
	Self-assessment	Annually	
	Third-party auditor	Every three years	
BCI	Self-assessment	Annually	BCI
	2nd party credibility check by Producer Unit	Annually	
	Third-party auditor	Annually	
CMiA	Third-party auditor	Every 2 years	Aid by Trade foundation
Fairtrade	FLO-CERT (owned by members of Fairtrade International)	Annually	Certificate-holder
GLOBALG.A.P	Third-party auditor	Annually	Certificate-holder
Organic	Third-party auditor	Annually	Certificate-holder
Rainforest Alliance	RA Cert (owned by RA) and founding members of the Sustainable Agriculture Network	Annually	Certificate-holder
UTZ	Third-party auditor	Annually	Certificate-holder

Fairtrade and Rainforest Alliance are the only two organisations that do not rely on third-party auditors. They require certificate-holders to use companies that belong to the same organisation that owns the standard. The rationale is that it is easier to control the quality of the audits Rainforest Alliance derives around one-third of its annual turnover from earnings from these audits. In the case of Fairtrade this is less than 5%. BCI and CMiA absorb the audit costs. In both cases, a mix of donor money and fees from companies that use their labels are used to pay for the audit. Except for Rainforest Alliance and Fairtrade, the certificate-holder can choose from a set of auditors accredited by the certification organisation. There is competition on price among these auditors.

With the implementation of certification, costs are accrued at different levels of the value chain. Most are borne by the certificate-holder (which can be a farmer, a producer organisation or a company). Farmers themselves also bear some of the costs: mostly in the form of time spent on training, for which an opportunity cost can be calculated, or through hardware investments (Table 4).

In the subsequent sections on different commodities, available details on these cost items are discussed.

TABLE 4: COST ITEMS, ENTITY PAYING AND COST TYPE: UPFRONT OR RECURRING

Cost item	Entity paying	
	Certificate-holder	Farmer
Set up internal control or management system	Upfront investment	•
Operation of internal control or management system	Recurring cost	Recurring cost
Registration fee, if any	Upfront & recurring	•
Materials	Upfront & recurring	Upfront & recurring
Infrastructure	Upfront & recurring	Upfront & recurring
Staff training	Upfront & recurring	•
Producer training	Upfront & recurring	Upfront & recurring
Other service delivery to producers	Recurring cost	•
External audit	Upfront & recurring	Upfront & recurring
Premium payments	Recurring cost	•
Laboratory analysis	Upfront & recurring	•
Health check	Upfront & recurring	•
Separating certified and non-certified product flows at farm, in transit, during processing, warehousing and export	Recurring cost	•
Management attention	Upfront & recurring	Upfront & recurring

3.4 Impacts claimed by certifiers

Certification systems state different benefits to farmers who participate in their programmes. We grouped these claimed benefits in four domains: services, agronomy (including environment), economy and social. Counting and plotting the number of claims made by certification organisations in these four domains provides a sense of where the respective organisations expect to make their mark (Figure 5).

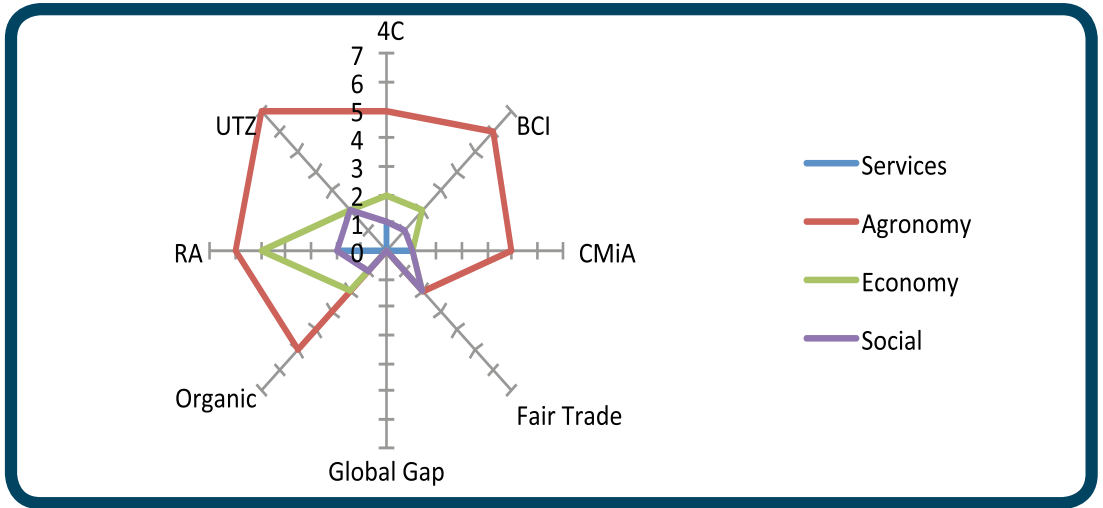


Figure 5: Number of claimed benefits for producers by certification organisations – grouped by four domains: services, agronomy and environment, economy and social.

Sources:¹⁰

Contrary to other certification schemes, GLOBALG.A.P. does not claim any benefits for producers. Fairtrade’s claims are modest compared to the others. The majority of claims fall in the agronomy and environment domain, followed by economy, and social. Claimed benefits in the services domain are relatively few.

The ability of farmers to access services such as training, technical support, finance and information is considered by many to be a prerequisite for improvement of farming. For some, such as CMiA, the certification programme is about making training available to farmers. For others, such as UTZ Certified and 4C it is a requirement to be fulfilled by the certificate-holder and therefore is not claimed as an impact. Rainforest Alliance has the broadest claim in this domain. Participation in its programme is stated to lead to better access to finance and more favourable credit options and access to training and technical assistance (Table 5).

TABLE 5: CLAIMED BENEFITS BY CERTIFICATION ORGANISATIONS FOR PRODUCERS IN THE SERVICES DOMAIN

Claim	4C	BCI	CMiA	Fairtrade	G.GAP	Organic	RA	UTZ
Access to information	X	•	•	•	•	•	•	•
Access to finance / favourable credit options	•	•	•	•	•	•	X	•
Access to training / technical assistance	•	•	X	•	•	•	X	•

The agronomy and environment domain is where most certification organisations expect to make their mark (Table 6).

TABLE 6: CLAIMED BENEFITS BY CERTIFICATION ORGANISATIONS FOR PRODUCERS IN THE AGRONOMY AND ENVIRONMENT DOMAIN

Claim	4C	BCI	CMiA	Fairtrade	G.GAP	Organic	RA	UTZ
Better farm management	X	X	X	•	•	X	X	X
Better yields	X	X	X	•	•	X		X
Improved quality	X	•	X	•	•	•	X	X
Increased on-farm efficiency	•	X	X	•	•	•	X	•
Climate change resilience	•	•	•	•	•	X	•	•
Preservation of water, natural resources	•	X	•	X	•	•	X	X
Protection of animals, plants and nature reserves	•	X	•	X	•	•	X	X
Reduction of pollution	•	•	•	•	•	X	•	X
Optimized use of inputs	X	•	X	•	•	X	•	X
Reduced use of inputs	X	X	•	•	•	•	X	•

Better farm management is claimed by most. As a result of more efficient use of inputs, better yields are said to be achieved by all except Fairtrade, GLOBALG.A.P. and Rainforest Alliance. Optimisation of input use is another often-claimed benefit. This is expected to result in lowering of pollution and preservation of natural resources. Organic certification is the only system that expects farms in their programme to become more climate-change resilient.

Changes in farm management are expected to result in a number of economic impacts (Table 7).

TABLE 7: CLAIMED BENEFITS BY CERTIFICATION ORGANISATIONS FOR PRODUCERS IN THE ECONOMIC DOMAIN

Claim	4C	BCI	CMiA	Fairtrade	G.GAP	Organic	RA	UTZ
Reduced costs	X	X	•	•	•	•	X	X
Stable prices	•	•	•	X	•	•	•	•
Fairtrade premium	•	•	•	X	•	•	•	•
Greater profitability	X	X	X	•	•	•	•	X
Reduced financial risk	•	•	•	•	•	X	•	•
New market opportunities	•	•	•	•	•	X	•	•
Better access to specialty buyers	•	•	•	•	•	•	X	•
Premium markets	•	•	•	•	•	•	X	•
Contract stability	•	•	•	•	•	•	X	•
Publicity	•	•	•	•	•	•	X	•

Reduced costs are claimed by half of the certification organisations. With or without better yields, this is expected to result in greater profitability. Fairtrade is the only certificate that uses a minimum price and fixed price premium, although it does not claim that this leads to greater profitability (or better income). Economic claims from Organic are limited to reduced financial risk because farmers are not buying chemical inputs anymore. Rainforest Alliance is unique in that it claims market access and, specifically, access to premium market segments as a tangible benefit.

Social benefits for producers are thought to occur both as a direct result of programme participation and from spin-of effects from economic improvements (Table 8).

TABLE 8: CLAIMED BENEFITS BY CERTIFICATION ORGANISATIONS FOR PRODUCERS IN THE SOCIAL DOMAIN

Claim	4C	BCI	CMiA	Fairtrade	G.GAP	Organic	RA	UTZ
Improved livelihoods	•	•	X	X	•	X	•	•
Empowerment of farmers and workers	•	•	•	X	•	•	•	•
Cleaner, safer, more dignified working place	•	•	•	•	•	•	X	•
Feeling healthy, motivated and respected	•	•	•	•	•	•	•	X
No child labour	•	X	•	•	•	•	X	X
Better farm organisations	X	•	•	•	•	•	•	•

Improved livelihoods are claimed by CMiA, Fairtrade and Organic. What constitutes a livelihood and how it will be improved is not usually explained, however. More tangible is the Rainforest Alliance claim of a cleaner and safer working place. Rainforest Alliance and UTZ are both explicit on avoidance or limitation of child labour as a result of programme participation. Most of the others have comparable requirements in their standard, but do not communicate it as a benefit for producers.

4

Coffee

4.1 Market and sector

Global supply of coffee has increased from around 110 million 60 kg bags of green coffee in 2001 to 150 million bags today.¹¹ In the late 1990s and during the start of the following decade a thirty-year low in coffee prices gave momentum to a nascent certification movement that had started in the 1980s with Max Havelaar. Under pressure from NGOs such as Oxfam, the five largest multinational coffee roasters, jointly responsible then for 60% of demand, committed to addressing the plight of producers. Their response consisted of promises to buy increasing volumes of coffee certified as sustainable.

Consequently, global supply of certified sustainable coffee rose from about 1% of the total in 2001 to 9% in 2010. Estimates in that year expected the share of certified coffee to rise to 20–25% by 2015.¹² However, the 2009–10 estimate did not include 4C. Including 4C shows that growth of certified supply has been much stronger. In 2012 the share of certified supply reached 38% of total supply (Figure 6). An unknown share of certified coffee carries more than one certificate. For example, some may be both Fairtrade certified and Organic certified. This volume of coffee will then be double counted when summing up the volumes that each of the certification organisations claims to have certified under its label. Consequently, the volume of certified coffee presented in Figure 6 is an overestimation. In the absence of consolidated data on volumes and sources from each certification agency, it is difficult to adjust the total volume of certified coffee for multiple certification. A poll among industry sources leads us to believe that around 25% of supply is multiple certified. After controlling for this, our estimate is that 29% of global supply is now certified.

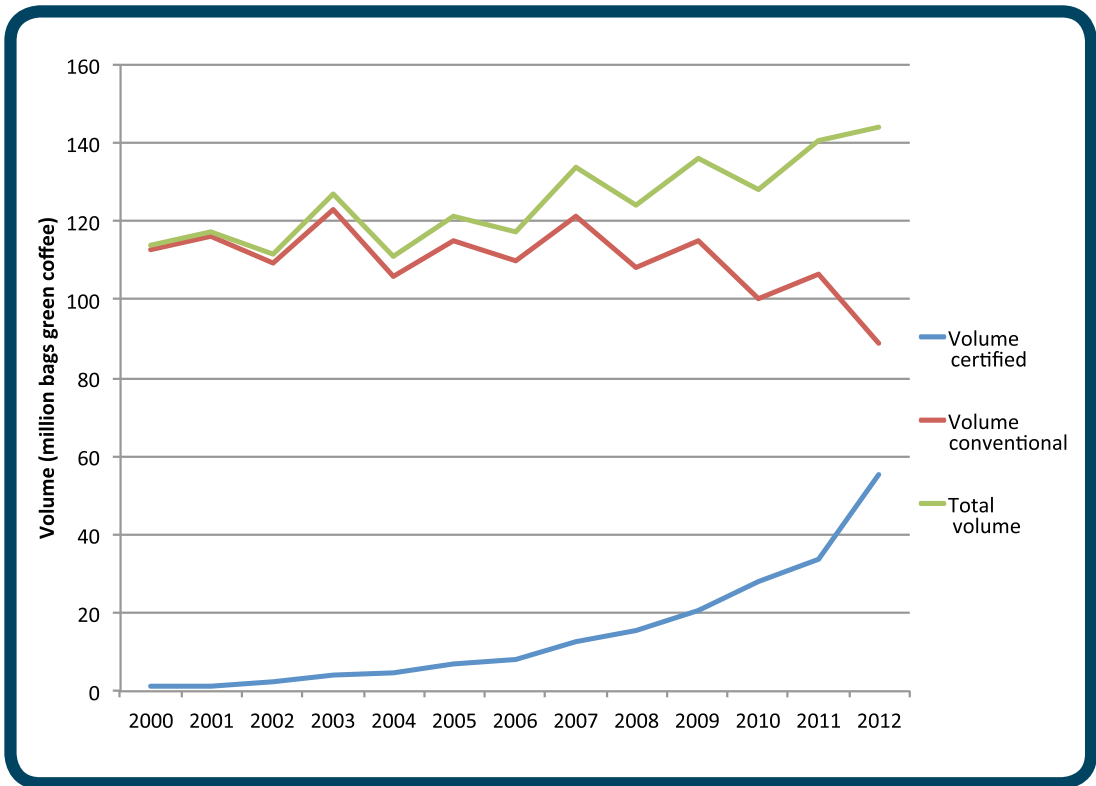


Figure 6: Total annual coffee supply from 2000 to 2012 split by conventional (i.e. uncertified) and certified in million 60 kg bags of green coffee.

Sources:¹³

Several certification programmes are active in coffee, but five dominate the market. These are 4C, UTZ Certified, Rainforest Alliance, Fairtrade and Organic. Of these, 4C has seen the strongest growth in supply over the past years (Figure 7).

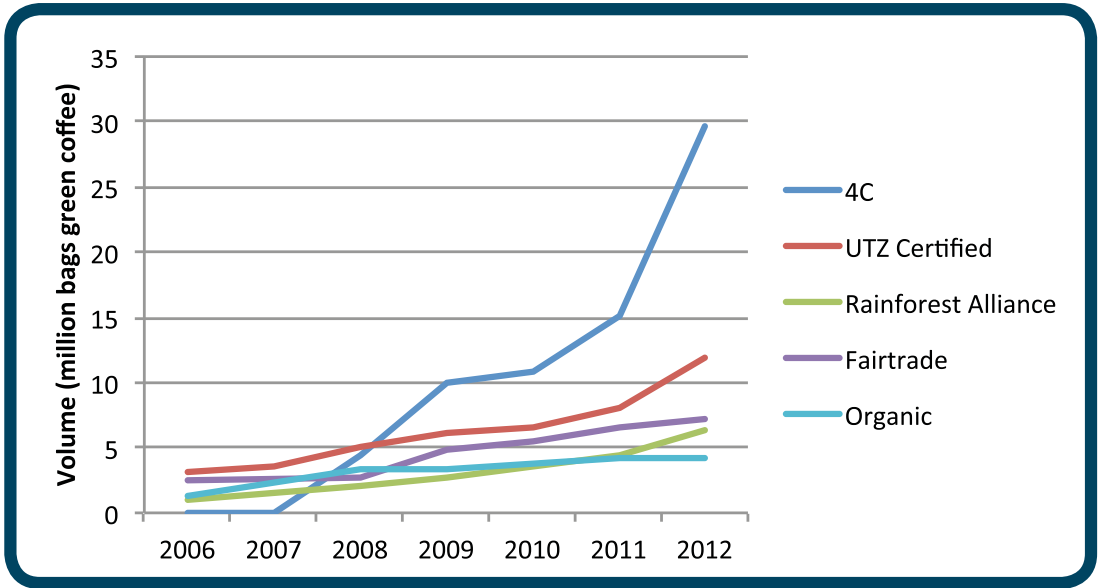


Figure 7: Supply of certified coffees from 2006 to 2012 in million bags. Data on Organic certification for 2011 and 2012 is missing. Note that an unknown share of the volume carries more than one certificate.

Source:¹⁴

Consumption of certified sustainable coffees is concentrated in mature markets, but large uptake differences exist between national markets. Internationally, the Dutch coffee market leads the way with 38% of consumption certified as sustainable in 2011 compared with less than 3% in 2001. Large companies such as Nestlé and Mondelez have ambitious plans for certified sustainable coffee. Nestlé has indicated that all its coffee purchased directly from farmers will meet the 4C sustainability standard by 2015. This is expected to amount to 180,000 t (3 million bags) of green coffee annually. It is likely that additional volume sourced from intermediaries will also carry the 4C label. In addition, 90,000 t (1.5 million bags) will be sourced in accordance with the Rainforest Alliance standard. Mondelez, in turn, has expressed the commitment to have all its European coffee brands sustainably sourced by 2015, using 4C, Rainforest Alliance and Fairtrade systems. DE Master Blenders 1753 expects to source 25% of its annual volume as UTZ Certified by 2015, which amounts to around 90,000 t.

Despite strong commitments of large buyers, not all certified coffee is sold as such. The so-called marketability rate shows the share of certified supply that is sold as certified, in most cases against a premium (Figure 8).

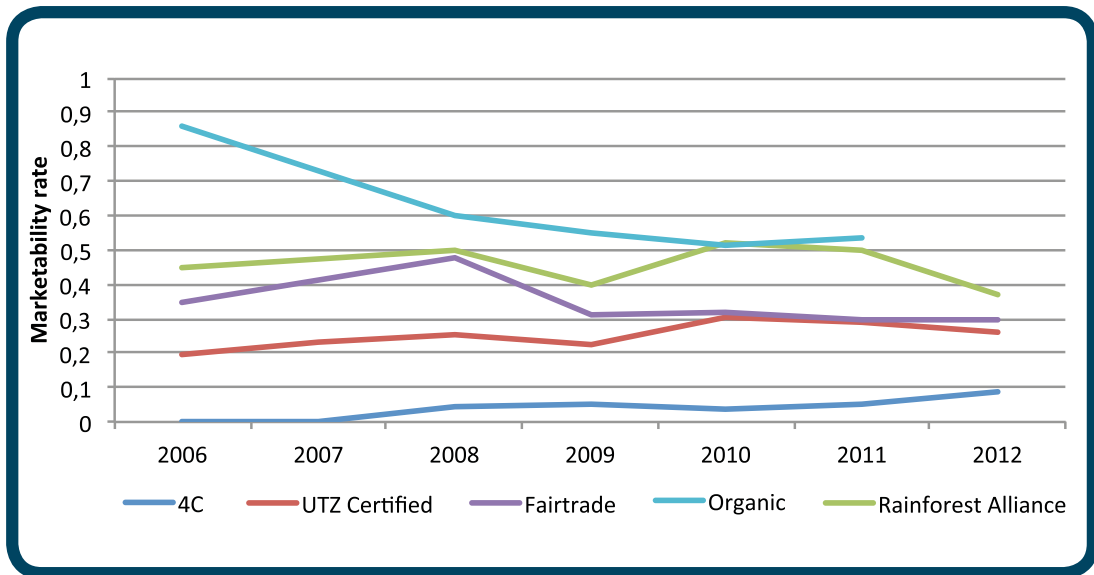


Figure 8: Average annual marketability rate of certified coffees from 2006 to 2012.

Source:¹⁵

Unless the coffee market approaches 100% demand for certified coffee, the need to discuss the marketability rate is here to stay. Not all coffee is of interest to most roasters. Coffee that is harvested at the start or end of the season is typically of lower quality. Certain buyers are interested in certain bean sizes, qualities, cup profiles, etc. and the lower quality coffees are usually more difficult to sell as certified, especially when a premium is expected by the seller.

The marketability rate varies from year to year. Average rates, excluding Organic which is uncharacteristically high, have never surpassed 40% and saw a low of 22% in 2007. The 7-year average from 2006 to 2012, excluding Organic, is 32%.

The difficulty for certified companies or groups of producers is that investment for certification should be covered by premium payments on only 32% of the certified volume, when no other financial benefits of certification occur. Only Fairtrade and UTZ Certified require buyers to pay a premium. Rainforest Alliance, 4C and Organic do not have this requirement. In today's market, coffee that is sold under any of these three labels trades against a premium in most cases.

Marketability rates vary significantly between certificates. The average rate over the past seven years for Fairtrade has been relatively high at 34%. Organic was extremely high at 81% in 2006, but we are not entirely convinced

about the reliability of market data on Organic certification as there appears to be no information on volumes. Rainforest Alliance rates have historically been high – 47% on average – but dipped sharply from 2011 to 2012. We suspect this is because Nestlé and Mondelez are meeting growing shares of their sustainability commitments by buying 4C coffee. The marketability rates of 4C, despite strong commitment from roasters, is poor at 5% on average. Growth in 4C volumes is likely to continue to outpace demand for some time. In 2013 4C supply in Vietnam grew by 8.3 million bags. UTZ finds itself between the other certificates, with a 7-year average of 25%.

While certified supply appears to be becoming mainstream (Figure 6), demand has some way to catch up (Figure 9).

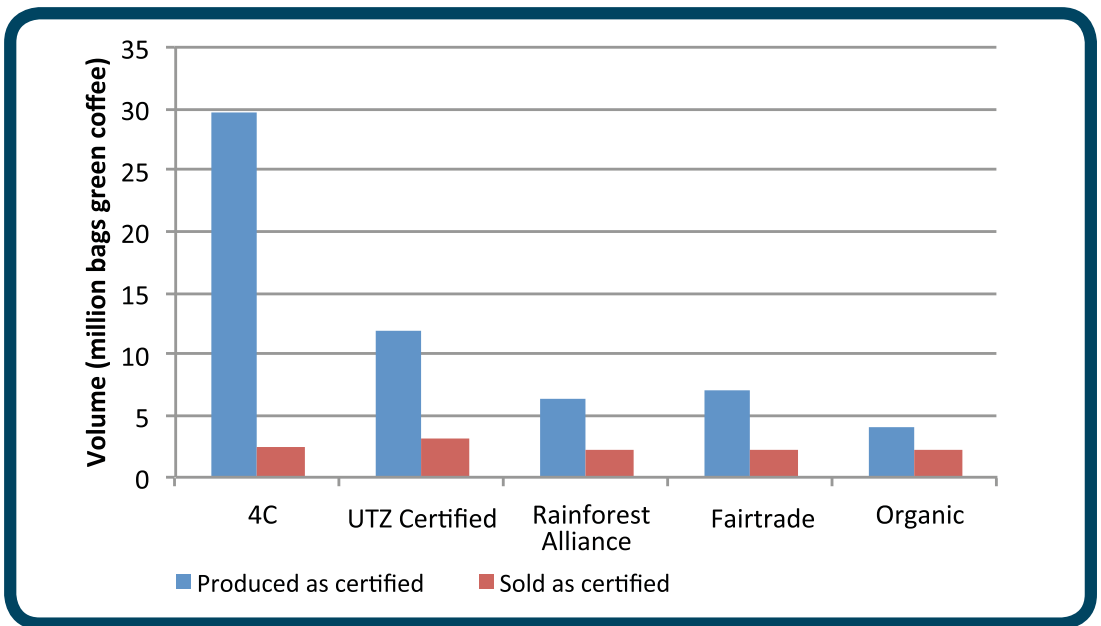


Figure 9: Supply and demand of certified coffees in 2012 in million 60 kg bags of green coffee, by certificate. Data on Organic certification is from 2011.

Seventy per cent of coffee is produced by an estimated 20 to 25 million small-scale farmers. Some of these farmers are member of cooperatives, but the majority operates as individuals. Aside from a lack of management and administrative skills, individual smallholder coffee farmers cannot profitably access the market for ‘certified sustainables’ because they lack sufficient volumes over which to spread implementation costs. Given the large and fragmented supply base, addressing demand for certified sustainable coffee requires trading and exporting companies to organise producer groups and use these as a basis for implementation of certification.

According to Table 5 to Table 8 (Chapter 3) certification claims to provide numerous benefits for producers, ranging from more efficient and higher production, to credit access and better health. The next section provides a review of the scientific and so-called grey literature and aims to distil the current consensus on the effects of certification on small-scale coffee producers.

4.2 Benefits for small-scale farmers

We found 110 papers, studies and reports that mention the effects of certification programmes on small-scale coffee producers. To identify effects, we need studies that use a reliable methodology to describe causal impact of certification. This means that studies need to build a credible case for what would have happened to a particular farmer had she *not* joined the certification programme. This hypothetical case ('the counter-factual') should then be compared with the actual situation and the change over time. Most studies do not apply this methodology of a credible counter-factual, but are nonetheless of interest. Table 9 in Appendix 3 gives an overview of the number of studies found and their methodology.

There are just 14 studies on which we can base a judgement of the effects of certification of coffee producers, with a further 29 that include relevant quantitative information but lack a credible mechanism by which to identify causality of effects. Of the 14 studies with credible counter-factuals, Fairtrade is the most widely studied certification scheme, followed by Organic (Figure 10).

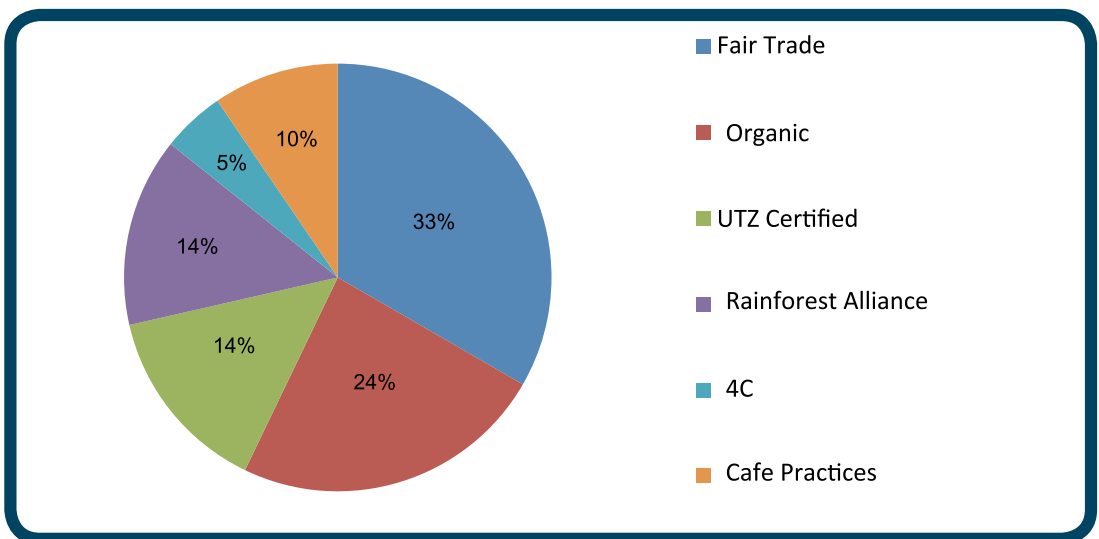


Figure 10: Share of studies that employ a credible counter-factual scenario to identify causality of certification effects by certificate.

Geographically, the focus of investigation is mostly on Central America with nine studies focusing on that region. Of these, four cover Nicaragua, three cover Costa Rica and one covers El Salvador. The ninth is a regional study covering several countries. South America is covered by two studies in Peru, Asia by two studies in Vietnam and Africa by only a single study in Uganda. Note that some studies cover more than one country.

Impacts claimed by certification agencies cover a wide range of topics and issues. We grouped impact areas and for each impact area defined a number of general indicators that capture a substantial share of the claims made. The impact areas are: agronomy, economy, services and social effects.

4.2.1 Agronomy

Here we focus on four indicators. These are: productivity, farming efficiency, quality and environmental effects (Figure 11).

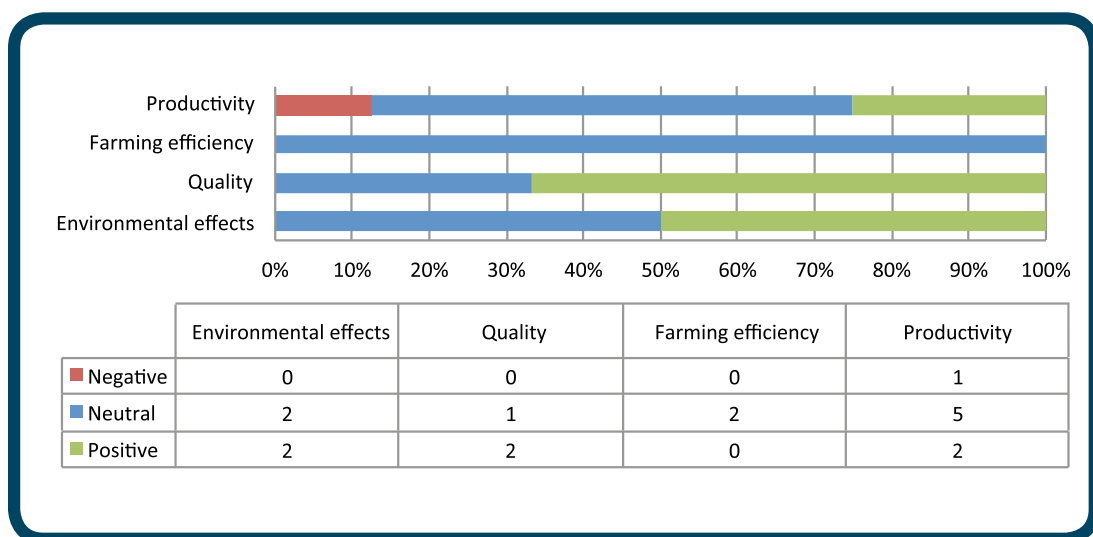


Figure 11: Effects and direction of effects of certification on 4 agronomy and environment indicators, measured by the percentage of studies with credible counter-factual scenarios that identify said effects. The table below the graph shows the actual numbers of studies for each indicator and type of effect.

Positive impacts are found primarily on quality of produce and environmental effects. Farming efficiency, which relates to the amount of inputs used per unit of coffee produced, is not affected in any of the studies we identified. Improved productivity, an often-claimed benefit is confirmed by a single

study. Most studies find the effect of certification on productivity to be neutral, while one study identified a negative effect.

Quality is often self-reported by farmers and not usually corroborated with buyers. In Vietnam, for example, quality improvements were reported by farmers but this was not reflected by the prices these farmers received.

4.2.2 Economy

This category covers four indicators: market access, price, production cost and income (Figure 12).

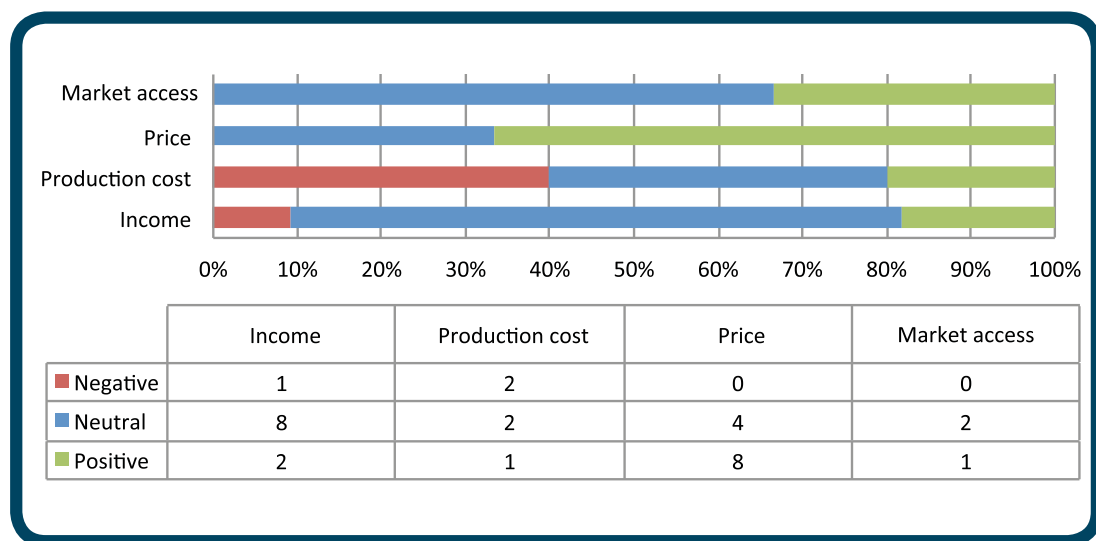


Figure 12: Effects and direction of effects of certification on 4 economy indicators, measured by the percentage of studies with credible counter-factual scenarios that identify said effects. The table below the graph shows the actual numbers of studies for each indicator and type of effect.

Three studies analysed market access. One found a positive effect of a certified cooperative that could access markets that were previously out of reach. Typically certificate-holders already have good market access prior to certification but manage to sell a share of their coffee as certified afterwards. Hence, the majority of studies finds no effect on market access. In markets where certificate-holders are overly reliant on a single buyer, there could be a negative effect if they lose their current buyer as a result of not being able to meet certification standards.

Positive effects on price are found in over 60% of the studies. This is caused

to a large degree by the Fairtrade minimum price, although also premium payments for Organic, UTZ and Rainforest Alliance certified coffee play a role. Price effects appear to be positive, with more than 60% of studies finding positive effects.

However, production costs for certified coffees are higher in 40% of the studies. This mainly relates to Organic production where increased labour costs are usually incurred. Few studies include the implementation costs of certification at farm level in addition to production costs. Those that do, tend to conclude that certification is at best cost-neutral for farmers, and in some cases has a slight negative effect on farm earnings.

Consequently, none of the studies with a credible counter-factual finds unambiguous positive effects on income. Despite better prices and premiums in a majority of studies, the economic outcome in terms of income is neutral in most case as: only a small share of certified production gets sold in the certified market; there are occasionally higher production costs; and productivity increased significantly in only a few cases.

4.2.3 Services

This category covers four indicators: organisational development; and access to training, credit, and inputs (Figure 13).

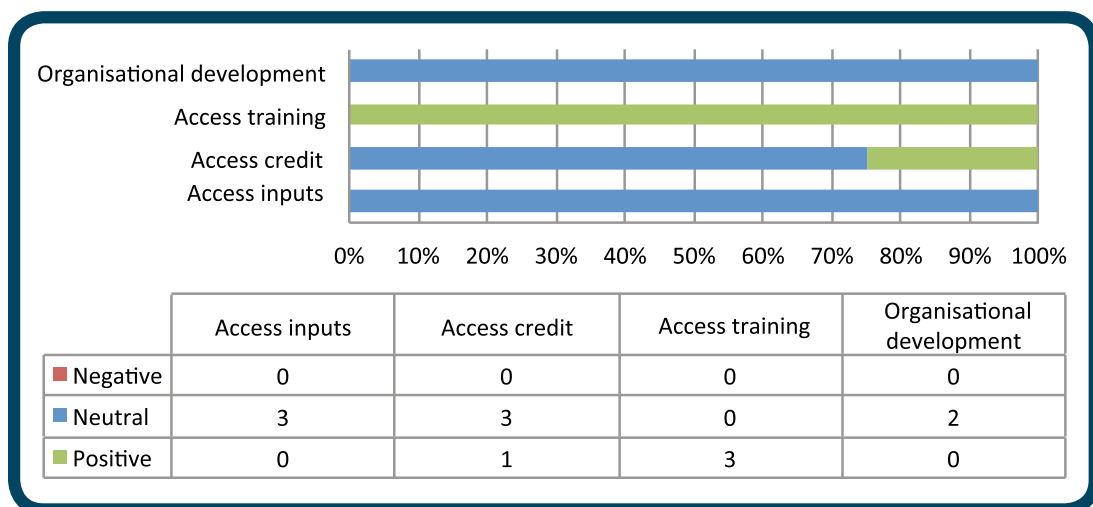


Figure 13: Effects and direction of effects of certification on 4 services indicators, measured by the percentage of studies with credible counter-factual scenarios that identify said effects. The table below the graph shows the actual numbers of studies for each indicator and type of effect.

Organisational development is not affected according to the studies we reviewed. For Fairtrade, only producer-owned organisations can be certified, so most organisational development takes place prior to certification. More development in terms of making farmer organisations more professional may take place after becoming certified. Indeed, many report this to be the case, but the studies reviewed do not indicate this to be the case when they are compared with uncertified farmer organisations.

With the exception of Fairtrade, exporting companies often organise farmers in groups to certify them, and hold the certificate on their behalf. Such set-ups are typically managed by the company in question, not the farmers who are member of the certified group. As such, no positive (or negative) organisational development effect was found.

All three studies that reviewed access to training found positive effects. Certified farmers have more access to training than uncertified farmers. Such training is either provided by the cooperative (usually in the case of Fairtrade and Organic) or by the exporting company that holds the certificate in case of the other certification schemes.

Better access to credit is claimed by, for example, Rainforest Alliance. One study corroborates this finding and two do not. None of the studies finds effects on access to inputs.

4.2.4 Social effects

These include three indicators: child labour, health and social effects (Figure 14).

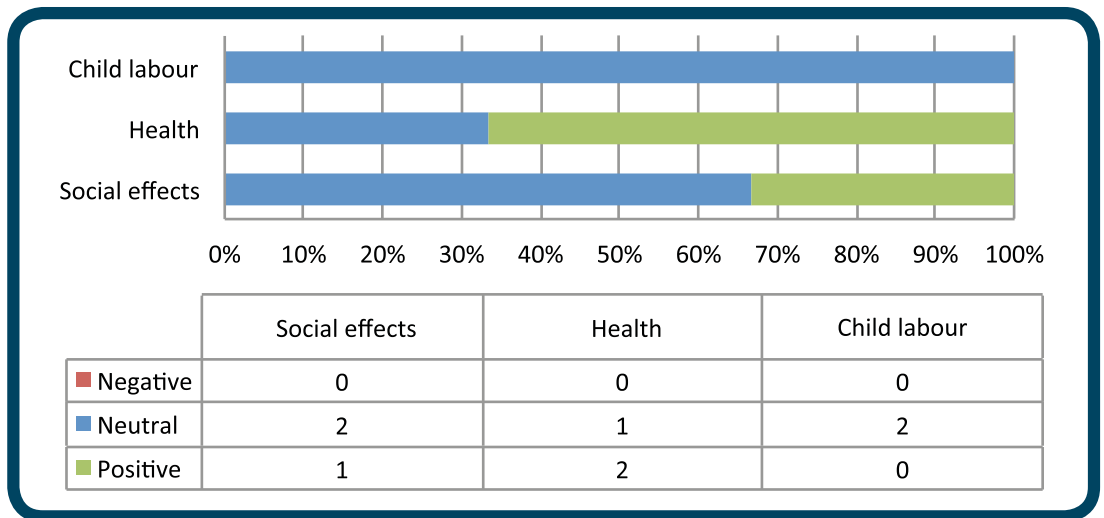


Figure 14: Effects and direction of effects of certification on three social effects indicators, measured by the percentage of studies with credible counter-factual scenarios that identify said effects. The table below the graph shows the actual numbers of studies for each indicator and type of effect.

Child labour in coffee does not seem to be affected by certification. In some cases, such as in the studies in Vietnam, this is because child labour was not an issue prior to farmers becoming certified and hence there was little scope for improvement. Of more concern is that in other cases, such as Uganda and Nicaragua, the use of child labour was an issue at the start of certification and continues to be an issue at the time of this study.

Positive health effects are found by one study, which argues that a reduction in the use of agrochemicals must be better for the health of farmers. We find this conclusion to be lacking in substance as application of agrochemicals need not be harmful if it is done properly – a practice that most certificates are in fact now promoting.

Other significant positive social effects are found by one study, such as better educational attainment and the higher likelihood of the children of Fairtrade-certified farmers attending school/college.

4.3 Findings from other impact-related studies

With the inclusion of the 29 studies that do not use control groups and measurements of the same farmers at different points of time, certification delivers more benefits than the picture that emerged in the previous section. However, it should be noted that given the methodological limitations of these studies, the benefits they identify should be considered as indicative only (see Section 2.2).

Geographically these studies are predominantly applicable to South and Central America. Mexico features heavily with five studies, all related to Fairtrade. Other countries studied are: Kenya, Tanzania, Ethiopia and Rwanda. Asia is underrepresented, with just one study in Vietnam.

The effects of certification on agronomy are overwhelmingly positive in these studies. Just one study identified a negative effect on productivity as a result of certification.¹⁶ This same study also recorded a higher incidence of coffee leaf rust in Organic certified farms in Costa Rica. In the light of the current outbreak of leaf rust in Central America, this is a distressing finding for Organic certified producers and one that goes counter to the claim by Organic certification of greater resilience to pests and diseases of Organic production systems. Other studies that assessed productivity found mostly positive effects of certification. Some authors indicate that they are uncertain whether the changes they observed are effects of participation in certification or whether the differences already existed before participation started.¹⁷ Apart from Fairtrade, all certification schemes have studies associated with them that highlight positive effects on productivity levels. The view that emerges is that the effects of Organic certification on productivity are ambiguous. Around half the studies find greater productivity, while the other half find the opposite.

The view on production costs is also split. Two studies find lower production costs for certified farmers, one in Vietnam on UTZ certification, the other in Colombia with farmers who participate in the Rainforest Alliance supported Nespresso AAA programme.¹⁸ Neither one of these studies takes the investments that farmers make to become certified into account and so are likely to understate the real production costs. Of studies that take a more comprehensive view, one finds no effect¹⁹ and three studies find negative effects of certification on production costs.²⁰

Price increases are found in all Organic studies that examined price, but production costs increased also. Consequently, effects on farmer income are

neutral or negative in a majority of cases. A determining factor that emerges from several studies is the marketability rate, the share of certified product that is actually sold as such. Eleven studies find positive income effects from certification, six find no effects and two find negative effects.

Access to services, training and credit, in particular, is found in all studies that examined these issues. Providing farmers with training is a requirement of all certification schemes. When such training goes beyond mere compliance with the code of conduct and the associated administrative procedures that farmers must follow, additional benefits may accrue. Few authors however investigate the contents and quality of training. Fairtrade is unique in that it requires buyers of Fairtrade coffee to make available credit to producer organisations to finance production. Of the 18 studies that investigated Fairtrade, eight find a positive effect on access to credit. Other certification schemes do not have this feature and their impact on access to credit appears to be far more limited.

4.4 Cost-benefit analysis of coffee certification

A total of 16 studies make reference to implementation costs for coffee. Not all certification schemes are equally covered (Table 10 in Appendix 3). Fairtrade is best covered by the existing literature. 4C stands out as the least well-studied certification system in terms of implementation costs. Unfortunately, not all 16 studies contain quantitative data on investments made and costs incurred. Several discuss costs from a qualitative perspective and merely state that costs are high or too high, without further qualification. Concrete cost data were sparse and often incomplete.

Table 11 in Appendix 3 shows a wide range of values for costs accrued by the certificate-holder. Depending on the certificate, upfront investment costs range from €33.70 per farmer to €73.40 at certificate-holder level. Not all studies provide a detailed cost breakdown; some provide only one figure for total certification costs. What is clear is that the three main cost items are training of farmers, set up of the internal control or management system and time spent by management. It should be noted that at neither end of the cost range are those costs completely accounted for. In reality costs for the certificate-holder are likely to be higher than shown here.

Upfront investment costs for farmers consist of infrastructure investments and hardware, and opportunity costs for attending certification related meetings and training. Differences occur between certificates. Upfront investment costs of €17.50 per farmer were found. A study in Kenya²¹ identified significant cost

items for compliance with the Rainforest Alliance code of conduct. These costs resulted from setting aside land for riparian strips and buffer zones. In some cases, cash and food crops had to be uprooted. For one farmer, around 5% of his coffee trees had to be removed. Unfortunately no cost assessment of the loss of productive land was made, but for farmers close to waterways this is an item to keep in mind when considering certification.

Data on recurring costs are more patchy than on upfront investment (Table 12, Appendix 3). At certificate-holder level, individual cost items are found in the literature only for the operation of the internal control system, producer training and premium payments. Other studies only indicate total certification costs without a breakdown. Costs at certificate-holder level range between €43.59 to 77.69 per farmer. At farmer level, one source indicates total costs of €18.26, without giving a detailed breakdown of what these total costs entail. Similar to the upfront investments, we suspect the actual costs to be higher, at least for certificate-holders.

The average marketability rate – the share of the certified volume that gets sold as such – is 32% (Section 4.1). Many, if not all, of the costs for implementation are a function of the number of farmers in a certified group. Potential earnings are made on the volume of certified produce sold. This means that the volume per farmer is a critical factor when determining whether or not to invest in certification. Of course other motivations exist. Maintaining relations with clients is a commonly cited reason. If we consider the financial benefits only we need to make one more assumption: if we take an average premium of US\$5 t/lb green coffee this translates into €29.33 per t of green coffee in premium received. A second assumption is that the upfront costs of €33.70 to 73.40 are amortised over three years. With these numbers it is possible to plot a set of lines that show the production level at which certification of farmers becomes financially viable (Figure 15).

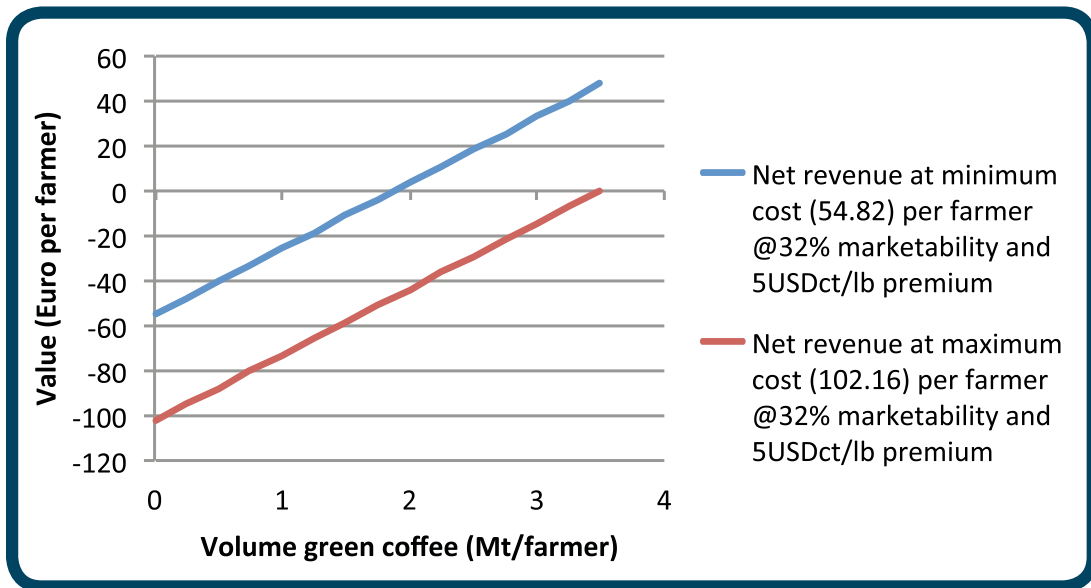


Figure 15: Revenue scenarios at minimum cost per farmer (€54.82) and maximum cost per farmer (€102.16). Marketability is set at 32%, the long run average of all schemes under consideration, the average premium is assumed to be \$5 t/lb of green coffee. Upfront costs for the certificate-holder are amortized over three years.

Figure 15 shows that, to be financially viable, average production per farmer needs to be in the range of 1.72 t to 3.48 t of green beans per farmer, depending on the level of implementation cost. This has implications for origins, where production per farmer is below these figures as is the case in many African countries. Such origins would have to rely on donor funding or significantly outperform the market in terms of marketability and amount of premium received. While this may be possible for some, it is unlikely to be possible for all.

5

Cocoa

5.1 Market and sector

Global supply of cocoa increased from 4.26m t in 2008 to 5m t in 2012. Cocoa is primarily produced in Africa. Côte d'Ivoire and Ghana are responsible for 58% of global supply. Cocoa production is dominated by small-scale producers farming less than 5 ha, who are responsible for an estimated 90% of global production.²²

Similar to coffee, initial certification of cocoa was Organic and became available in the late 1980s. Strong growth in the supply of certified cocoa took off in 2008. While reports of widespread use of child labour in cocoa production had been made since the late 1990s, it took more time before certification became a tool for processors and manufacturers to ensure sustainable sourcing. A second motivation for investment in cocoa production by processors and manufacturers was the perceived supply shortage of 20% that was expected in 2010. The 2010 shortage was not as severe as many expected, but a new shortfall in production is expected by some in 2020.²³ Certification, often in combination with targeted agricultural training programmes, is used to support producer organisations and their members, to address expected supply shortages and sustainability issues. Cocoa prices are volatile and, in contrast with coffee, cocoa producers tend to receive a smaller share of the export value. In Ghana, the state marketing agency, Cocobod, guarantees a minimum farm-gate price equal to 70% of the world market price. In the process, and to finance its own operations, it retains a significant portion of the export price. Some of this money is channelled back to producers in the form of services. Cocoa farmers in liberalised markets such as Cameroon tend to receive better prices than those in Ghana while producing lower quality, but do not receive much in terms of support.²⁴ In Côte d'Ivoire it is estimated that farmers receive around 60% of the export price.²⁵

The volume of conventionally produced cocoa has remained stable since 2008 at around 4m t. The share of certified cocoa is around 20% (Figure 16).

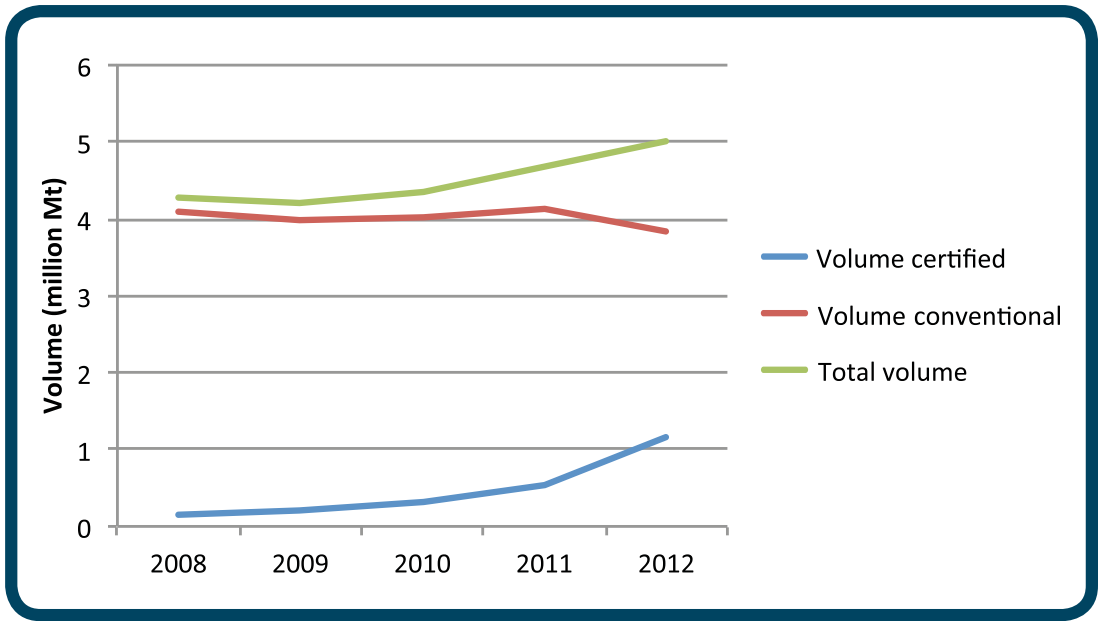


Figure 16: Total annual cocoa supply from 2008 to 2012 split by conventional (i.e. uncertified) and certified supply in million t of cocoa. Note that this graph does not take multiple certification into account.

Sources:²⁶

The certified cocoa market is dominated by four certification schemes. These are UTZ Certified, Rainforest Alliance, Fairtrade and Organic. Supply of UTZ Certified and Rainforest Alliance has boomed over the past few years (Figure 17) due to substantial commitments to source certified cocoa from manufacturers such as Mars, Ferrero and Hershey.

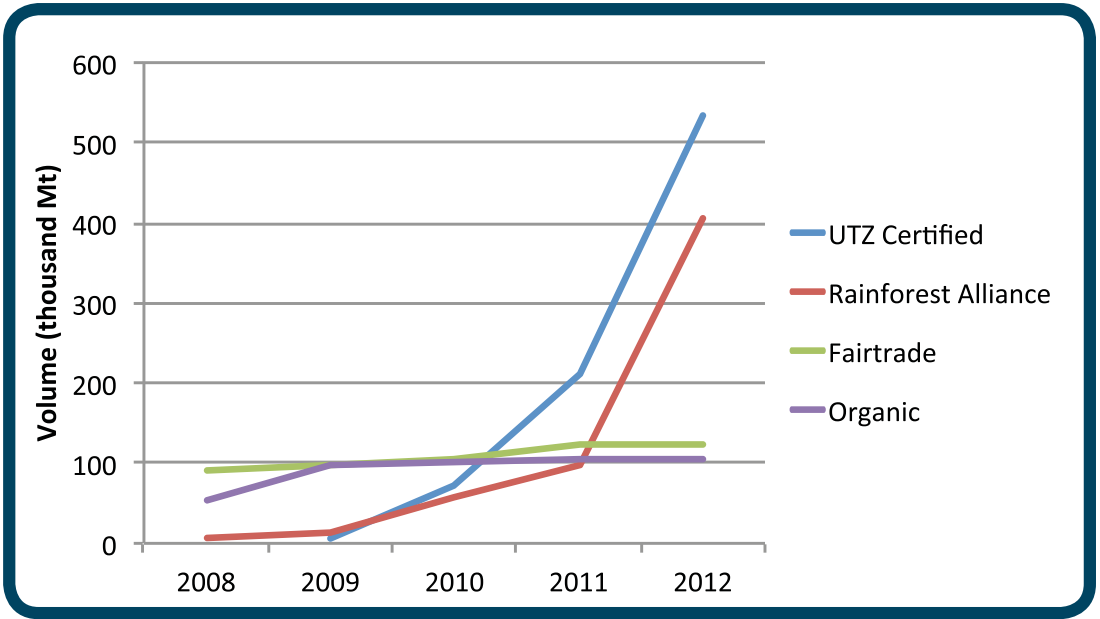


Figure 17: Supply of certified cocoa from 2008 to 2012 in thousand t cocoa beans. Data on Organic and Fairtrade for 2012 is missing.

Sources:²⁷

The aforementioned three companies are collectively responsible for 45% of the confectioners market, and have committed that 100% of their supply will be certified by 2020. Mars is working with UTZ Certified, Rainforest Alliance and Fairtrade to help implement its commitment. Volume-wise, Mars indicates it will source at least 100,000 t of UTZ Certified and Rainforest Alliance certified cocoa by 2020. Hershey uses Rainforest Alliance certified cocoa, but does not disclose its volumes, beyond its 100% by 2020 commitment. Ferrero sources over 100,000 t of cocoa annually. Commitments of certification are met by sourcing predominantly UTZ Certified and Rainforest Alliance certified cocoa. In 2012/13 this was expected to account for 25% of total volume. Another 15% is guaranteed to be traceable by suppliers or sourced through projects. Other large manufacturers such as Nestlé and Mondelez have no overall commitments on the share of their supply that will be sourced as certified.

Marketability rates, or the percentage of certified cocoa that is actually sold as such, vary from one certification scheme to another, but an average figure of 29% applied in 2012 (Figure 18).

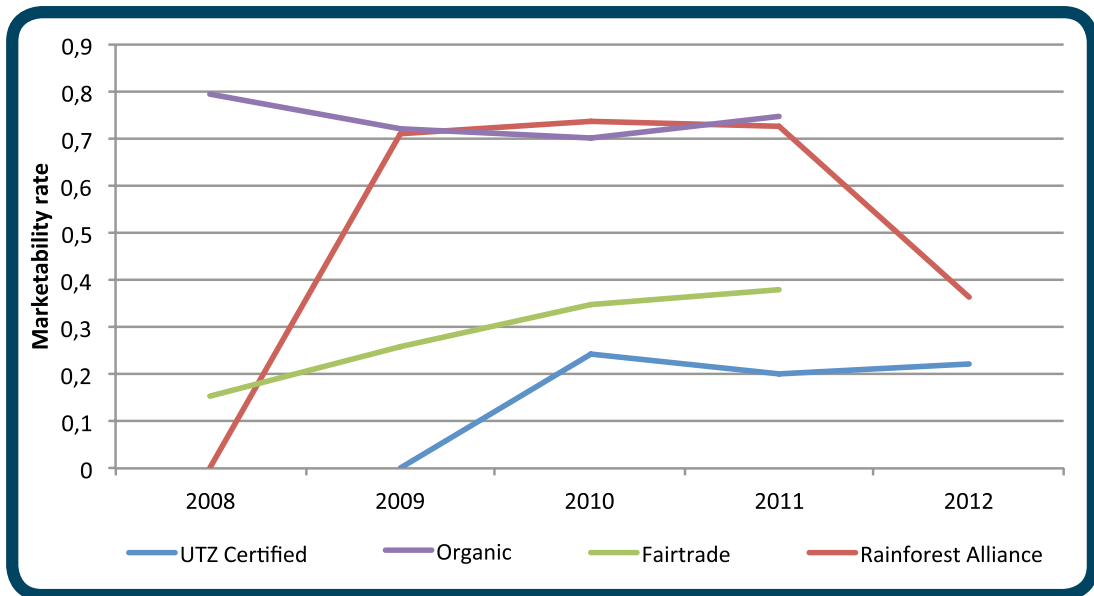


Figure 18: Average annual marketability rate of certified cocoa from 2008 to 2012.

Source:²⁸

UTZ Certified had the lowest marketability rate in 2012 at 22%. Its rate has been stable over the past three years, which points to a consistent mismatch between supply and demand. Rainforest Alliance has seen similar growth in supply to UTZ, but in 2012 its marketability rate crashed from over 70% to less than 40%. This is still better than UTZ, but producers faced increasing problems selling their Rainforest Alliance certified cocoa. As with coffee, the marketability rate for Organic is very high. We are not entirely confident about the quality of data on certified Organic production.

Companies, cooperatives and other organisations working to implement certification in cocoa have to try to recoup their investments from premiums and perhaps yield, quality and security of supply improvements. The premiums are earned on 47% of the certified volume (long-run average) that gets sold as such. The remainder is sold against conventional prices.

As the marketability rate shows, demand has some way to catch up. In absolute figures the dominance of UTZ Certified and Rainforest Alliance is evident on the supply side, but less so on the demand side (Figure 19).

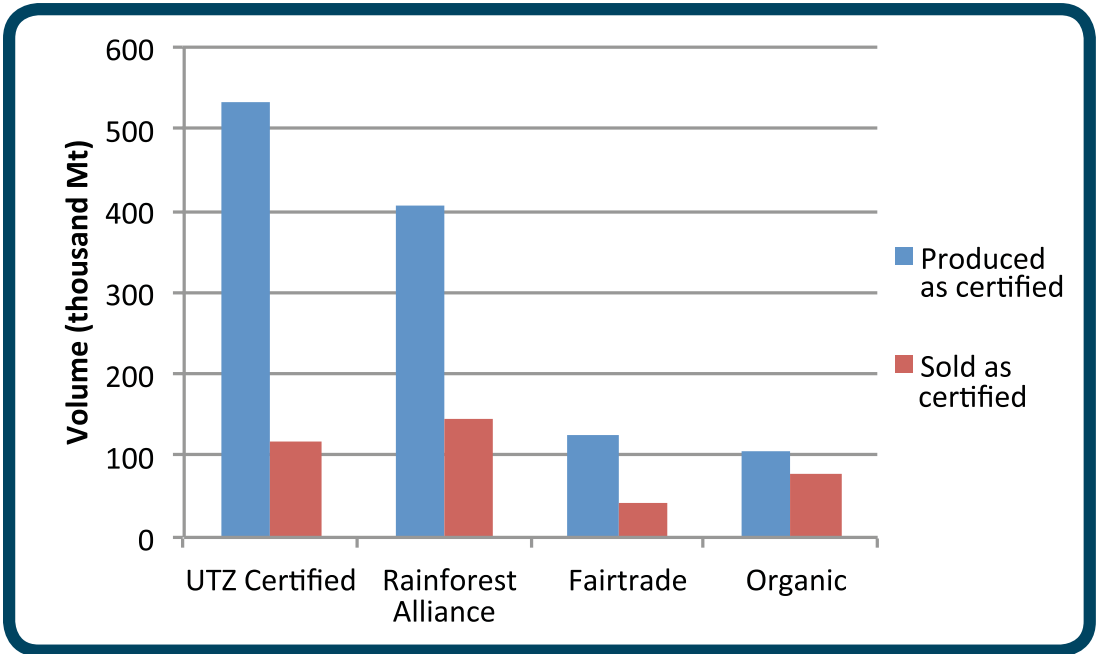


Figure 19: Supply and demand of certified cocoa in 2012 (UTZ Certified and Rainforest Alliance) and 2011 (Fairtrade and Organic) by certificate.

Source:²⁹

We expect demand for UTZ Certified and Rainforest Alliance certified cocoa to grow strongly, as large manufacturers such as Mars, Hershey and Ferrero strive to meet their certification targets using these two certification schemes. Hershey has expressed commitment towards Fairtrade, although without specifying volume targets. Ferrero recently started a pilot project with Fairtrade certification.³⁰

The cocoa sector faces two main challenges. On the one hand, there are continuing concerns about where future supply will come from. Productivity in West Africa averages 450 kg/ha³¹ whereas optimal agronomic management and conditions could result in triple that amount. Farmers are said to be ageing and children of farmers are reportedly reluctant to follow in their parents' footsteps as cocoa farmers. On the other hand, poverty among cocoa producers is widespread, contributing to the use of undesirable labour practices.

According to the claims by certification agencies on the effects of their programmes these issues should be addressed through certification. In the next section we review the evidence to support those claims.

5.2 Benefits for small-scale farmers

We found 31 papers, studies and reports that mention the costs or effects of certification programmes on small-scale cocoa producers. To identify effects we need studies that investigate causal impacts of certification. Several studies do not create a credible counter-factual but are nonetheless of interest.

Table 13 in Appendix 3 gives an overview of the number of studies found. We found one study on which to base a credible judgement of the effects of certification of cocoa producers, namely a study on organic certification of small-scale cocoa farmers in Uganda.³² We will present information from that study in this section to indicate impact related to cocoa certification.

The study focuses on impacts on economic indicators, and specifically on revenue effects, but has also found impact on access to services. The issues of agronomy and social effects are not covered by this study, and are therefore not covered in the coming sections.

5.2.1 Economy

The revenue effects of certified Organic contract farming and of the use of Organic farming methods was assessed in Uganda, in comparison with 'organic by default' conventional farming systems without contractual relations. Three indicators were assessed: changes in prices, revenues and training participation. The study finds that participation in the certified organic contract scheme leads to increases in prices and net cocoa (and vanilla) revenues by, on average, 150%. Positive revenue effects were found from applying organic farming techniques. Such effects are more modest than programme participation effects, and increase with the number of techniques used simultaneously.

Even though the profitability of certified Organic farming is better compared to organic farming by default, the increase in profitability is connected to the contract farming scheme in which certified Organic farming is implemented. Because of this contract farming arrangement, farmers are sure of a marketing channel including premium payments when quality requirements are met. Price premiums for high quality produce taken up in the contracts are, according to the authors, instrumental for reaching impact, compared to contract schemes in general (whether for organic or conventional crop production). Thus, the effects found cannot be solely attributed to Organic certification.

5.2.2 Services

The study finds that certified Organic farmers had more access to training than non-certified farmers. This is because in the certified Organic contract farming scheme, participants were exposed to yield enhancing farming techniques, which resulted in farmers increasing their incomes from both cocoa and vanilla.

5.3 Findings from other impact-related studies

There are few quantitative studies on cocoa certification impacts and costs compared to literature on coffee certification. In addition to the study described in the previous section, we found five other documents with quantitative information that indicate the possible impact of six certification schemes in cocoa, two of which cover more than one certification scheme. Two sources relate to Fairtrade certification (in Ecuador and Ghana), two to Rainforest Alliance certification (Côte d'Ivoire) and two to Organic certification (Ecuador and Uganda). We also found one source in which impacts are presented of a programme in Indonesia in which one-third of 60,000 households became certified Fairtrade, Rainforest Alliance or UTZ producers.³³ But no information was available in this source on the impact of individual certificates. As described earlier, information on impacts from these five studies are indicative only, as the impacts they describe cannot be attributed to the certification programmes because of methodological constraints.

Two studies found a positive impact on productivity; one of the studies also reported an increase in prices. But these effects translated to income increases only in one study,³⁴ probably because they were also combined with farm efficiency improvements, as the other study reported an increase in production costs. Three out of five studies found neutral impacts on income from certification. One factor that could explain the neutral effect on income in one of the studies was the low marketability rate (between 7 and 30%) for certified Fairtrade cocoa in Ghana,³⁵ limiting the potential of producers to recover certification costs. Two studies found a positive impact of certification on access to training, one a positive effect on the environment. Other studies did not measure effects on these indicators. The social effects that were assessed in two studies were found to be either neutral or positive.

5.4 Cost-benefit analysis of cocoa certification

For cocoa, 15 reports were found that present information on certification costs. We have also received information on costs through personal

communication. UTZ and Rainforest Alliance are most frequently covered by the reports, Fairtrade and Organic are less covered (Table 14, Appendix 3). Not all reports contain quantitative data on costs which we could use for our analyses, but information on costs from just four sources was used. Information from the other studies was not specific enough.

Most sources do not contain certification cost data (Table 15, Appendix 3). The data that does exist shows a wide range of values for costs accrued by the certificate-holder.

Upfront costs for UTZ certification range from €25.76 to 106.74 per farmer at certificate-holder level. The only detail on costs found was costs of staff training; the other studies presented total certification costs. From the sources it is clear that the certification costs mentioned are not completely accounted for. This may lead one to believe that the upfront costs are higher. Companies who could efficiently implement certification sometimes do not have detailed data readily available or are not willing to provide detailed cost information for competitive reasons. Weighing up these two considerations, we believe the cost range presented to be a close approximation of actual costs. We do not however have empirical data to back up this claim. Data on recurring costs is available in more detail than information on upfront investment (Table 16, Appendix 3). Recurring costs range between €6.29 and 164.55 per farmer for certificate-holders.

Data on upfront costs for farmers are €80.78 per farmer. Recurring costs for farmers are €54.66 per year. With an amortisation period of three years for the upfront costs, the farmer would spend €81.58 in total annually. The majority of these costs are made up of time invested by farmers, which are valued at the usual hired labour rates.

The average marketability rate is 47% (Section 5.1). Most implementation costs are a function of the number of farmers in a certified group. Potential earnings are primarily made on the volume of certified produce sold. The volume per farmer is a critical factor which determines whether or not the farmer will invest in certification.

If we consider just the financial aspects we need to make one more assumption; if we take an average total premium of €196 per t, this translates into €93 per t of cocoa in premium received, after adjusting for the marketability rate. By amortising upfront costs for certificate-holders and farmers over three years and adding the annual recurring cost for each party, an annual cost is estimated that applies to the first three years of operation.

We do this for both the minimum and maximum cost levels that we found. With these figures, we have plotted a graph that shows what volume per farmer is required to reach break-even, for minimum and maximum cost scenarios, when costs of certificate-holders and farmers are combined (Figure 20).

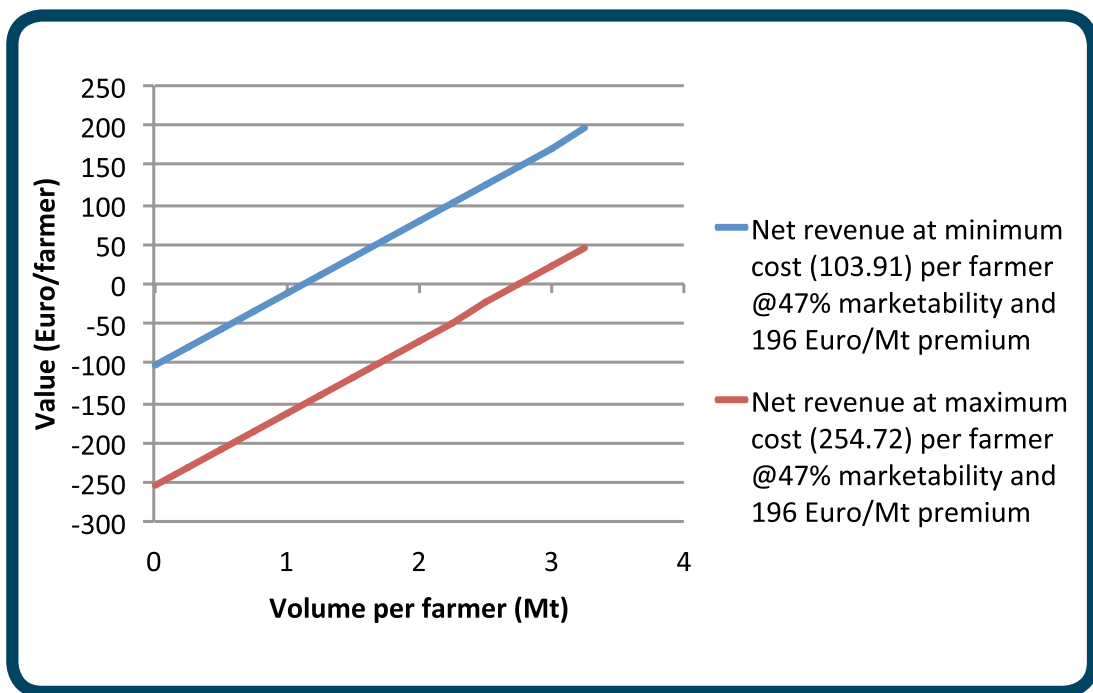


Figure 20: Revenue scenarios at minimum cost per farmer (€103.91) and maximum cost per farmer (€254.72) at combined certificate-holder and farmer level. Marketability is set at 47%, the long-run average of all schemes under consideration, the average premium is assumed to be €196 per t. Upfront costs for the certificate-holder are amortised over three years.

Figure 20 shows that for the combined investment of certificate-holder and farmer to be financially viable, the average annual production per farmer needs to be in the range from 1.12 to 2.77 t of cocoa beans, depending on the level of implementation cost.

The situation for the certificate-holder alone is somewhat different. Due to relatively lower upfront costs, a certificate-holder can already reach break-even when volumes per farmer are 0.49 t, under the minimum implementation cost scenario and assuming that 50% of the marketability rate adjusted premium is retained by the certificate-holder.

For farmers, the situation is less re-assuring. If all their time invested is valued at going labour rates and assuming the certificate-holder passes on 50%

of the adjusted premium, then a farmer would only reach break-even at a production level of 1.77 t.

With declining average marketability rate since 2011, and the fear that premium payments are under pressure because certified cocoa is reaching a high market share, the amount of cocoa that needs to be produced per farmer to recoup certification costs is likely to increase in the short- to mid-term.

6

Cotton

6.1 Market and sector

Cotton is produced in a wide range of different production systems, ranging from rain-fed small-scale production in West Africa, to highly mechanized and input intensive production in the USA. Over 100 million family farms are engaged in cotton production. Global production of cotton lint grew strongly from 14 million t in the early 1980s to a record 26 million t in 2005.³⁶ After a dip in 2009, it again approached 26 million t in 2012. A major price spike in 2011 when cotton went from around US\$90 per pound in mid-2010 to US\$225 per pound in early 2011 certainly contributed to the current record crop. The global acreage planted with cotton is stable. Although planted areas in some countries have reduced, notably in the USA and North Africa, other regions have seen strong growth. The long-run average is 32.7 million ha. This implies that supply growth has come mostly from improved yields, not increases in planted area. The exception is Africa, where productivity has been low and stable and any production increases are attributable to an increase in planted area.

The global cotton market has seen major shifts in supply and demand over the past 15 years. China, the world's largest producer, has seen tremendous growth in supply with an annual growth rate^{vii} of 4.6% from 1999 to 2012. Yet over the same period, its imports grew from around 46,000 t to 3.36 million t – an annual growth rate of 43%.³⁷

Around half of the global cotton acreage is irrigated, contributing to an estimated 70% of supply. Virtually none of the irrigated cotton originates from Africa. Cotton production relies heavily on water, pesticides and fertiliser. Around 10% of biocides^{viii} are used in cotton production although cotton uses only 0.7% of the world's agricultural area. The development of certified cotton

vii We use the compound annual growth rate which represents the average growth rate over a specific period of time.

viii Biocides is the collective name for pesticides, fungicides, herbicides and nematocides.

originates from environmental concerns, although more recently, labour issues in Burkina Faso and Uzbekistan have caused some concern.³⁸

Certified cotton is a relatively recent phenomenon with certified Organic cotton launched in 1990. Fairtrade cotton was first marketed in 2005³⁹ and more recent entrants are the Better Cotton Initiative and Cotton Made in Africa, both in 2009.⁴⁰

While growth rates for certified cotton are substantial (over 50% from 2011 to 2012), the share of total production is still limited (Figure 21).

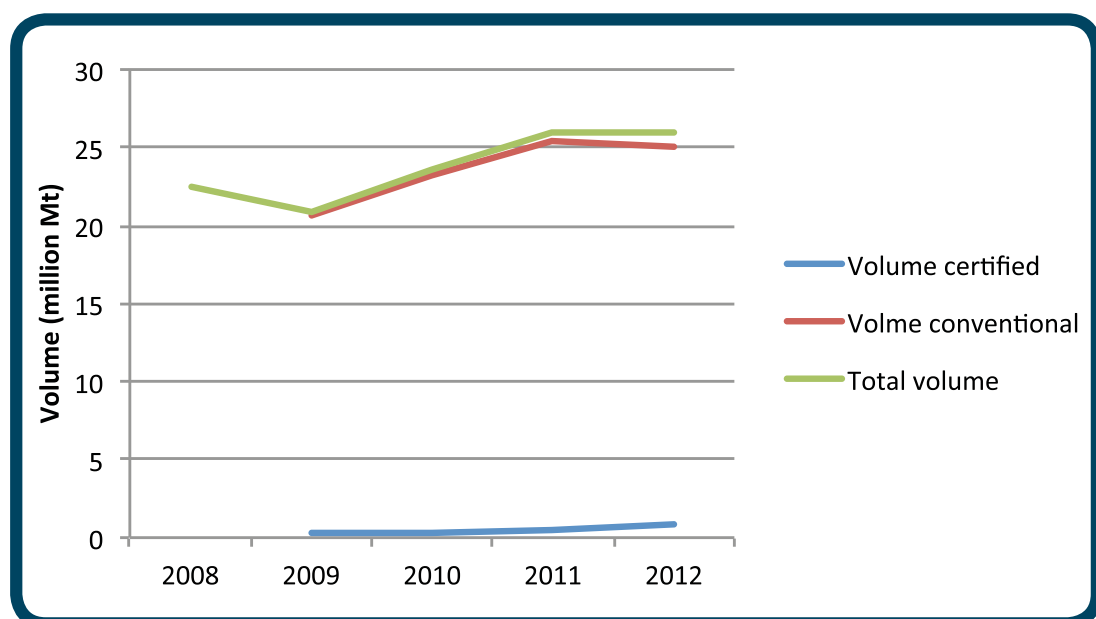


Figure 21: Total annual cotton supply from 2008 to 2012 split by conventional and certified cotton in million t.

Source:⁴¹

Organic and Fairtrade were the first initiatives in the market, but cotton certification is currently dominated by BCI, in particular, and CMiA to a lesser degree (Figure 22).

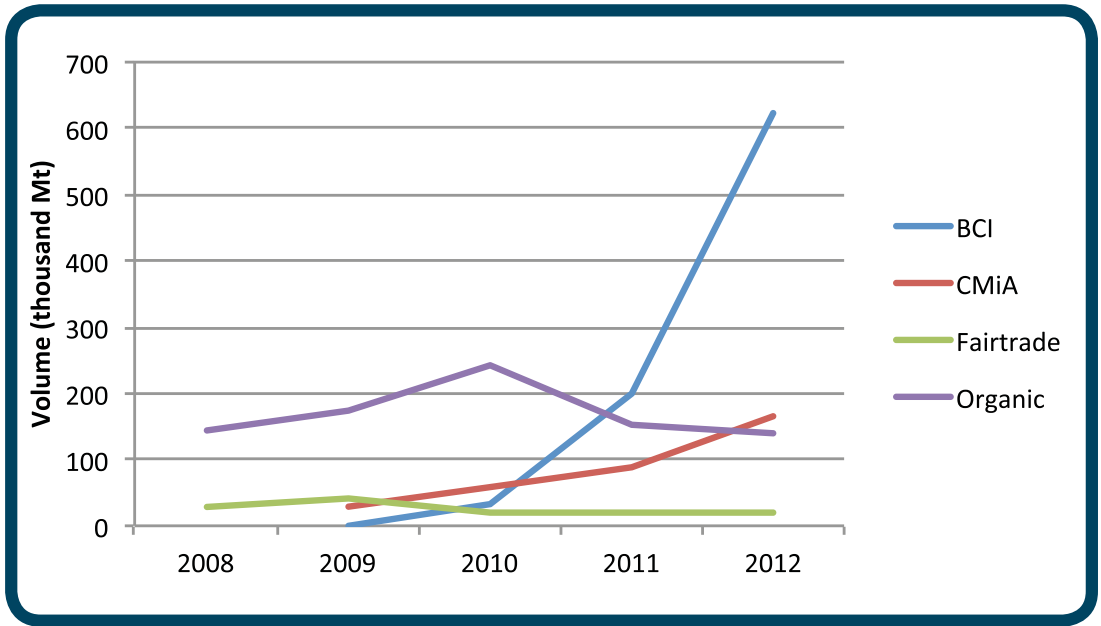


Figure 22: Supply of certified cotton from 2008 to 2012 in thousand t lint.

Source:⁴²

Both the market share and the absolute volumes of Organic and Fairtrade cotton have declined over the past few years. This decline coincides with strong growth of BCI and CMiA. From a peak in 2009 Fairtrade volumes have declined by nearly 30%.⁴³ BCI, in particular, has an aggressive growth strategy. It aims to reach 2.5 million t by 2015 and 10 million t by 2020. Growth can be partly met by the agreement between BCI and CMiA that allows the latter to have its certified cotton sold as BCI. Given BCI's current reliance on donor funding for 25% of its budget, it would probably need to generate more revenue from its commercial partners. The outlook for that may not be too bad as large users of BCI cotton, such as Ikea, aim for 100% of BCI cotton in their products by 2015. The fashion brand H&M aims to have all its cotton from more sustainable sources by 2020, using BCI, Organic and recycled cotton, without listing specific targets for each of these. Others, such as Nike, have not made measurable public commitments with regard to certified cotton.⁴⁴

Based on sales from the certificate-holder to the cotton gin, the marketability rate was an average of 52% from 2008 to 2012. In 2012 the average was 48%. Differences between certificates are not so large, with the exception of Organic (Figure 23).

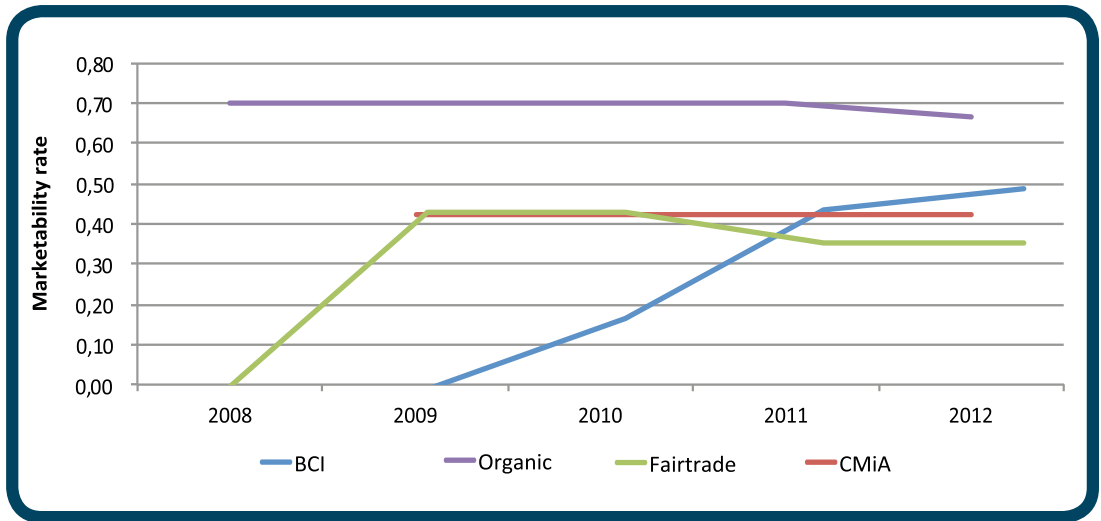


Figure 23: Average annual marketability rate of certified cotton from 2008 to 2012.

Sources: ⁴⁵

While the gin uptake of certified cotton is high and has been over 40% for the past two years, the uptake by retailers is lagging behind. For 2012, 21% of the volume bought as BCI by gins is bought by retailers as BCI cotton. That translates into 10% of the available volume of BCI cotton.⁴⁶ Unlike coffee, cocoa and Organic and Fairtrade cotton, farmers and their organisations do not have to rely on premium payments to cover their costs of implementation. In the short-term, a low uptake of BCI cotton by retailers does not immediately affect the financial position of farmers. In the mid- to long-term, such a situation may not be sustainable when the expected benefits of BCI implementation at farm level do not occur. To finance its ambitious expansion strategy, BCI seeks to introduce a volume-based fee in 2015, to be paid by retailers and brands that use BCI cotton.⁴⁷ We are not sure how the new business model will affect the market uptake of BCI cotton, especially if costs for retailers and brands increase.

Cotton Made in Africa (CMiA) is the only other certification scheme in cotton that has seen growth, even if it's weaker than BCI. It focusses on small-scale producers in West and Southern Africa and around 15% of Africa's cotton lint production was certified CMiA in 2012. Uptake of CMiA cotton by the market has been stable at 42% since its first entry into the market. Interestingly, CMiA has the same marketability rate of 42% each year. Retailers and brands that use the CMiA label in their sustainability commitment are: Puma, C&A, Engelbert Strauss and Bon Prix, among others.⁴⁸

Supply and demand for organic stands out, with a high share of certified

volume sold as such. However the impact on farmers remains limited due to the small absolute volume traded (Figure 24).

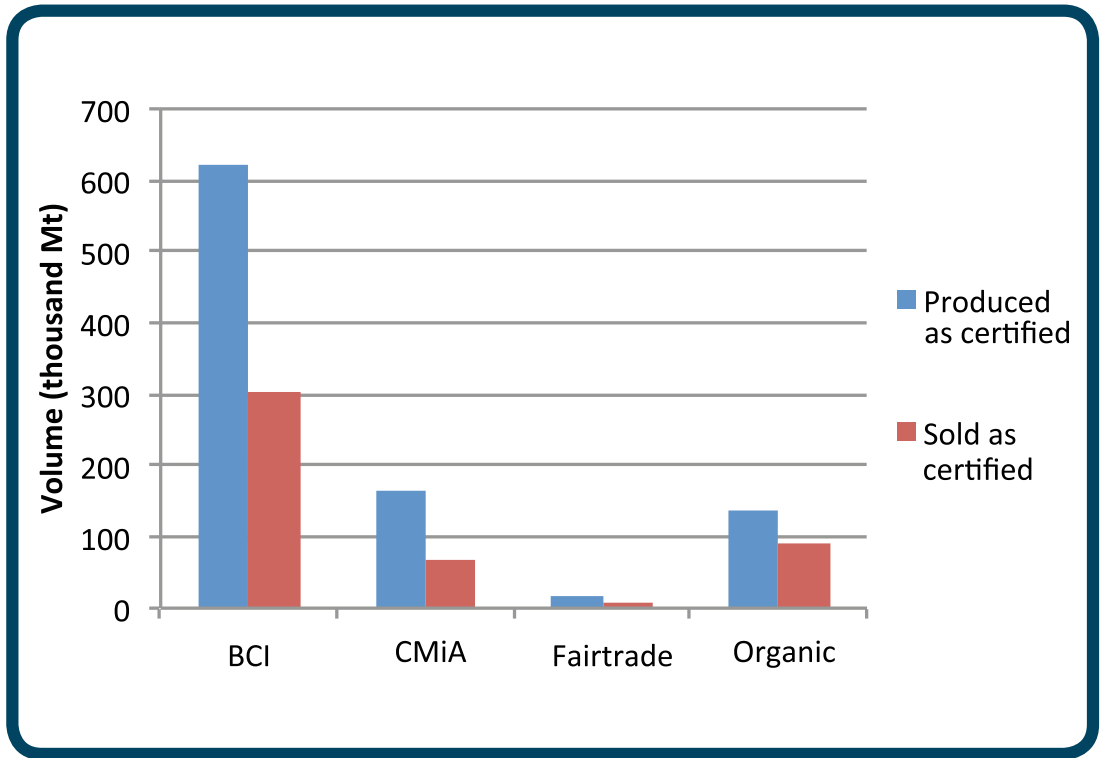


Figure 24: Supply and demand of certified cotton in thousand t lint in 2012.

Source:⁴⁹

The next section provides a review of the scientific evidence for a positive impact of the various cotton certification schemes on farmers' livelihoods.

6.2 Benefits for small-scale farmers

We found 38 papers, studies and reports that mention the effects of certification programmes on small-scale cotton producers. Table 17 in Appendix 3 gives an overview of the number of studies found.

We found only one study on which we can base a reliable judgement of the effects of certification of cotton producers. This is a study on the effects of Fairtrade on Malian cotton quality.⁵⁰ There are also 10 studies that include relevant quantitative information but lack a credible mechanism by which to identify causality of effects. Eight of them cover Organic certification,

one covers both Organic and Fairtrade certification and one Fairtrade certification. Quantitative impact studies have not been found for CMiA and BCI, probably because cotton under these certification systems came relatively recently to the market, in 2009 and 2010, respectively.

Countries that are covered in the 11 studies that are examined in this report are: India (5), Mali (2), Burkina Faso (2), Kyrgyzstan (2), Benin (1), Senegal (1) and Cameroon (1); one-third of the studies were conducted in India (some studies contain information on certification programmes in several countries).

As in the chapters on coffee and cocoa, we intended to report the impact study results for the following impact areas: agronomy, economy, services and social effects. For cotton, however, data were only found for the agronomy and economy impact areas.

6.2.1 Agronomy

Here we focus on four indicators: productivity, farming efficiency, quality and environmental effects. The study on Fairtrade cotton in Mali specifically focussed on cotton quality and found that Fairtrade certified farmers produced cotton of higher quality than non-certified farmers. Cotton quality did not necessarily increase because of certification as such, however. As part of the implementation of certification, buyers drew up contracts with cotton producers. These contracts, apart from containing clauses on certification, also specified minimum quality standards that farmers were expected to achieve. Consequently, cotton quality improved. The positive effect on quality could have been reached solely because of the contractual arrangement used. One could also argue that certification functioned as a catalyst in this case, for without it, it is unlikely that such contracts would have been made. The study took place at producer organisation level and did not include assessments of productivity, farm efficiency and environmental effects.

6.2.2 Economy

The category economy covers four indicators: market access, price, production cost and income. Only information on prices was found. In the study on Fairtrade cotton from Mali, Fairtrade certified farmers receive a higher price for their cotton, a result of the increase in cotton quality. Impacts on market access, production costs and farm incomes were not assessed in the study.

6.3 Findings from other impact-related studies

Information from 10 studies without a credible counter-factual scenario indicates the possible impact of, in particular, Organic certification (nine studies) and Fairtrade certification (two studies; one study concerns both Organic and Fairtrade certification).

Half of the studies show that certified producers have a lower productivity than non-certified ones, and that in more than a third of the studies, no difference in productivity is found. Organic certified farmers have a higher productivity than non-certified farmers in only 13% of cases. These lower productivity rates for certified farmers do not result in lower farm incomes, as certified producers have lower production costs and receive higher prices for their cotton than non-certified farmers, although the premium is a small percentage of total income. In most cases, farm income is higher for certified farmers than for conventional farmers. Conversion to certified Organic production leads to income loss in the first few years. Production declines as farmers stop using fertilisers and pesticides, and they are not immediately allowed to sell their cotton in the organic market. None of the studies appears to have taken this effect adequately into account in their income calculations.

Regarding production costs, there is consensus that total production costs decrease with Organic (and Fairtrade) certification. However, some studies reviewed here show a decrease in labour used in cotton production by Organic farmers when compared with non-certified farmers, while others show an increase. The authors of two studies connect the latter phenomenon with negative impacts on gender relations, as women do most of the work in cotton production. Because of certification, women become burdened with extra tasks, in addition to their already full schedule. Another social effect that seems to be connected to certified cotton production is an improvement in health because of a reduction in the use of biocides.

Only two studies look at access to training or credit; both find that Organic farmers have better access to training and credit than non-certified farmers.

6.4 Cost-benefit analysis of cotton certification

Eleven studies make reference to implementation costs and we have also received information on costs through personal communication. Organic and Fairtrade certification are best covered by the existing literature, while CMiA and BCI certification are less well covered in terms of implementation costs

(Table 18, Appendix 3). Information on costs from three sources was used, because the other information was not specific enough. No information was found on upfront cotton certification costs.

Some data on recurring costs was available, but it was mostly in the form of totals, and was not broken down by specific items, except for external auditing costs (Table 19, Appendix 3). Recurring costs for cotton certification range from €19.08 to 72.23 per farmer for certificate-holders and between €37.04 and 121.51 per farmer for farmers. We suspect that all certification costs are not included at either ends of these ranges.

As we saw in Section 6.1, the average marketability rate for cotton is 52% (long-run average). Contrary to the other commodities discussed, premiums do not feature in all cotton certification schemes. Both BCI and CMiA rely on donor funding and payments from manufacturers to finance their programme. Except for the time farmers invest, virtually all certification costs are covered by these programmes. Organic and Fairtrade do not cover costs for farmers or certificate-holders. In those situations premiums are more important for financial viability.

We have conducted the break-even analysis for Organic cotton certification in which it is assumed that a premium applies. We chose Organic certification for our analyses as: i) no cost information on Fairtrade is available, and ii) certification costs for BCI and CMiA certification are usually borne by the programmes.

Organic premiums are said to range from 5 to 20% of the Cotlook A benchmark price for lint. Other values for Organic premiums mention €55.97 per t lint at farm level, which, assuming an equal distribution between farmer and certificate-holder, would translate to €112 per t lint at certificate-holder level, or around 10% of the Cotlook A price. After adjusting for marketability and with a combined certificate-holder and farmer cost assessment, production per farmer would have to be equivalent to 1 t lint to reach break-even in the low-cost scenario and 4.15 t in the high-cost scenario (Figure 25).

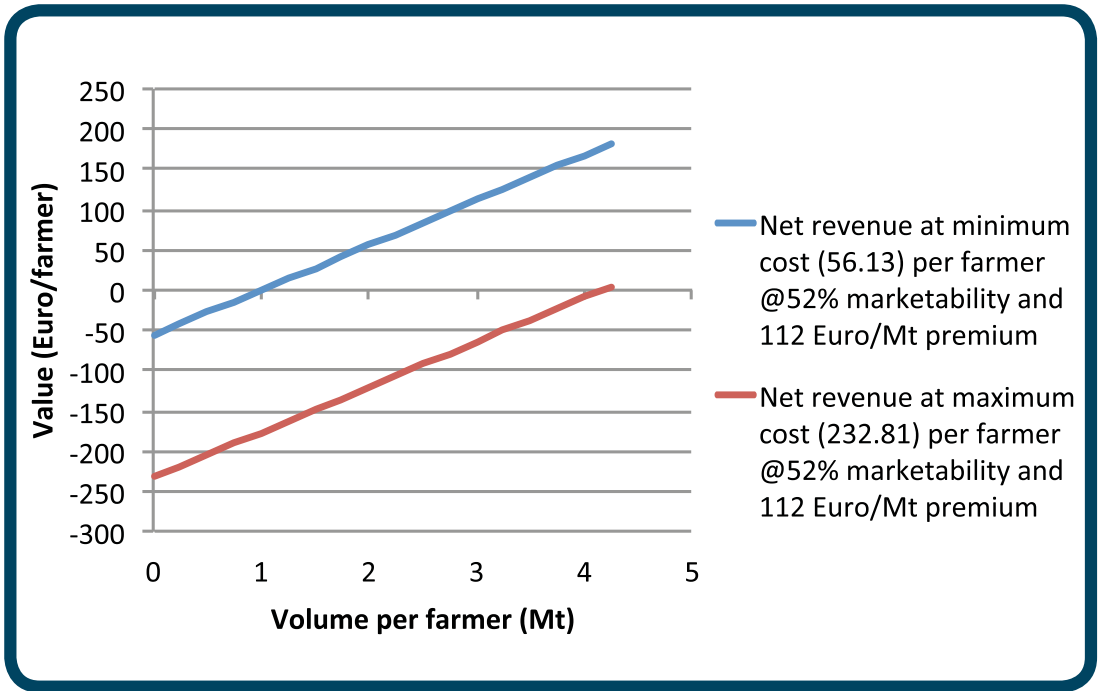


Figure 25: Revenue scenarios at minimum cost per farmer (€56.13) and maximum cost per farmer (€232.81) at farmer level. Marketability is set at 52%, the long run average of all schemes under consideration. The average premium is assumed to be €112 per t (at farm level). Upfront costs for the certificate-holder are assumed to be zero.

When assessing the break-even point for certificate-holders, we find that a volume of 680 kg lint per farmer is sufficient under the minimum implementation cost scenario, while close to 4 t is required if the maximum cost scenario is applied. For farmers, the break-even in the minimum cost scenario is significantly higher, at 1.32 t lint equivalent and 4.34 t if maximum cost is used.

No premium applies where farmers become BCI or CMiA certified. If certification costs are no longer borne by the respective programmes, farmers would need to produce higher volumes to recover certification costs than the 1.32 t and 4.34 t of lint mentioned above, if all else remains the same. These break-even volumes could also decrease if the programmes achieve the expected impacts at farm level, such as reduced costs and higher profitability.

7

Fruit and vegetables

The fruit and vegetable sectors cover a wide range of individual products that originate from vastly differing production systems. While reviewing the impact studies, we noted that, despite the diversity of these sectors, they are often discussed under the same heading. This is why, for the impact review, we do not split fruit and vegetables into separate sections. In the market review section and the cost of implementation sections we provide a separate review of the banana and vegetable subsectors, where certification is most prevalent.

Certification is implemented in some fruit subsectors, particularly those where a share of production is destined for export. The sectors where certification is better known are: banana, grapes, pineapple and citrus. The acreage devoted to certified production is less than 5% of the total for these crops (Figure 26).

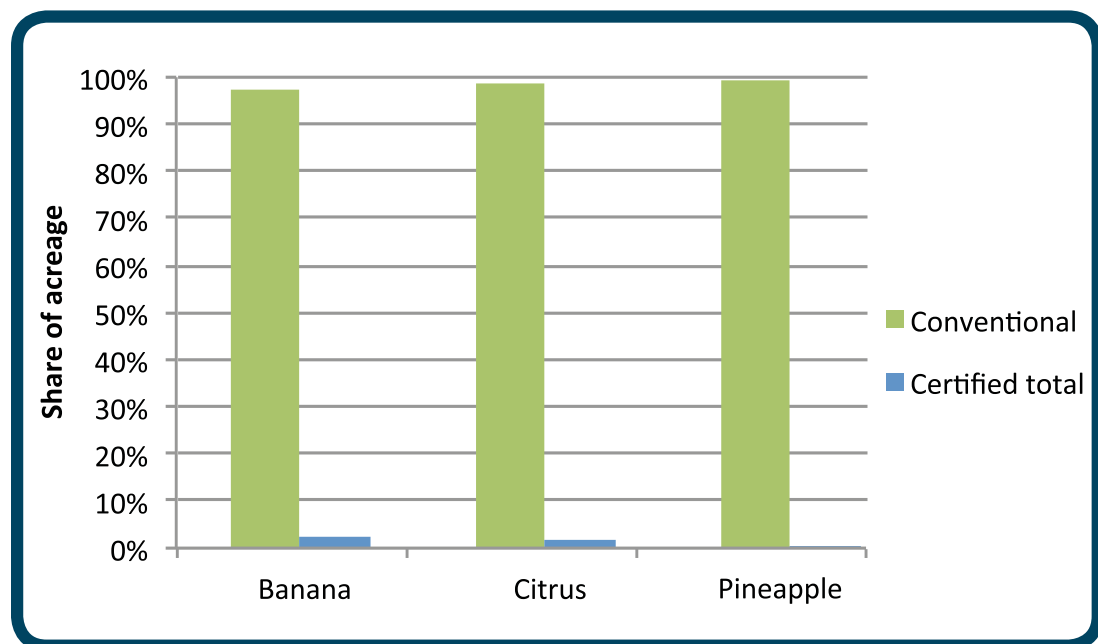


Figure 26: Share of global acreage certified in 2012, by selected fruit crops.

Sources:⁵¹

Of these crops and in the light of this review, banana is the most important as measured by the acreage on which it is planted: 4.7 million ha compared to 3.8 for citrus and less than 1 million for pineapple. Detailed information on certified production in citrus and pineapple is very scarce. Against this background, the focus of the market section is on bananas whereas the section on benefits for small-scale farmers covers the literature on certification in the wider tropical fruit section. The global figures presented here tend to disguise national sectors that look markedly different. The Dominican Republic, for example, sees a far greater share of certified banana production than the averages presented in this chapter.

7.1 Market and sector - Fruit

Global supply of bananas increased from 80 million t in 2005 to over 100 million t in 2012, an average annual growth rate of 3.5%.⁵² Around one-third of this growth originated from expansion of acreage and two-thirds was the result of higher productivity. Banana prices are volatile but have displayed an upward trend over the past 10 years, from a low of 263USD/t in 2003 to around 925USD/t in late 2013.⁵³ India is by far the largest producer, responsible for 24% of global production, followed by China, the Philippines and Ecuador. The export market is dominated by Latin America. Ecuador, Guatemala and Colombia are large exporting countries. Of the top 10 producers, three are members of the ACP group of countries (Uganda, Rwanda and Burundi), although these do not export significant quantities. India and China also consume most of their production domestically. It remains to be seen how the current outbreak of Panama disease (a fusarium disease) will affect the configuration of exporting countries. The predominant Cavendish variety that dominates world trade has been heavily affected.

Over 80% of bananas are consumed in producing countries; the remainder is exported. The export market is a highly integrated one, both horizontally as well as vertically. Four companies, Chiquita, Fyffes, Dole and Del Monte dominate the export market and are estimated to be responsible for 52% of global exports.^{ix} Certification, as with other tropical commodities, is geared towards export markets. Approximately 14% of global banana exports are certified. As a share of total banana production, this figure barely reached 3% in 2012. However, the volume of certified production has seen some growth over the past few years (Figure 27).⁵⁴

ix At the time of writing, Chiquita and Fyffes had announced a merger, which was still to be approved by shareholders and the Irish High Court. The deal was expected to be finalised by the end of 2014.

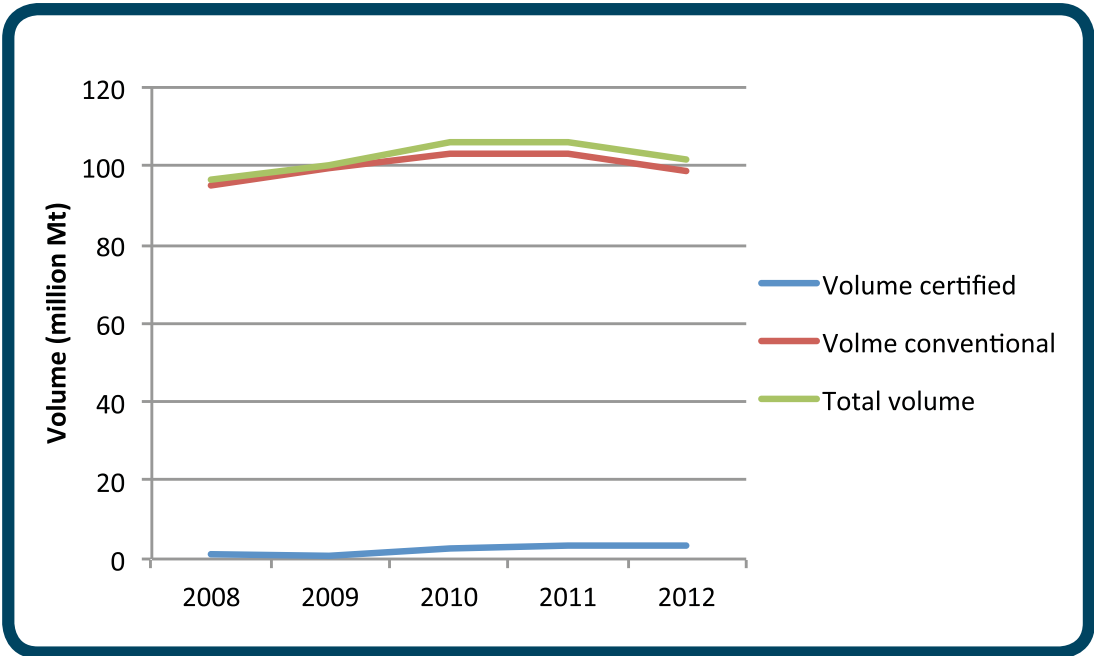


Figure 27: Total annual banana supply from 2008 to 2012 split by conventional and certified production in million t.

Sources:⁵⁵

Three certification schemes dominate the market for certified bananas: Rainforest Alliance, Organic and Fairtrade (Figure 28). Certification of bananas under GLOBALG.A.P. also occurs, but this constitutes a very small share of production.

The global picture glosses over marked differences between national sectors. The Dominican Republic for example is a substantial Fairtrade supplier. Around 13% of its 870,000 t of production in 2012 was Fairtrade certified, accounting for around a third of its exports. Organic certification is more prevalent still, with 53% of exports to the EU being certified.

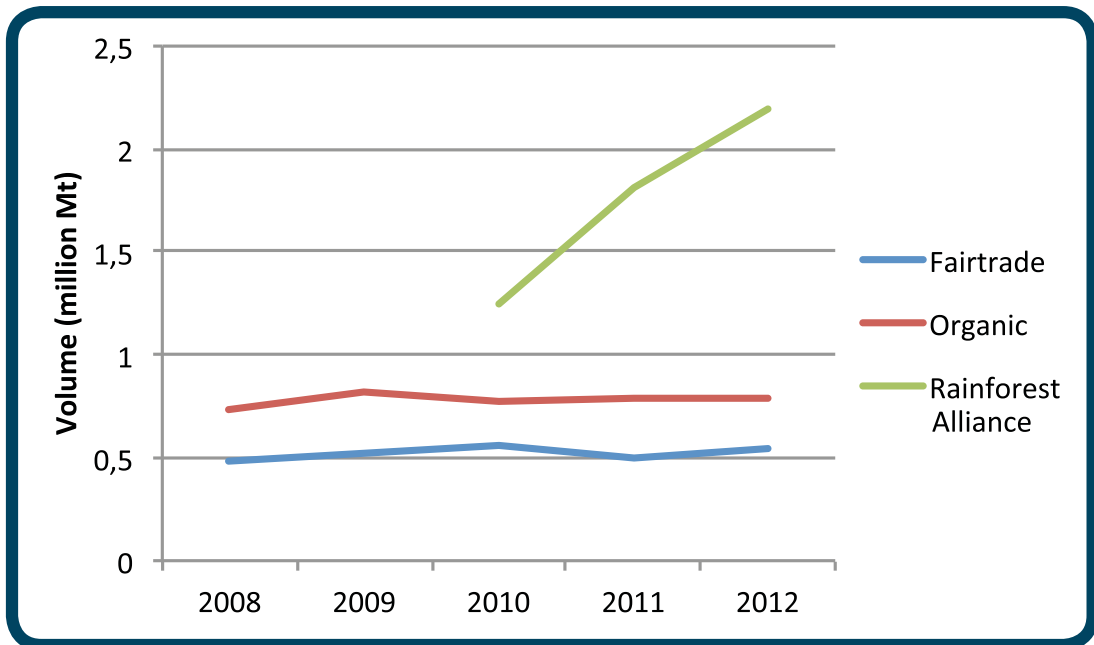


Figure 28: Supply of certified by bananas from 2008 to 2012 by certificate in million t. Sources:⁵⁶

Rainforest Alliance is by far the largest certifier and has been active since the early 1990s when it partnered with Chiquita to certify its plantations and its external suppliers. Today, 100% of Chiquita plantations are certified by the Rainforest Alliance. Rainforest Alliance appears to have seen strong growth but this may be more a recovery as in 2006 it already was responsible for over 2 million t of certified bananas. Data on the intervening years is not available.⁵⁷ In 2010 there were lower quantities certified than in 2006. The years 2011 and 2012 appear to represent a recovery. Dole relies on Organic, Rainforest Alliance and GLOBALG.A.P. but does not indicate what share of its production is certified, nor what the company’s targets are. Del Monte states that it promotes more efficient farming and the use of integrated pest management (IPM) as a means to reduce pesticide use. The company does not make use of the above-mentioned certification schemes. Fyffes indicates that it relies on the Ethical Trade Initiative, Fairtrade and Organic. The company handled 57 million boxes in 2012, but does not indicate what share of its business complies with each standard. Future targets are not provided. Witnessing the limited growth of both Fairtrade and Organic from 2008 to 2012, we suggest that Dole or Fyffes do not have ambitious targets on certifying supply. This is underscored by the marketability rate for Fairtrade and Organic which fluctuates little (Figure 29).

The announced merger of Chiquita and Fyffes could have a major effect on the landscape of certified bananas. This will depend on whether the two prospective partners each keep their own strategy or if a combined sustainable sourcing policy is put in place. Of the two, Chiquita is the most ambitious where it comes to certification, fully integrating it into all its field operations, while Fyffes appears to be more driven by corporate social responsibility (CSR) considerations. If the Chiquita model is applied across the new entity, then Rainforest Alliance certified banana supply would stand to gain. It remains to be seen whether retailers are keen to increase sales of Rainforest Alliance certified bananas. Premium payments for Fairtrade are reported to be under some pressure in, for example, the UK, where chains such as Sainsbury's are using bananas as a loss leader.^x

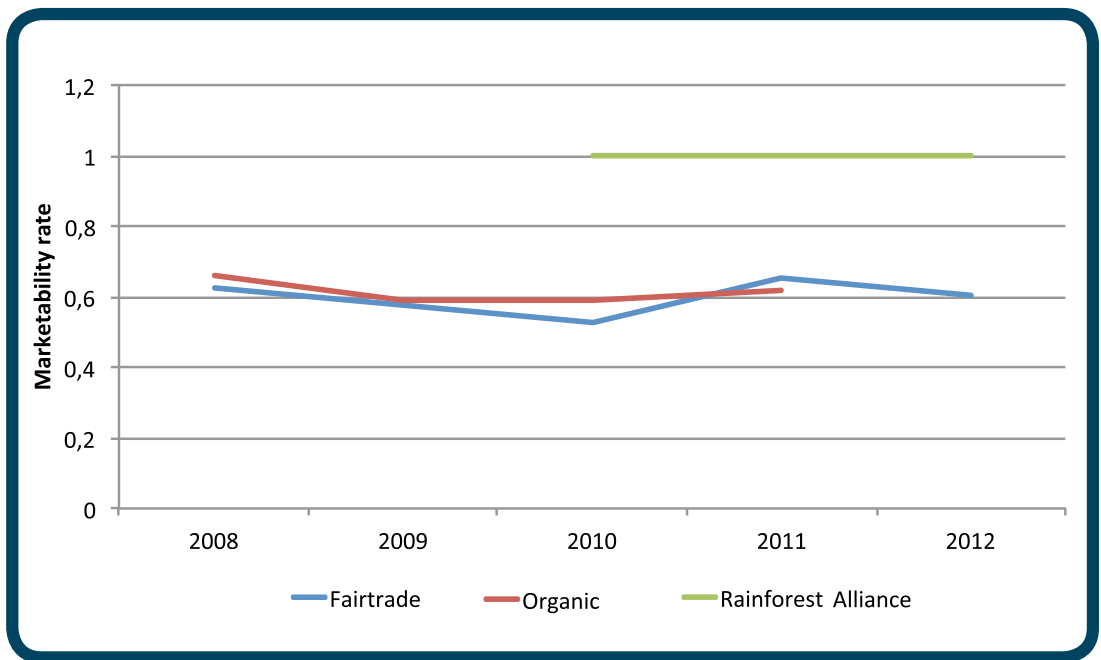


Figure 29: Average annual marketability rate of certified bananas.

Source:⁵⁸

The marketability rate for Rainforest Alliance is 1.0 or close to 1.0. Chiquita apparently manages to sell virtually all of its certified supply in certified markets.

^x A loss leader is a pricing strategy where a product is sold at a price below its market cost to stimulate sales of other more profitable goods or services.

In absolute terms, supply of Rainforest Alliance certified bananas is about four times larger than that of Fairtrade, whereas the volume sold as certified is over five times higher (Figure 30).

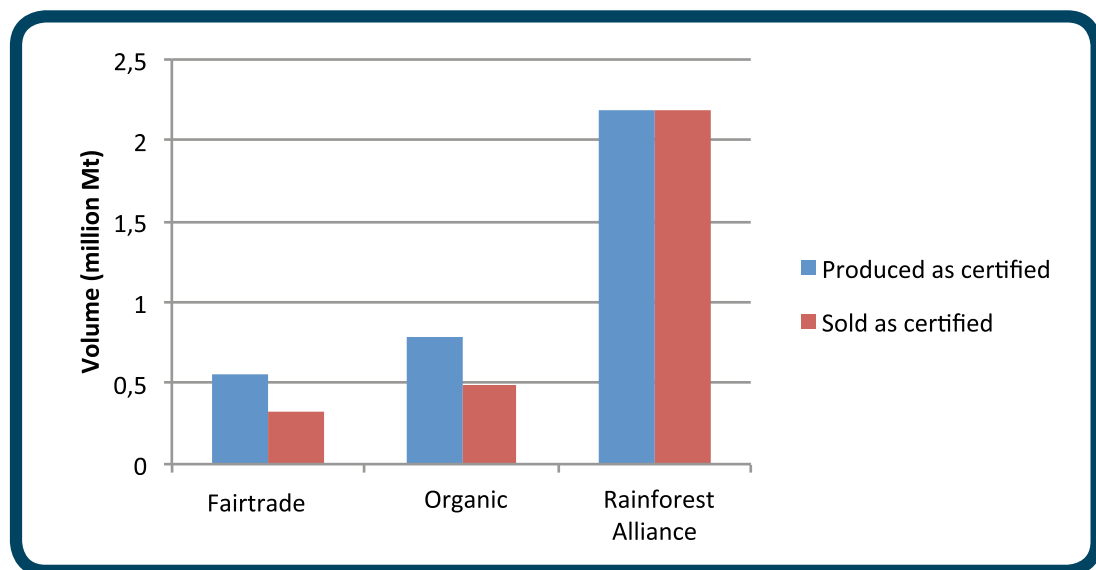


Figure 30: Supply and demand of certified bananas in million t by certificate for 2012 (data on Organic from 2011).

Sources:⁵⁹

Small-scale producers are an important source of bananas, but the export market where certification plays a role is supplied primarily by large plantations, many of which either belong to or supply the same companies that trade bananas. As such, effects of banana certification of small-scale farmers will be limited, but effects on workers of plantations are more frequently documented. Notable exceptions are several Caribbean producers, such as the Dominican Republic and the Windward Islands, where small-scale producers dominate both production and export. Section 7.3 provides a review of the scientific literature on the effects of certification on small-scale farmers in banana production and, more generally, in fruit and vegetable production.

7.2 Market and sector - Vegetables

Global production of vegetables has grown on average 3% annually from 2005 to 2012 from 899 million t to 1.1 billion t. Growth in production is attributable to expansion of acreage (by 1.6% over the same period) and productivity (by 1.4%). The market share of China is, according to FAO, a staggering 52% of production on 42% of the global acreage devoted to

vegetable production, with India in second place with a share of 9.8%.⁶⁰ Actual production volumes are probably understated as an unknown share of production never reaches the market, for various reasons.

Global supply of certified vegetable production has probably seen moderate growth of 2.1% per annum since 2007. This figure does not include data on GLOBALG.A.P. which is not publically disclosed by that organisation. The share of certified production, excluding GLOBALG.A.P. is 0.43% as measured by the share of acreage used for vegetable production (Figure 31).

If data on GLOBALG.A.P. were to be included, the share of certified acreage would probably be somewhat higher. In 2012, a total of 123,115 producers were certified under GLOBALG.A.P., the majority coming from Europe (74%), with smaller shares from Latin America (11%), Asia (8%), Africa (5%) and Oceania (1%). Forty-nine European retailers, with many national market leaders among them, rely on GLOBALG.A.P. to certify some or all of their vegetable suppliers. Imports of fresh and processed vegetables in the EU in 2012 totalled 12.4 million t, which is around 1.1% of global production. EU production in 2012 was 5.7% of global production. In the EU 75% of vegetables are sold via supermarkets. While GLOBALG.A.P. certification is not a legal requirement to access the EU market, access to supermarkets is reportedly virtually impossible without it. This then would result in an estimated upper limit of 5% of global vegetable production being GLOBALG.A.P. certified. The real figure is likely to be somewhere between 1% and 5%. The share of acreage will be several orders of magnitude smaller as the majority of GLOBALG.A.P. certified producers are located in countries with high productivity.

In the absence of reliable data on GLOBALG.A.P., Organic production is leading the league tables (Figure 31).

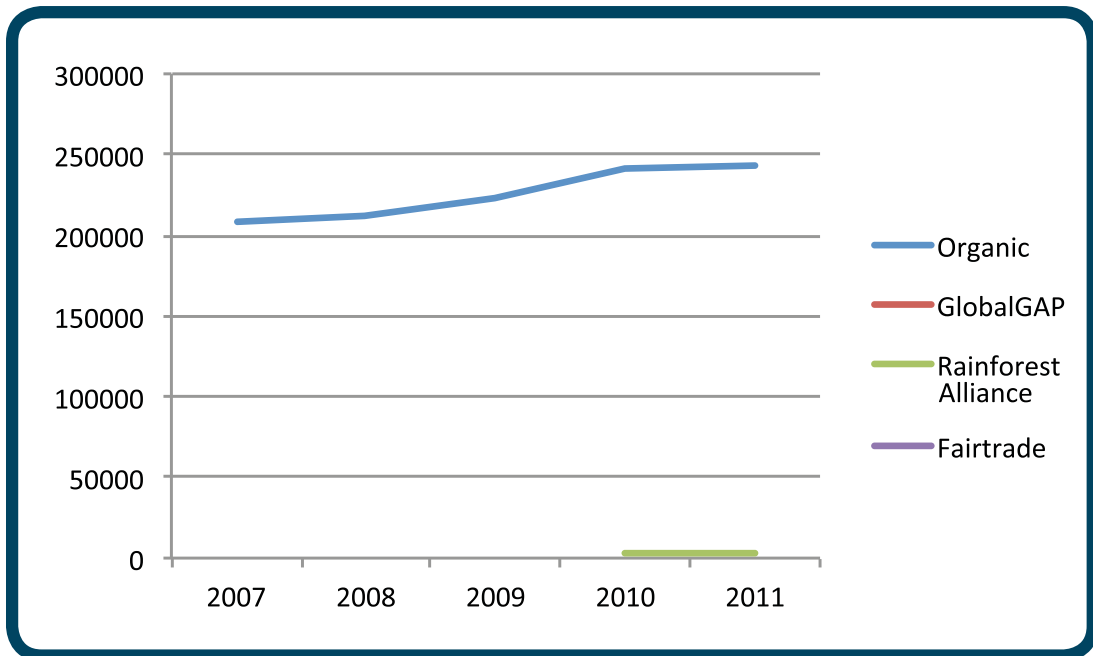


Figure 31: Vegetable production acreage certified from 2007 to 2011 by certification scheme. Source:⁶¹

Of the acreage under Organic, around 75% is located in the EU and the USA. Latin America is the third largest producer, with 16% of the certified acreage. Africa, Asia and Oceania have 3%, 4% and 0.5% under management respectively. Rainforest Alliance in 2011 certified 2,948 ha of vegetables, a tiny share of certified production. The acreage certified under Fairtrade is not publically disclosed, but its total certified volume of vegetables in 2012 amounted to 364 t, a decrease of 23% compared to the previous year.

7.3 Benefits for small-scale fruit and vegetable producers

We found 41 papers, studies and reports that mention the effects of certification programmes on small-scale fruit producers.

Table 20 in Appendix 3 gives an overview of the number of studies found. Furthermore, we found 25 studies that mention the effects of certification programmes on small-scale vegetable producers (Table 21 in Appendix 3).

We found only two studies on which we can base a reliable judgement of the effects of fruit and vegetable certification. Both studies relate to GLOBALG.A.P. certification of fruit and vegetable producers in Thailand.⁶²

Twenty-one of the studies on fruit certification include relevant quantitative information but lack a credible mechanism by which to identify causality of effects. Ten cover Organic certification, seven cover GLOBALG.A.P. certification and three cover Fairtrade certification. Some studies include information on two or three types of certification; these are counted as separate studies (Table 20). Countries and areas that are covered in the 21 studies on fruit certification considered in this report are: Ghana (6 studies), Peru (2), Ecuador, Chile, Costa Rica, Uganda, Madagascar, Brazil, Kenya, Bolivia, Thailand, China, and East Africa.

Eight studies on vegetable certification include relevant quantitative information but cannot be used to credibly attribute the impacts found to the certification programme. Five of these studies cover GLOBALG.A.P. certification and three cover Organic certification. We did not find any study on Fairtrade and Rainforest Alliance vegetable certification. Countries and areas that are covered in the 10 studies of which results are presented in this report are: Kenya (3), Thailand (3), China, Brazil, Senegal, and East Africa.

We grouped impact study results in the following impact areas: agronomy, economy, services and social effects.

7.3.1 Agronomy

Here we have only found credible evidence for the indicator 'productivity'; the effects of certification on farming efficiency, quality and environmental effects were not assessed in the studies. Overall, productivity did not change because of GLOBALG.A.P. certification in Thai fruit and vegetable production. However, differences were found between producer-managed certification groups and exporter-managed certification groups. In the former group, productivity decreased, while in the latter productivity stayed the same as it was before certification.

7.3.2 Economy

The study in Thailand looked at the effects of GLOBALG.A.P. on fruit and vegetable producers by comparing a producer-managed group and a certified group managed by an exporter. For the producer-managed group, price increases offset productivity decreases, leading to neutral effects on income. For the exporter-managed group, there was no price difference and the productivity increase was not large enough to improve income from fruit and vegetable production. No price premiums were paid to the farmers as

exporters used such premiums to cover their GLOBALG.A.P. compliance costs. Whether their costs were covered in full by the premium payment is unclear.

GLOBALG.A.P. did not have any effect on production costs, but it did improve market access; certified producers sold a higher share of their produce to high-value markets than non-certified producers. Organisational differences between the certified groups was important; prices and market access improved for producer-managed certification groups, while they remained the same for exporter-managed groups. This was because the latter group already had a contract with their exporter (main buyer) before the group became certified, while the producer-managed groups entered into new business relationships, including contracts, because of the certification scheme.

7.3.3 Social effects and services

No information was found in the studies on social effects or effects on service delivery of GLOBALG.A.P. certification.

7.4 Findings from other impact-related studies - Fruit

Of the 21 studies from which information can be used to indicate a possible impact of certification on small-scale fruit producers, eight cover Organic certification, five cover GLOBALG.A.P. certification, two studies include information on Organic and GLOBALG.A.P. certification, five studies show results for Fairtrade certification and one study for Rainforest Alliance certification.

The studies show mixed results for indicators in the agronomic and economic categories. The productivity of Organic certified farmers tends to decrease but can also remain the same with certification, while two studies show productivity increases for GLOBALG.A.P. certified farmers.

Organic farming may have a positive effect on average production costs per farmer. Productivity usually decreases. But Organic certified farmers (who are sometimes also GLOBALG.A.P. certified) tend to receive higher prices than non-certified farmers, translating into farmers receiving higher incomes. In one study, GLOBALG.A.P. certified farmers received lower prices than conventional farmers. Information on developments in farm incomes is mixed; incomes can either increase or stay the same, regardless of which certification scheme is applied.

GLOBALG.A.P., Fairtrade and Organic certified farmers tend to have better access to credit and training than non-certified farmers. Fairtrade is found to have a neutral effect on organisational development in two-thirds of the cases and a positive effect in one-third of cases.

Finally, positive environmental effects were found for Fairtrade, Rainforest Alliance and GLOBALG.A.P. certified farmers and there is an indication of certification systems having a positive influence on health (through less use of pesticides) and social effects (on gender issues).

Several of the studies mention that the certification scheme did not necessarily lead to the results that were achieved. In addition to certification, delivery and off-take contracts were signed between certified farmers and traders. Conventional farmers did not enter into such contracts with their buyers. This was the case for GLOBALG.A.P., Fairtrade and Organic certification. One study mentions that contract farming and the longer term relationship between farmers and buyers that contracting brings were responsible for the observed impact. The activities of the buyers and how they selected farmers to work with, had an influence on the results, especially for GLOBALG.A.P. certification and for Fairtrade. Farmers who take part in such certification schemes tend to have a higher capital stock, are more experienced in fruit production and specialise in one product, leading to higher productivity compared to non-certified farmers. Certified farmers are often located closer to the buyer's warehouse. Therefore, there is a clear selection bias regarding farmers involved in the certification schemes, which has probably influenced the results found.

7.5 Findings from other impact-related studies - Vegetables

Of the eight studies on vegetable certification found, five cover GLOBALG.A.P. certification and three cover Organic certification. We did not find any studies on Fairtrade or Rainforest Alliance vegetable certification.

GLOBALG.A.P. certified producers tend to increase their income, because of a decrease in production costs, an increase in the price received for their produce, or both. Organic certified production could increase farmer income because of productivity and price increases, but production cost increases can offset an increase in price, which was the case in one study.

No information was found in the studies on social effects or effects on service delivery of GLOBALG.A.P. or Organic certification.

Contracts play an important role in achieving the impacts found, as does direct procurement by buyers from producer groups, in line with the information we found on the impact of fruit certification on prices and incomes. This applies to both GLOBALG.A.P. and Organic certification. Furthermore, the studies found that certified GLOBALG.A.P. producers are different from non-certified producers with regard to: age, education level, size of the farms, assets, wealth, labour availability, access to services, agro-ecological zone and farm location, amongst others. Such differences have probably contributed to the positive impacts of GLOBALG.A.P. certification that were found.

7.6 Cost-benefit analysis of fruit certification

In the fruit sector, a total of 14 reports make reference to implementation costs and, again, we have received information on costs through personal communication. GLOBALG.A.P. and Organic certification are best covered by the existing literature, while Fairtrade and Rainforest Alliance certification stand out as the least well-studied certification system in terms of implementation costs (Table 22 in Appendix 3). Information on costs from 11 studies could be used for our analyses; information in the other three studies was not specific enough to be used.

Table 23 (Appendix 3) shows a wide range of values for upfront investment costs at farm level. Upfront costs for GLOBALG.A.P. certification average €582 per farmer for certificate-holders and ranges between €42 and 407 per farmer at farm level.

Data on recurring costs is available in more detail than information on upfront investment (Table 24, Appendix 3). Recurring costs range between €104 and 561 per farmer for certificate-holders and between €0.61 and 2,605 per farmer at farmer level. The high total costs at farm level is explained by high costs incurred for external audits and the operation of the internal control or management system in a project with a large budget but few farmers, and is not representative of all GLOBALG.A.P. certification programmes. In our opinion the extremely low total costs at farm level (€0.61 per farmer) are not realistic; this figure comes from a study in which only a total for certification is stated without explaining what this total cost entails.

Apart from bananas, no information on the marketability rate for certified fruits is available from the literature. We have assumed that the average marketability rate is 80%. Investments are made for and by each farmer, and

are not related to the volume he produces. Potential earnings are made on the volume of certified produce sold. As with other crops, the volume per farmer is a critical factor when determining whether or not to invest in certification. If we consider just financial aspects we must assume that if we take an average total certification or quality premium of €82 per t at farm level, this translates into €66 per t fruit in premium received after adjustment for the marketability rate. A second assumption is that the upfront costs of €41.76 to 407.26 are amortised over eight years. The amortisation period is five years longer than what is used for other commodities. We justify this by noting that GLOBALG.A.P. requires more investment in durable assets, such as storage facilities. Finally, we have taken out a number of outliers (both extremely high and extremely low values per farmer) from our financial analysis. With these figures, we have plotted a graph that shows at what production levels per farmer certification could be financially viable when combining certification costs of both certificate-holders and farmers (Figure 32).

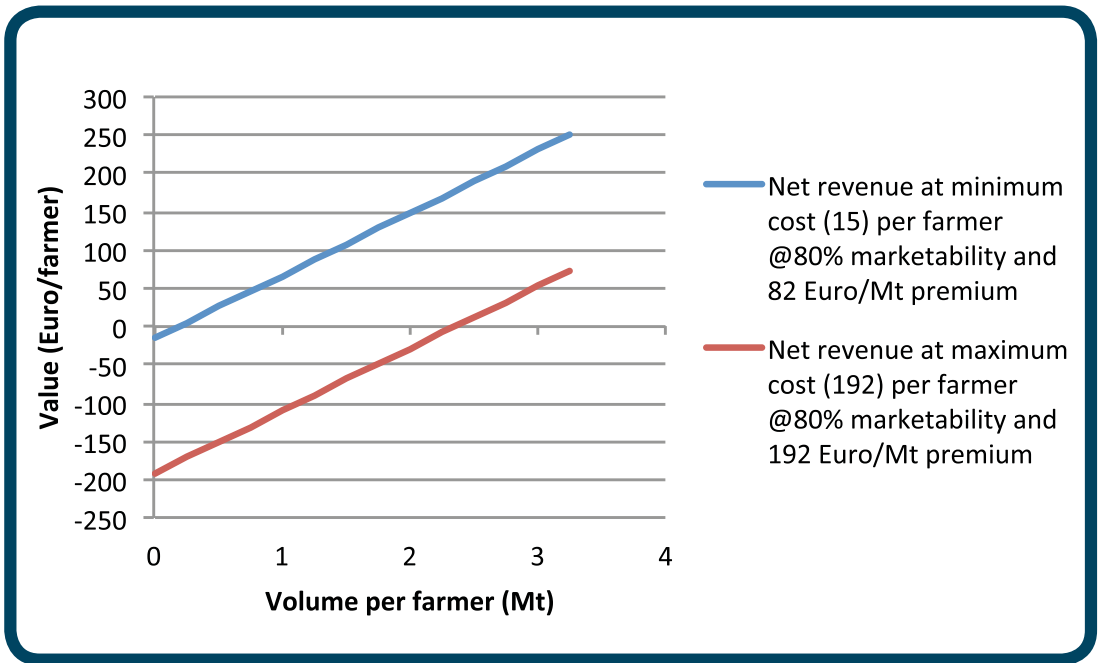


Figure 32: Revenue scenarios at minimum cost per farmer (€15) and maximum cost per farmer (€192) at farmer level. Marketability is set at 80%, an assumed rate as no information is available in the literature. The average premium is assumed to be €82 per t at farm level. Upfront costs are amortised over eight years.

Figure 32 shows that to be financially viable at farm level, the average production per farmer must be between 0.22 t and 2.94 t of fruit, depending on the implementation costs. As no information was available on premiums

for certificate-holders, we have been unable to conduct similar analyses at certificate-holder level or the combined farmer and certificate-holder situation.

The required production volume per farmer to achieve break-even has implications for origins where production per farmer is below these figures, and could be especially problematic for the financial situation with maximum costs, requiring at least 2.94 t per farmer.

7.7 Cost-benefit analysis of vegetable certification

For the vegetable sector, a total of 16 studies report on implementation costs. GLOBALG.A.P. is best covered by the existing literature, and Fairtrade and Rainforest Alliance certification less so (Table 24, Appendix 3). Information on costs from eight studies was used for our analyses.

Table 26, Appendix 3, shows a wide range of values for cost accrued by the farmer and certificate-holder. Upfront costs for GLOBALG.A.P. certification range from €15.31 to 7,707 per farmer for certificate-holders and from €313 to 704 per farmer at farmer level. Data on recurring costs is available in less detail than information on upfront investment (Table 27, Appendix 3). Such costs range between €9 and 2,511 per farmer for certificate-holders and between €16 and 221 per farmer at farmer level.

The extremely high total costs for certificate-holders are explained by high costs incurred for infrastructure, and by the operation of the internal control or management system in a single project with a large budget, but few farmers. We suspect such high recurring costs are not representative of all GLOBALG.A.P. certification programmes but we cannot corroborate this with data.

No information on the marketability rate for certified vegetables is available from the literature. We have assumed that the average marketability rate is 80%. The cost of implementation is a function of the number of farmers in a certified group and, more so than for non-perishable products, the production per farmer. More productive vegetable farmers are likely to need greater storage and cooling capacity, which is more costly. On the basis of literature findings we have not been able to ascertain how the investment level correlates with production capacity. Additional earnings are made on the volume of certified produce sold. The volume per farmer *and* his production level are critical factors when determining whether or not to invest in certification.

Premiums in vegetable production are mostly disbursed for better quality and are often associated with having access to export markets. We take the average total certification premium or price differential that results from being able to sell in export markets as €21 per t at farm level. We suspect the number can vary significantly between products and markets but have not found reliable data to back this up. A second assumption is that the upfront investments that farmers make of €15 to 703 can be amortised over eight years. We use a longer amortisation period for vegetables than for the other commodities, as infrastructure costs are high and relate to buildings. Based on these figures, we plotted a line that shows at what production level per farmer certification becomes financially viable, for farmers only (Figure 33).

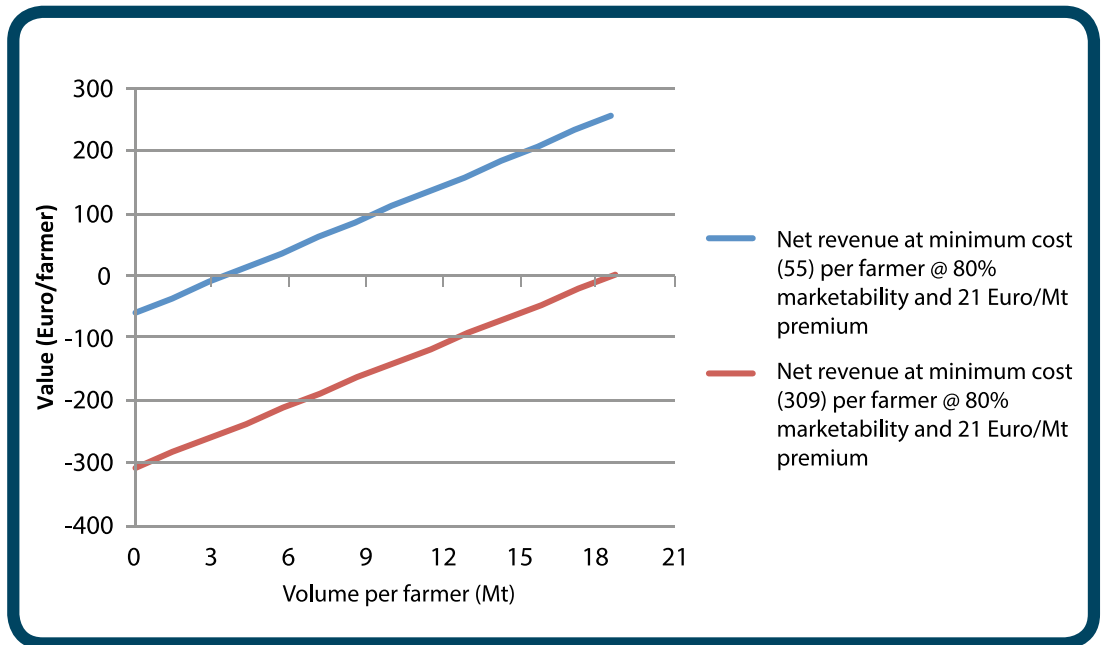


Figure 33: Revenue scenarios at minimum cost per farmer (€55) and maximum cost per farmer (€309) at farmer level. Marketability is set at 80%, an assumed rate as no information is available in the literature. The average premium is assumed to be €21 per t at farm level which is calculated based on price differences between conventional and GLOBALG.A.P. certified vegetables. Upfront costs are amortised over eight years.

Figure 33 shows that to be financially viable at farm level, average production needs to be in the range of 3.30 t to 18.43 t vegetables per farmer, depending on the level of implementation costs. As no information was available on premiums for certificate-holders, we have been unable to conduct similar analyses at certificate-holder level, or for farmers and certificate-holders combined.

8

Contextual factors

influencing certification costs and benefits

We found several contextual factors that influence certification costs or benefits in the literature and through contact with organisations working on the implementation of certification programmes.

8.1 Factors influencing certification costs

The volume produced per farmer influences the cost-benefit ratio for farmers and certificate-holders

Premiums are calculated and paid out on a volume basis. When farmers produce low volumes of a certain commodity, such premiums are spread over a large number of farmers, reducing the premiums paid per farmer. Certification is more lucrative for farmers who produce high volumes. The same applies to certificate-holders; working with farmers who produce high volumes is the most lucrative.

The starting situation of farmers prior to certification influences implementation costs

The road to complying with a code of conduct depends on the starting situation of a farmer. If farmers already adhere to much of the code's requirements before participating in a certification programme, the implementation costs of such programmes are likely to be lower, as training efforts and upfront investments can be reduced. Conversely, if farmers have to adapt their practices significantly, then increased training efforts and/or upfront investments are needed, increasing implementation costs.

Organisational presence in an area and the availability of trainers facilitates the implementation of programmes, reducing costs

The presence of NGOs, government organisations or other actors already active in extension or other certification-related activities will facilitate the implementation of certification programmes, reducing costs. Having to build up new partnerships between organisations and new relationships with

farmers will result in less efficient programme implementation and increased implementation costs.

The larger the scale of a programme, the lower the costs per farmer

We found that certification costs can differ greatly. Often, this is because some projects include hundreds of farmers, while others include thousands, or tens of thousands. Generally speaking, the greater the number of farmers included in a certification programme, the lower the implementation cost will be per farmer, because of economies of scale.

The more farmers are already organised in producer groups, and the better the organisational capacities of such groups, the lower the certification costs

Usually, farmer groups or organisations are established to decrease the cost of implementation per (small-scale) farmer, and increase programme efficiency. The existence of well-managed farmer organisations can facilitate the implementation of certification programmes. Such groups can either act as certificate-holders or can take greater responsibility in running aspects of implementation such as carrying out internal audits or making yield assessments. As their labour unit costs tend to be lower than those of exporters or other professionals, their implementation costs can be reduced.

Harmonisation of standards and combined audits reduces certification costs

Some farmers become certified under different certification schemes, which may overlap in their requirements. Audits and training programmes are generally implemented separately for different certification schemes. Overlapping schemes may lead to unnecessary costs for farmers and certificate-holders.

Access to donor funding improves the business case for certification

Certification may not be financially beneficial for certificate-holders at the start of a certification programme. The upfront investment costs may be too high for farmers or certificate-holders, or the payback time too long. Donor funding of certification programmes can improve the business case for certification; access to such funding may be crucial to set up certification programmes where the business case would otherwise be negative, at least during start-up. In several projects where donor funding is available there is a tendency to have higher costs per farmer. This could be because farmers may receive more extensive support than they would otherwise get.

8.2 Factors influencing certification benefits

Commitment from buyers influences marketability rates and the business case for certification

The business case for certification improves with an increasing marketability rate. Investments in certification only start to pay off after a few seasons, while off-take agreements with buyers do not normally run beyond the duration of a single season. Longer term commitments from buyers to source a minimum volume of certified produce against a premium over a 3 to 5 year period can greatly help to improve the willingness of exporters or farmer organisations to invest in certification.

Well-implemented technical assistance enhances the potential for benefits

There can be large differences in how technical assistance is provided to farmers, ranging from biannual meetings for large groups of farmers to small learning groups, with about 30 farmers who meet every two weeks, and between professionals who implement the training. Training programmes should be adjusted to farmers' training needs; some farmers need more training than others to comply with code requirements. Learning from other farmers can sometimes be as effective as learning from professional teachers. But in certification programmes where training of farmers is a first step in obtaining a certificate, the way training programmes are implemented is instrumental in changing farm management practices and achieving impact.

Farmers may benefit more from contracts and direct procurement than from certification

In several studies on the impact of cocoa, cotton, fruit and vegetable certification, the beneficial impacts of certification are highlighted. The impacts were derived from supply contracts between farmers and buyers that were introduced as part of the certification programme. Such contracts may influence product quality because they specify minimum quality requirements. Farmers who attain such requirements receive premiums or higher prices, although their production costs could also be higher. Sometimes, contracts also specify higher prices in general in return for guarantee of supply. Contracts were also found in which the farmer was offered technical assistance, credit and inputs, which is likely to have far greater benefits. Similar impacts were found when buyers had direct procurement relationships with producer groups instead of buying from them indirectly or through spot markets.

Income loss due to a conversion period for organic farming

We found several studies on the impacts of Organic certification in which the conversion to certified Organic production led to income loss, as a result of lower production in the first few years. The positive income effects found may only be apparent after several years of Organic certification. Non-certified farmers, who are used for purposes of comparison, are often Organic by default. Supporting such farmers over a number of years to become Organic certified is likely to result in impact. What would be more interesting, but to our knowledge not yet been done, would be to make a comparison between income from well-managed Organic certified farms and well-managed small-scale farms that use fertiliser and biocides judiciously.

Benefits differ between certified and non-certified farmers because of different farmer characteristics

Certified and non-certified farmers may differ in their characteristics, explaining at least part of the impacts found for certified farmers. This is especially the case for GLOBALG.A.P. certified farmers, who are usually selected by exporters and do not represent the average small-scale farmer. Certified farmers are generally better educated, have more assets, are more specialised or experienced in crop production, have larger farms, have higher labour availability, have better access to services and are located closer to buyers or in better agro-ecological zones, than non-certified producers. These characteristics are likely to have contributed to the positive effects found in the impact studies where these pre-existing differences were not taken into account. Such effects are therefore unlikely to be easily achieved by average farmers with lower skill sets and assets.

9

Conclusions

9.1 Evidence for positive impact from certification

In assessing the net results of certification and verification for small-scale farmers in the cocoa, coffee, cotton and fruit and vegetable sectors, we found 19 out of 270 studies (for all sectors combined) with a methodology to construct a credible counter-factual scenario which allows attribution of impact to certification. The coffee sector is best covered with 15 such studies and a large number of other impact studies. For sectors where certification is a more recent phenomenon, the number is much more limited; one in cocoa certification, one in cotton and two for both fruit and vegetable certification. This makes it difficult to draw conclusions on the impacts of certification on small-scale farmer livelihoods in the cotton, cocoa, and horticultural sectors. Thus, firm conclusions on the impact of certification can only be drawn for the coffee sector.

9.1.1 Coffee

The evidence for a positive impact of coffee certification is limited. Price increases occur, especially for Fairtrade certified producers, but productivity increases that would further leverage positive price effects have not been found, with one exception. The evidence on production costs is mixed, with one study finding no effects and two each that identify neutral and negative outcomes. No effects on farming efficiency were found. So, despite price increases, effects on income are overwhelmingly neutral, as six out of eight studies find no effect and of the other two studies, one is positive and the other shows a negative income effect. A more convincing positive effect is that certified producers have more access to services, in particular training.

9.1.2 Cocoa

In cocoa, a single sufficiently rigorous study indicates that certified Organic contract farming schemes positively impact on prices, cocoa revenues and

access to training. However, those effects cannot only be attributed to Organic certification, as contracting arrangements also played an important role.

Some indicative impacts of certification were found in the other quantitative impact studies under review, but these effects cannot be solely attributed to certification because of methodological constraints. There is some indication of improved productivity for certified producers, but most studies do not find positive impacts on income because of higher production costs and low marketability rates. In the cocoa sector most certification schemes are part of a much broader set of interventions geared to assist producers in improving production. Attributing effects solely to certification, as some studies do, is therefore difficult to justify. As none of these studies takes into account certification costs at farm level as part of the production cost and net income analysis, we conclude that net income effects are likely to be either neutral or negative, if all farm-level costs were borne by the producers (compared to situations in which donor funding covers part of the costs).

9.1.3 Cotton

No information on impact was found for CMiA or BCI certification. We found one study that relies on a credible counter-factual scenario to identify impact in cotton certification. This study covered a case of Fairtrade certification in Mali. It found that cotton quality increased, leading to farmers receiving higher prices for cotton. No analyses were conducted on the impact on productivity or income. The quality and price improvements cannot solely be attributed to Fairtrade certification, as the authors indicate that the contracts between farmers and buyers, introduced by the certificate-holder as part of the implementation of the Fairtrade certification programme, contributed to the quality and price increases.

The other 10 impact studies, results of which cannot be attributed to certification because of methodological constraints, show that Organic certification tends to lead to lower productivity levels. Both Fairtrade and Organic cotton fetch a higher price on the market than conventional cotton. For the latter, premiums from 5 to 20% are mentioned. Price increases in combination with production cost decreases lead two-thirds of the studies to conclude that farm income is higher for Organic or Fairtrade certified farmers than for non-certified farmers, though Organic farmers experience income losses in the first few years after conversion.

9.1.4 Fruit and vegetables

The only studies that assess what would have happened if a certified farmer had not become certified are two studies on GLOBALG.A.P. certification. These studies found that farm income did not change because of certification, even though prices increased and productivity stayed the same or decreased. GLOBALG.A.P. did not have any effect on production costs, but improved market access. Organisational differences between the certified groups was significant; prices and market access improved for producer-managed certification groups, while they stayed the same for exporter-managed groups.

Information from other studies on fruit and vegetable certification, of which the results cannot be attributed to impact of certification due to methodological constraints, indicates that the productivity of Organic certified fruit producing farmers may decrease but can also remain the same, while productivity increases are found for GLOBALG.A.P. certified farmers. Furthermore, Organic farming may have a positive effect on average production costs per farmer. Productivity usually decreases, but higher prices received often translate into farmers receiving higher incomes. The evidence on income changes as a result of Fairtrade and GLOBALG.A.P. certification in fruit is mixed. GLOBALG.A.P., Fairtrade and Organic certified farmers seem to have better access to credit and training, while Fairtrade is sometimes found to have a positive effect on organisational development. Finally, Fairtrade, Rainforest Alliance and GLOBALG.A.P. seem to contribute to environmental and social improvements.

Regardless of the certification scheme that is applied, delivery and service contracts between certificate-holders and farmers play an important, even decisive, role in achieving the impacts found, as does direct procurement by buyers from producer groups. This applies to both GLOBALG.A.P. and Organic certification. Furthermore, the studies found that certified GLOBALG.A.P. producers are different from non-certified producers, with regard to capacities, assets and farm location, amongst others. This has probably resulted in the positive impacts of GLOBALG.A.P. certification found by the research.

9.2 Financial costs and benefits of certification

There is a lack of empirical data on certification costs for small-scale farmers and certificate-holders. This is partly because many certification programmes are co-funded by donors, leading to programme costs that are not transparent. Also, information on costs is often scattered throughout different

organisations because of their different roles in certification programmes; information is often not collected in a detailed manner. Companies that act as certificate-holders tend not to share information on implementation costs as this is regarded as competitive information. The studies on costs and benefits of certification that have been published usually lack information on several cost types, leading to an incomplete picture of total certification costs. Other studies base their calculations on assumptions on membership of producer organisations, volumes produced per farmer, or premiums received by farmers, leading to unrealistic figures on the net benefit of certification programmes.

We find little evidence for farm-level improvements resulting from investment in certification. Therefore, implementing certification cost effectively requires market premiums to cover additional costs incurred by both farmers and companies. The cost benefit section shows what should be taken into account when deciding to invest in certification. The decisive factors, apart from implementation costs, are: production per farmer, premium levels and marketability rates. Even with the premiums paid for certified products, the economics do not always add up. Implementation costs are a function of the number of farmers with whom a company or farmer organisation implements a certification programme, whereas benefits in the form of premiums are primarily a function of the volume sold. Hence, low volume farmers are relatively more costly to certify.

9.2.1 Coffee

It is no coincidence that by far the majority of certified sustainable coffees, whether UTZ Certified, Rainforest Alliance or 4C, originates from areas with a relatively high degree of farmer organisation or high production per farmer, such as Central and South America and South-East Asia. The three dominant suppliers of certified sustainable coffee are Brazil, Vietnam and Colombia, accounting for close to 80% of certified supply in 2012.⁶³

The other commodities display a similar tendency. Depending on the level of implementation costs, above average volumes per small-scale farmer need to be produced for certification to be cost-neutral or profitable. Information on cocoa certification costs confirms this picture.

9.2.2 Cocoa

Information on certification costs is scarce, but enough to draw some conclusions on the break-even point for farmers and certificate-holders.

We conclude that certification costs can be recovered from 1.12 to 2.9 t of cocoa produced at farm level for the minimum cost and maximum cost scenarios. However, these break-even points in reality may require a higher production volume, as complete information on certification costs is unavailable from the literature. As most cocoa producers in Ghana and Côte d'Ivoire produce less than 3 t of cocoa per year, and many produce around 1.2 t,⁶⁴ it will be challenging for cocoa producers and certificate-holders to earn back their total certification costs. Donor funding may continue to be required to cover certification costs. If this is not available, certificate-holders and farmers may end up bearing certification costs that can only be partly recovered.

9.2.3 Cotton

With patchy cost information on Fairtrade, Organic and BCI certification in cotton, our models show that to be financially viable, average production per farmer needs to be in the range of 1.32 t to 4.34 t cotton per farmer. For certificate-holders, we find that a volume of 680 kg of lint is sufficient under the minimum implementation cost scenario, while close to 4 t is required if the maximum cost scenario is applied. The real break-even volume may be at a higher production level because information on upfront costs is not available. By comparison, productivity in sub-Saharan Africa ranges from 250 to 450 kg/ha while, on average, farmers have around 2 ha under cotton. In most cases, the volumes produced appear to be insufficient to recoup the implementation costs. Large amounts of donor funding often make up the shortfall.

9.2.4 Fruit and vegetables

We have found the break-even points for GLOBALG.A.P certified fruit and vegetables to be very different, because costs for vegetable certification found in our research are much higher than for fruit certification, and because the premium for vegetables found in the literature is one quarter of the premium for fruit. This leads to the conclusion that fruit producers can recuperate certification costs with much lower volumes than vegetable producers (0.22 to 2.94 t for fruit producers; and 3.30 t to 18.43 t for vegetable producers for minimum cost and maximum cost scenarios). For both production systems, the quantities of certified produce that need to be produced per farmer to earn back total certification costs may in fact be higher than we calculate, as not all certification costs are accounted for in the literature. It would be difficult to recover certification costs if donors did not contribute to cover them, especially for vegetable producers.

9.2.5 Conclusion

While sustainability certification is frequently stated to generally assist small-scale producers, it is the better organised small-scale producers with relatively high production who are most likely to reach or surpass break-even on certification costs. Company-led implementation of sustainability certification seems to become the predominant model, and strengthens the role of well-organised multinational corporations in local supply bases. This need not be a bad thing. In many African countries, farmers stand to benefit greatly from closer association with (multinational) exporting companies. However, even for well-funded companies with good access to international credit markets, implementing certification cost effectively in countries with low production per farmer is likely to remain a challenge and donor funding is likely to remain important for field-level implementation.

Donor funding and other grants also cover a significant share of the organisational costs of certification organisations. In the absence of overwhelming positive evidence at farm level of the benefits to farmers of certification, and because of the obvious bias for better-off farmers and the relatively high cost per beneficiary at organisation level, one is forced to consider whether this funding could have been better spent on other rural development activities, particularly those with a greater focus on assisting the poor.

9.3 Factors that influence certification costs and benefits

From the benefit perspective, commitment from buyers influences marketability rates and therefore affects premiums received for certified cocoa. Low marketability rates lead to farmers receiving premiums for only a part of the certified crop produced. Earning back certification costs may become difficult when other claimed benefits, such as improvements in productivity and farming efficiency, do not accrue, or do so only partly. When there is no immediate business case for certification at farm level, access to donor funding can change the perspective by temporarily covering upfront certification costs, or more permanently when donors, or the private sector, have a stake in maintaining farmer certification.

If farmers, especially in the coffee and cocoa sectors, become certified by more than one certification scheme, the harmonisation of standards, and combined training and audits for various certificates would reduce total certification costs. Certification costs are influenced by the starting position of

farmers prior to certification; the more farmers who comply with certification requirements, the lower the implementation costs can be. In addition, more local implementation capacity means costs for capacity building can be reduced. Also, the bigger the scale of the programme, the lower the certification programme costs per farmer. The degree of farmer organisation and organisational capacities also matters; establishing producer organisations or enhancing capacities of existing organisations increases implementation costs.

Contracts and direct procurement relationships with buyers influenced the impacts found in cocoa, cotton and fruit and vegetable certification programmes. Therefore, not only the certification programme matters. In fact, tentative evidence points to intensified relations between farmers and buyers as being beneficial for both. Under such frameworks farmers may receive access to much-needed services and inputs in return for which they sell part or all of their crop to the buyer. The buyer's benefit is enhanced supply security and the ability to enforce standards on quality and perhaps certification.

Differences between certified and non-certified farmers that are attributed to participation in the certification programme can sometimes also be explained by pre-existing differences. Farmers with better capacities, more assets and closer proximity to export markets are more likely to be selected or to self-select into certification programmes, most probably influencing the impacts found.

10

Recommendations

As information on concrete financial costs and benefits for small-scale producers is so scarce in the literature, we provide recommendations for producers and certificate-holders to help them in deciding whether or not to opt for certification. We present recommendations to improve the business case for certification, to maximise benefits and minimise costs of certification for small-scale farmers.

10.1 Recommendations for producers and certificate-holders

When considering whether to become certified, investigate the following issues:

1. What would be the potential financial benefits of certification:
 - a. Is there market demand for certified produce?
 - b. What would be the percentage of produce that buyers would source as certified (the marketability rate)?
 - c. For how long will buyers consider sourcing certified produce?
 - d. Will a price premium be paid for certified produce, and for how long would such a premium be sustained?
 - e. Does the relationship with a buyer depend on whether or not products are certified?
 - f. Can a contract be established with a buyer, with or without certification requirements, including agreements on prices, quality and technical assistance?

2. What would be the expected costs of certification:
 - a. What would be the cost types that can be expected to occur because of certification?
 - b. How do local circumstances (producer and organisational capacities, availability of trainers and organisational support) influence expected certification costs?

- c. Can upfront investment costs be borne? And by whom?
 - d. Is donor funding, or other funding external to the value chain, available to cover (part) of the upfront or recurring certification costs. What would happen when donor funding stops?
3. Which factors would influence the business case for certification:
- a. How much do farmers produce on average?
 - b. What would happen to the business case for certification if market prices would increase or drop in the future?
 - c. What do you consider to be a reasonable payback time for investing in becoming certified?

Based on the information acquired on these issues, a conclusion can be drawn concerning the expected net benefit of certification and whether or not to opt for certification.

10.2 Recommendations to improve the business case for certification and the impact for small-scale farmers

The scarcity of information on costs and benefits of certification also leads us to recommend the following:

1. Certification organisations should improve the transparency on costs and benefits of certification. Based on more insights into the net benefits of certification, farmers, certificate-holders and the private sector would be better able to decide whether or not to opt for certification. In addition, donors could use the information to decide whether or not to invest in certification programmes.
2. For prospective certificate-holders it would be beneficial to have access to high quality market data for the different certificates. Only 4C, UTZ Certified and BCI are transparent on aggregate production and demand figures. All certification schemes could improve matters further by making available country-level supply and demand intelligence to the general public and prospective certificate-holders and producers.
3. Implementation costs of certification could be reduced by loosening requirements for certificate-holders that have shown consistently good performance over a certain period. These could be rewarded with a lower frequency of audits, for example, or customised codes of conduct that only target those issues that are known to be relevant in their

situation. Or they could be allowed to make intelligent, desk-based yield predictions for certified producers.

4. Compare the costs and benefits of certification programmes with the costs and benefits of other supply chain interventions such as different kinds of service-delivery programmes or contract-farming schemes. Certification is not the only tool available that could improve small-scale farmer livelihoods. Other types of interventions, such as the provision of training, inputs, credit or insurance, are gaining in importance (often in association with certification programmes), and it would be helpful if the impacts of the different interventions could be compared, so farmers, their organisations, companies and donors could make informed decisions on which interventions to invest in.



Future outlook –

four scenarios for future developments around certification

In some markets, such as coffee and cocoa, certified sustainable products are on track to become mainstream. The general expectation is that as certification becomes mainstream, premium payments will erode. At the same time, producing certified products may become essential for entry into certain markets.

Based on our experience of the implementation of certification systems, we foresee the following future developments of (sustainability) certification.

1. Certificate-holders will cease to be certified because certification costs cannot be recovered.
2. Producers or certificate-holders bear the costs of certification if certification becomes an essential requirement to export to certain markets and premiums disappear.
3. Alternative certification systems are created to decrease certification costs.
4. Certification becomes the standard. To keep differentiating themselves from other standards and by demand from manufacturers and retailers, certification schemes add more and more requirements on top of what already exist.

Certificate-holders will cease to be certified because certification costs cannot be recovered

Against the background of often ambitious targets for the procurement of certified volumes by manufacturers in certain commodity sectors, a widespread abandonment of certification by certificate-holders and producers in these sectors is unlikely. Coffee, cocoa and bananas are good examples where this is unlikely to happen on a large scale. Still, certain

groups of producers might cease to be certified. Likely candidates for this are smaller producer groups that have relied heavily on donor funding to become certified, but discover the true costs of compliance after that funding ceases to be available. Marketability rates will play an important role in such decisions. Anecdotal evidence from the coffee sector, backed to some degree by our break-even analysis, shows that certificate-holders that manage to sell around 50% of certified volume as such, tend to have financially viable certified operations. The likelihood of failure to maintain certification due to poor marketability is probably greater where implementation was driven primarily by an NGO or development agenda rather than by concrete market demand.

Moving out of certification can also occur because other market opportunities that show better cost-benefit ratios present themselves. For some groups of producer and certificate-holders, especially those in higher quality market segments, more money is made by focussing on intrinsic product quality rather than on certification. Others may discover market opportunities that offer perhaps lower prices, but are less demanding and therefore show better cost-benefit ratios. Increasing demand from emerging markets where growth in spending power outstrips demand for certified products will likely present such opportunities. Anecdotal evidence suggests, for example, that certain cashew producers are already eagerly selling to the Indian market. Prices may be a bit lower, but India does not require certification, as Europe does.

Certification becomes an essential requirement to export to certain markets and producers or certificate-holders bear the costs of certification as premiums disappear

Certification may become a license to export into certain markets when certified produce has become mainstream in these markets. When something becomes the *de facto* standard, there ceases to be a reason to pay a premium for such a product. Yet producing certified products will continue to require some investment relative to business as before. It could be that as the premium disappears, the old market price plus the premium value becomes the new normal price. This would effectively internalise the cost of certification into the product price. Certificate-holders and producers would bear the cost of certification, but would be none the worse for it. In Vietnam, in the case of coffee, this seems to be happening in those provinces where certification constitutes a majority of supply. Farmers are not willing to sell at normal prices anymore but have been demanding price plus a premium for any coffee *and* they believe they can afford to wait until they get it. Whether this is an anomaly or whether it will continue in the future is not yet clear.

The alternative is that if no price increase occurs, the premium disappears, and the certification costs are borne by the certificate-holders. This is a more likely scenario, especially in markets where a few large manufacturers or retailers represent a large share of demand. The developments in GlobalG.A.P. followed such a trajectory, initially among European vegetable producers. In competitive national markets with plenty of opportunities for farmers to sell into conventional channels, it will probably be the certificate-holders that bear the brunt of this development. Where this is not the case, the certificate-holder will have incentives to try to pass on the compliance cost to farmers, exerting downward pressure on the farm-gate price.

Alternative certification systems are created to decrease certification costs

Certification costs may become too high for certificate-holders. Instead of discontinuing certification, they may try to develop their own competing standards that are more easily and cheaply implemented. According to several Fairtrade proponents, this is already happening by the favouring of UTZ Certified, Rainforest Alliance and others over Fairtrade and Organic. Of course, the owners of the newly popular standards deny that they are less stringent. Among some of the larger exporting companies that act as certificate-holder for tens or even hundreds of thousands of farmers, potentially far-reaching plans to develop lower cost alternatives to certification than with the current labels are under discussion. None that we know has entered the market yet. And until they do, it remains to be seen if manufacturers are willing to shift some of their reputational risk insurance from certification schemes to product suppliers *and* if campaigning NGOs will allow them to do so.

Certification becomes the standard. To keep differentiating themselves from other standards and by demand from manufacturers and retailers, certification schemes add more and more requirements on top of what already exists

If certification becomes a license to export to developed markets and exists as the *de facto* standard, it is likely that certification agencies will try to keep distinguishing themselves from their competitors. After all, many of the standards are by now businesses in their own right and they need to distinguish themselves and continue to satisfy their clients in order to survive. Rainforest Alliance, UTZ and 4C all have climate change modules to add to their code or are developing them. A 2013 'gender in cocoa' campaign by Oxfam led to a scrambling among manufacturers to show that they 'do something' about it. In many cases 'doing something' entails asking the owner of the standard(s) they use to show what *they* do about

it. As a result, certification agencies are likely to add compliance points or data requirements on gender issues, as well as on other issues that emerge. It is unclear who will pay the cost of compliance; any of the previous three scenarios could apply. Certification agencies may try to introduce their standards to the consumer as part of **emerging** markets.

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Appendix 1

Organisations contacted for information for this study

Commodity	Type of organisation	Organisation
Cocoa, coffee	Company	Unilever
Cocoa, coffee	NGO	Rainforest Alliance
Cocoa, coffee	NGO/Company	UTZ Certified
Cocoa, coffee, cotton	Company	OLAM
Cocoa, coffee, cotton	NGO	SUSTAINEO
Cocoa, coffee, cotton, fruit & vegetables	NGO	Fairtrade / Max Havelaar /FLO
Cocoa, coffee, cotton, fruit & vegetables	NGO	COSA
Cocoa, coffee, cotton, fruit & vegetables	Research institute	CIRAD
Cocoa, coffee, cotton, fruit & vegetables	NGO	IDH
Cocoa, coffee, cotton, fruit & vegetables	Research institute	Wageningen UR
Cocoa, coffee, cotton, fruit & vegetables	NGO	IMO Fair For Life
Cocoa, coffee, fruit & vegetables	NGO	Solidaridad
Coffee, fruit & vegetables	Company	Michiel Schoenmakers
Coffee, fruit & vegetables	NGO	SAI
Cotton	GO	GIZ
Cotton	NGO	BCI
Cotton	NGO	Helvetas
Cotton	Company	Sustainable Organic Farm Systems
Cotton	Company	Brownstone Consulting
Cotton	Company	New Equilibrium
Cocoa	NGO	Agro-Eco Louis Bolk Institute
Fruit & vegetables	Company	React Africa
Fruit & vegetables	NGO	COLEACP
Fruit & vegetables	NGO	GLOBALG.A.P
Fruit & vegetables	Research institute	Georg-August-University Göttingen

Appendix 2

Information on certification systems

Certificate	History	Target group	Governance
4C Association	Established in 2003 as a project of GTZ and DKV, aiming to address effects of coffee crisis. Developed into certification scheme in 2006.	Farmers and workers.	General assembly of members elects governing council.
BCI	Established in 2009 by 4 private sector founding members.	Farmers, large and small-scale.	General assembly of members elects council.
CMiA	Established in 2005 by Aid by Trade Foundation (then called FSAF).	African small-scale farmers.	Decisions made by Aid by Trade Foundation board of trustees.
Fairtrade	Founded in 1988 by the NGO Solidaridad under the name Max Havelaar.	Small-scale farmers who are members of a farmer-led organisation. Large plantation in some products but not in others.	General assembly of members approve board of directors.
Global Gap	Established in 1997 as Eurepgap by retailers.	Companies, farmers.	Fully-owned by FoodPlus GmbH. Governed by Board of producers and retailers who report to members and FoodPlus shareholders. FoodPlus in turn is held by the ETI Retail Institute which is in turn owned by 550 members of the retail industry.

Audit model	Business model (values in Euros)	Price premiums	Claimed producer benefits
Initial verification by one of 21 4C approved third party auditors, annual self-inspection and third-party re-verification every 3 years. Audit paid by certificate-holder.	Annual budget around €1.8 million. Membership fees from all actors, including farmers. These cover around 88% of operational budget (2012). 3% donor funding.	Not required, but buyers may pay one.	<ul style="list-style-type: none"> - Better yields - Improved quality - Optimize use of inputs - Increased income - Access to information
Annual self-assessment, follow-up checks by BCI, annual 3rd party verification. Audit paid for by BCI.	Annual budget €3.6 million (2012). Income from membership fees (26%), services such as verification (22%) and donor funding (49%).	No price premium.	<ul style="list-style-type: none"> - Reduced costs - Greater profitability - Better farm management - Reduced use of inputs - Access to finance
3rd audit party by one of 2 accredited auditors every 2 years. Decision for which auditor to use lies with CMIa. Audit fees paid by Aid by Trade Foundation.	No budget information found. Membership fee, license fee of 2.5% on garment price and volume fee. Donor supported.	No price premium to farmer.	<ul style="list-style-type: none"> - Access to training - Better yields - Better income
Audit every year. Audits done exclusively by FLO-CERT which is owned by Fairtrade International. Audit cost paid by certificate-holder.	Annual budget €14.97 million (2012). Membership fees (45%), donor funding (42%).	Guaranteed minimum price and community development premium.	<ul style="list-style-type: none"> - Stable prices - Fairtrade premium - Influence on Fairtrade - International's strategy - Empowerment of farmers and workers
Annual 3rd party audits by one of 142 accredited auditors. Additional unannounced inspection possible. Audit is paid for by certificate-holder.	No budget information found. Income from membership fees (companies) registration fees and certification fee (farmers).	No premiums.	<ul style="list-style-type: none"> - No farmer benefits listed

Certificate	History	Target group	Governance
Organic	Established by various organic schemes in 1972 as IFOAM. Currently 750 member organisations.	Companies, farmers.	General Assembly elects world board that appoints working groups. National and supra-national legislation may apply depending on country and region.
Rainforest Alliance (Sustainable Agriculture Network)	Established in 1986 (SAN) by eight (Latin) American conservation NGOs. Rainforest Alliance certification since 1993.	Companies, farmers, workers.	General assembly elects board of directors from members who are exclusively NGOs.
UTZ Certified	Established in Guatemala City in 1999 and head office opened in the Netherlands in 2002. Market launch in 2002.	Plantations, farmers, workers.	UTZ is governed by a supervisory board, with members from following groups: producers, supply-chain actors, civil society, trade unions.
BSCI	Established in 2003 by the European Foreign Trade Association.	Companies, not open to farmers.	General assembly elects board of directors. Stakeholder council can advise on policy.

Audit model	Business model (values in Euros)	Price premiums	Claimed producer benefits
Annual 3rd party Auditors need to be recognized by importing countries. IFOAM accredited auditors number 32. Audit paid for by certificate-holder.	Annual budget IFOAM 1.9 million (2011). Fees (15%), earnings from projects and donors (66%), services (18%). Budgets of 750 member organisations not investigated, but likely substantial.	Price differential.	<ul style="list-style-type: none"> - Increase in yields - Improved livelihoods - Climate change resilience - Reduced financial risk - New market opportunities
Annual audits by Sustainable Farm Certification International which is fully owned by Sustainable Agriculture Network, of which Rainforest Alliance is a founding member. Audits are paid by certificate-holder.	Annual budget €35.3 million (2012). Government grants and contracts (31%), earnings from certification fees (33%).	No premium required.	<ul style="list-style-type: none"> - Increased on-farm efficiency - Input reduction - Improved management - Cleaner, safer more dignified working place - Better access to specialty buyers - Contract stability - Favourable credit options - Publicity - Technical assistance - Premium markets
Annual, 3rd party audits by auditors accredited by UTZ Certified. Audits paid by certificate-holder.	Annual budget €6.8 million (2012). Income from subsidies (25%), income from fees (69%).	Premium negotiated between certificate-holder and buyer.	<ul style="list-style-type: none"> - Higher production or productivity - Better quality - Lower cost - Better income - Preservation of water, natural resources - Protection of animals, plants and nature reserves - Reduction of pollution - Feeling healthy, motivated and respected - No child labour - Safe and healthy working environment
Initial 3rd party audit by a BSCI -approved auditor. Then every 3rd year. Audit fee paid by audited organisation.	No budget information found. Funds from membership fees.	No price premium.	<ul style="list-style-type: none"> - Improved workers' rights

Certificate	History	Target group	Governance
Ethical Trading Initiative	Founded in the 1990s.	Companies and their suppliers.	
Fair for Life	Started in 2006 by Swiss Bio Foundation and IMO (which is a department of the Swiss Bio Foundation).	Companies and farmers.	Privately held foundation governed by board and 'kontrollstelle'.
Global Social Compliance Programme	Established in 2006 by consortium of businesses.	Companies. Suppliers such as farmers only if company require them to become compliant.	Executive board selected from members mandates working groups.
BSCI	Established in 2003 by the European Foreign Trade Association.	Companies, not open to farmers.	General assembly elects board of directors. Stakeholder council can advise on policy.

Audit model	Business model (values in Euros)	Price premiums	Claimed producer benefits
No audits for small-scale farmers but needs assessment and development plans.	Annual budget 2.14 million (2012). Membership fees from companies (55%), donor funding (41%), services (4%).	No price premium to farmer.	<ul style="list-style-type: none"> - Improve relations with buyers - Better handling of equipment and record keeping - Improve production - Better income - Better relation with employees - Reduced accidents
Audits every year. Audits done exclusively by IMO and paid for by certificate-holder.	No budget information found.	Negotiable premium (5-10% of farm gate price).	<ul style="list-style-type: none"> - Farmers receive a 'fair share' - Improved livelihoods through community projects - Empowerment of people - Improved livelihoods through community projects
No audits, no certificate issued. Companies are responsible to ensure compliance of their suppliers.	No budget information found. Income from membership fees.	No premiums.	<ul style="list-style-type: none"> - Reduced audit burden by converging privately held supplier codes
Initial 3rd party audit by a BSCI -approved auditor. Then every 3rd year. Audit fee paid by audited organisation.	No budget information found. Funds from membership fees.	No price premium.	<ul style="list-style-type: none"> - Improved workers' rights

Appendix 3

Detailed information on studies used and cost information by commodity

In this appendix, information on the studies reviewed and used for analyses is presented for each commodity. In addition, detailed information on certification costs found from the literature can also be found.

Coffee

TABLE 9

Type of study	Nr of studies
Total studies found	110
With credible counter-factual	10
Partly credible counter-factual	4
Without credible counter-factual but impact related	29
Other	67

Number of coffee studies found and their methodology.

TABLE 10

Certificate	Nr of studies
4C	1
UTZ Certified	6
Rainforest Alliance	6
Fairtrade	11
Organic	9

Number of studies that contain data on implementation cost of coffee certification, split by certificate.

TABLE 11

Cost item	Certificate-holder	Farmer
Registration fee, if any	n.a.	n.a.
Yield loss during conversion period	n.a.	n.a.
Set up internal control or management system	5.04	n.a.
Materials	0.11	n.a.
Infrastructure	0.48	n.a.
Staff training	0.40	n.a.
Producer training	9.41	n.a.
Management attention	3.80	n.a.
Total (range)	33.70 to 73.40	17.50

Upfront investment in Euro per farmer for coffee farmers to become certified. Costs paid by certificate-holder and costs paid by farmers are listed. Data are based on average upfront costs of UTZ, Rainforest Alliance, Fairtrade and Organic. n.a. means not available. No data were found on the costs of 4C. The row Total displays a range of total costs found in literature and may therefore not equal the sum of preceding parts.

TABLE 12

Cost item	Certificate-holder	Farmer
Operation of internal control system	8.80	n.a.
External audit	n.a.	n.a.
Materials	n.a.	n.a.
Infrastructure	n.a.	n.a.
Staff training	n.a.	n.a.
Producer training	10.49	n.a.
Other service delivery to producers	n.a.	n.a.
Premium payments	21.98	n.a.
Separating certified and non-certified product flows at farm, in transit, during processing, warehousing and export	n.a.	n.a.
Management attention	n.a.	n.a.
Total	43.59 to 77.69	18.26

Recurring cost in Euro per farmer per year to maintain certification by certificate-holder and farmer. Data are based on average recurrent costs of UTZ, Rainforest Alliance, Fairtrade and Organic. n.a. means not available. No data were found on the costs of 4C. The row Total displays a range of total costs found in literature and may therefore not equal the sum of preceding parts.

TABLE 13

Type of study	Nr of studies
Total studies found	31
With credible counter-factual	1
Without credible counter-factual but impact related	5
Other	25

Types and number of cocoa studies found.

TABLE 14

Certificate	Nr of studies
UTZ Certified	10
Rainforest Alliance	10
Fairtrade	8
Organic	4

Number of information sources that contain data on implementation cost of cocoa certification, split by certificate (some sources contain information on more than one certificate).

TABLE 15

Cost item	Certificate-holder	Farmer
Registration fee, if any	n.a.	n.a.
Yield loss during conversion period	n.a.	n.a.
Set up internal control or management system	n.a.	n.a.
Materials	n.a.	n.a.
Infrastructure	n.a.	n.a.
Staff training	25.76	n.a.
Producer training	n.a.	n.a.
Management attention	n.a.	n.a.
Total (range)	25.76 to 106.74	80.78

Upfront investment in Euro per farmer to become certified for certificate-holders and farmers. Data are based on average upfront costs of UTZ certification. n.a. means not available. No data were found on the costs of Rainforest Alliance, Fairtrade and Organic. The row Total displays a range of total costs found in literature and may therefore not equal the sum of preceding parts.

TABLE 16

Cost item	Certificate-holder	Farmer
Operation of internal control or management system	23.64	n.a.
External audits	10.14	
Materials	3.11	n.a.
Infrastructure	5.30	n.a.
Staff training	n.a.	n.a.
Producer training	19.94	n.a.
Other service delivery to producers	n.a.	n.a.
Premium payments	n.a.	n.a.
Separating certified and non-certified product flows at farm, in transit, during processing, warehousing and export	4.66	n.a.
Management attention	n.a.	n.a.
Transport	3.07	
Total	6.29 to 164.55	54.66

Recurring cost in Euro per farmer per year to maintain certification for certificate-holders and farmers. Data are based on average recurrent costs of UTZ, Rainforest Alliance and Fairtrade. n.a. means not available. No data were found on the costs of Organic certification. The row Total displays a range of total costs found in literature and may therefore not equal the sum of preceding parts.

Cotton

TABLE 17

Type of study	Nr of studies
Total studies found	38
With credible counter-factual	1
Without credible counter-factual but impact related	10
Other	27

Types and number of studies found.

TABLE 18

Certificate	Nr of studies
Fairtrade	5
Organic	7
BCI	4
CMiA	3

Number of information sources that contain data on implementation cost of certification, split by certificate (some sources contain information on more than one certificate).

TABLE 19

Cost item	Certificate-holder	Farmer
Operation of internal control or management system	n.a.	n.a.
External audits	30.3	n.a.
Materials	n.a.	n.a.
Infrastructure	n.a.	n.a.
Staff training	n.a.	n.a.
Producer training	n.a.	n.a.
Other service delivery to producers	n.a.	n.a.
Premium payments	n.a.	n.a.
Separating certified and non-certified product flows at farm, in transit, during processing, warehousing and export	n.a.	n.a.
Management attention	n.a.	n.a.
Transport	n.a.	n.a.
Total	30.3 to 72.23	37.04 to 121.51

Recurring cost in Euro per farmer per year to maintain certification for certificate-holders and farmers. Data are based on average recurrent costs of Organic, BCI and CMiA certification. n.a. means not available. No data were found on the costs of Fairtrade certification. The row Total displays a range of total costs found in literature and may therefore not equal the sum of preceding parts.

Fruit and vegetables

TABLE 20

Type of study (fruit certification)	Nr of studies
Total studies found	41
With credible counter-factual	2
Without credible counter-factual but impact related	21
Other	18

Type and number of studies found on fruit.

TABLE 21

Type of study (vegetable certification)	Nr of studies
Total studies found	25
With credible counter-factual	2
Without credible counter-factual but impact related	8
Other	15

Type and number of studies found on vegetables.

TABLE 22

Certificate	Nr of studies
GLOBALG.A.P.	8
Rainforest Alliance	1
Fairtrade	1
Organic	8

Number of information sources that contain data on implementation cost of fruit certification, split by certificate (some sources contain information on more than one certificate).

TABLE 23

Cost item	Certificate-holder	Farmer
Registration fee, if any	n.a.	n.a.
Yield loss during conversion period	n.a.	n.a.
Set up internal control or management system	69.92	n.a.
Materials	n.a.	n.a.
Infrastructure	194.90	76.34
Staff training	n.a.	n.a.
Producer training	316.97	n.a.
Management attention	n.a.	n.a.
Total (range)	581.60	41.76 to 407.26

Upfront investment in Euro per farmer to become certified by paying entity (fruit production). Data are based on average upfront costs of GLOBALG.A.P. certification. n.a. means not available. No data were found on the upfront costs of Organic, Rainforest Alliance and Fairtrade certification. The row Total displays a range of total costs found in literature and may therefore not equal the sum of preceding parts.

TABLE 24

Cost item	Certificate-holder	Farmer
Operation of internal control or management system	64.37	451.67
External audits	77.21	1,012.07
Materials	n.a.	12.39
Infrastructure	n.a.	n.a.
Staff training	n.a.	n.a.
Producer training	97.76	n.a.
Other service delivery to producers	n.a.	n.a.
Premium payments	n.a.	n.a.
Separating certified and non-certified product flows at farm, in transit, during processing, warehousing and export	n.a.	n.a.
Management attention	n.a.	n.a.
Laboratory analyses	95.59	
Transport	n.a.	
Total	103.73 to 561	0.61 to 2,604.69

Recurring cost in Euro per farmer per year to maintain certification by paying entity (fruit production). Data are based on average recurrent costs of GLOBALG.A.P., Organic and Fairtrade certification. n.a. means not available. No data were found on the costs of Rainforest Alliance certification. The row Total displays a range of total costs found in literature and may therefore not equal the sum of preceding parts.

TABLE 25

Certificate	Nr of studies
GLOBALG.A.P.	11
Rainforest Alliance	0
Fairtrade	1
Organic	5

Number of information sources that contain data on implementation cost of vegetable certification, split by certificate (some sources contain information on more than one certificate).

TABLE 26

Cost item	Certificate-holder	Farmer
Registration fee, if any	475.56	n.a.
Yield loss during conversion period	n.a.	n.a.
Set up internal control or management system	793.37	n.a.
External audit	1,475.06	n.a.
Materials	n.a.	n.a.
Infrastructure	3,850.62	n.a.
Staff training	848.89	n.a.
Producer training	263.62	n.a.
Management attention	n.a.	n.a.
Total (range)	15.31 to 7,707.13	312.84 to 703.62

Upfront investment in Euro per farmer to become certified by paying entity (vegetable production). Data are based on average upfront costs of especially GLOBALG.A.P. certification and one figure for total cost for Organic certification at certificate-holder level. n.a. means not available. No data were found on the upfront costs of Rainforest Alliance and Fairtrade certification. The row Total displays a range of total costs found in literature and may therefore not equal the sum of preceding parts.

TABLE 27

Cost item	Certificate-holder	Farmer
Registration fee	185.04	0.85
Operation of internal control or management system	n.a.	3.59
External audits	228.33	n.a.
Materials	n.a.	n.a.
Infrastructure	1,848.37	12.82
Staff training	n.a.	n.a.
Producer training	249.34	n.a.
Other service delivery to producers	n.a.	n.a.
Premium payments	n.a.	n.a.
Separating certified and non-certified product flows at farm, in transit, during processing, warehousing and export	n.a.	n.a.
Management attention	n.a.	n.a.
Laboratory analyses	n.a.	n.a.
Transport	n.a.	n.a.
Total	9.19 to 2,511.10	16.36 to 221.39

Recurring cost in Euro per farmer per year to maintain certification per paying entity (vegetable production). Data are based on average recurrent costs of GLOBALG.A.P. and Organic certification. n.a. means not available. No data were found on the costs of Rainforest Alliance and Fairtrade certification. The row Total displays a range of total costs found in literature and may therefore not equal the sum of preceding parts.

Appendix 4

Categorisation of studies reviewed

The complete list of 270 studies that were reviewed and categorised can be accessed here: <http://edepot.wur.nl/310445>

Endnotes

1. According to Ecolabels Index, a company selling descriptions of certification organisations. <http://www.ecolabelindex.com/>
2. <http://www.isealalliance.org/about-standards/frequently-asked-questions>
3. <http://www.4c-coffeeassociation.org/about-us/faqs/4c-verification.html>
4. This grading system is loosely based on earlier work by Blackman and Rivera, 2011. The distinction is that we include costs of certification, which may originate from papers that are otherwise not in the top categories or even impact related.
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6. Authors' graph, based on Ecolabels Index, a company selling descriptions of certification organisations. <http://www.ecolabelindex.com/>
7. Information on turnover of the organisations is derived from their annual reports and in the case of Rainforest Alliance from their 2012 Tax return (http://www.rainforest-alliance.org/sites/default/files/about/annual_reports/IRS-990-2012.pdf). Turnover of Fairtrade is the sum of annual turnover of each national Fairtrade organization. The actual value for Fairtrade is higher than what is depicted here as not all financial data are reported by all Fairtrade organisations (Belgium, Estonia, Finland, Japan, Latvia, Lithuania, South Africa, Hong Kong, Luxemburg, Kenya, and South Korea are either not online or do not list financial reports)
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CMiA: <http://www.cotton-made-in-africa.com/en/the-initiative.html>, accessed 30-01-2014
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UTZ: <https://www.utzcertified.org/en/aboututzcertified/how-utz-works>, accessed 30-01-2014
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