



# Farms, fisheries and forests: Does certification make a difference?

Analysis of 15 sustainable production standards



social  
environmental

context



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We help business create the context for a sustainable future through sound strategy and compelling communications. We’re sustainable business specialists with offices in London and Los Angeles. For more on our work, visit [contextsustainability.com](https://contextsustainability.com).

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Acronyms

EU	European Union
FAO	Food and Agriculture Organization of the United Nations
FMU	Forest management unit
GAP	Good agricultural practice
GHG	Greenhouse gas
GM(O)	Genetically Modified (Organism)
HCV	High conservation value
HCS	High carbon stock
ILO	International Labour Organization
US	United States
UK	United Kingdom



# Introduction

## 10 billion mouths to feed...

By 2050, nearly 10 billion people will be seeking food and shelter on our planet. But our food production is already threatened by shrinking water supplies, worsening soil quality and the loss of arable land. Furthermore, around 40% of the world's oceans are affected by pollution (some from agriculture), fishery depletion and loss of habitat. The food sector accounts for a fifth of global greenhouse gas (GHG) emissions and is under pressure to improve its environmental and social impacts, such as low wages, slavery and child labour, while still meeting increasing demand from a fast-expanding global population (UN, 2016).

## A standard response

How do you change things for the better? Over the past two decades, one widely accepted method in agriculture, fisheries and forests follows this logic:

- + Develop a voluntary production standard with criteria that encourage better social and environmental practices
- + Certify production against the standard – demonstrating compliance with criteria
- + Encourage preferential purchase of certified products
- + Promote widescale compliance with the standard to create overall improvement in production practices.

The number – and geographical reach – of such standards has expanded significantly since the 1990s, with 171 production standards now listed in the International Trade Centre's Standards Map, a database of social and environmental standards (Oya *et al*, 2017) (ITC, 2018).

But do standards work? Does certification lead to better production practices?

This report looks for answers.

## Our methods

Using literature on 15 popular certification systems (see Box I), we looked for evidence of standards prompting positive change. Find a summary of our findings in Part I, and the detail in Part II.

### Box I What this report is – and is not



This report reviews open access, online literature, largely published since 2013. It looks for evidence of positive social and environmental changes prompted by the requirements expressed in each standard's high-level criteria. Our aim is to provide a snapshot of current, public understanding.



The report does not provide broader judgements, such as the quality and effectiveness of additional work by standards organisations.



We focus on certification: "a subset of voluntary sustainability standards that has a codified set of standards for production and management practices." Compliance with these criteria is audited, optimally by a third party (COSA, 2013, p. xii).

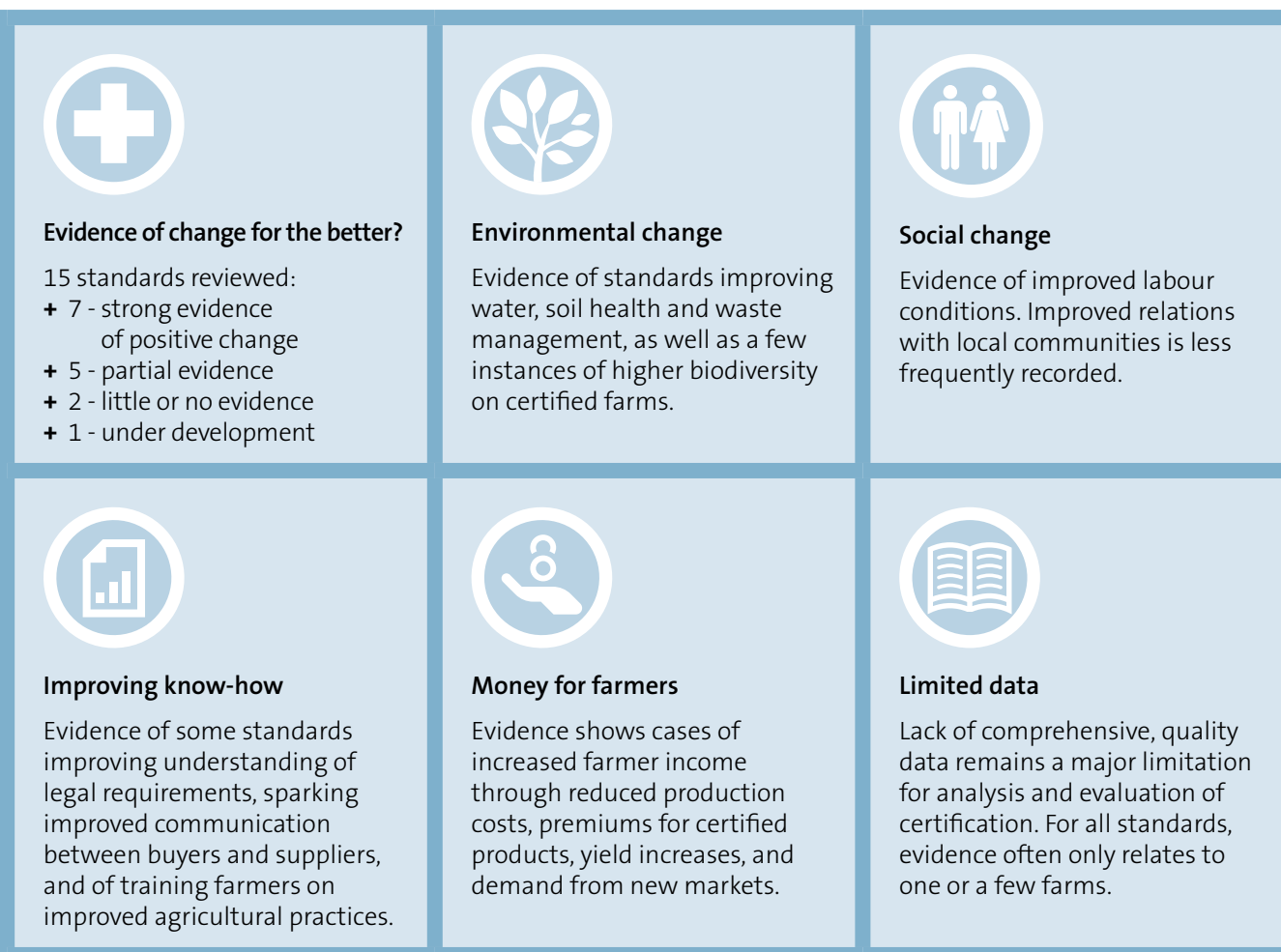


When using these results, it's important to note the significant differences in the volume and type of data available for each standard. See Part II for more detail on the methodology.

# Part I Summary of Findings



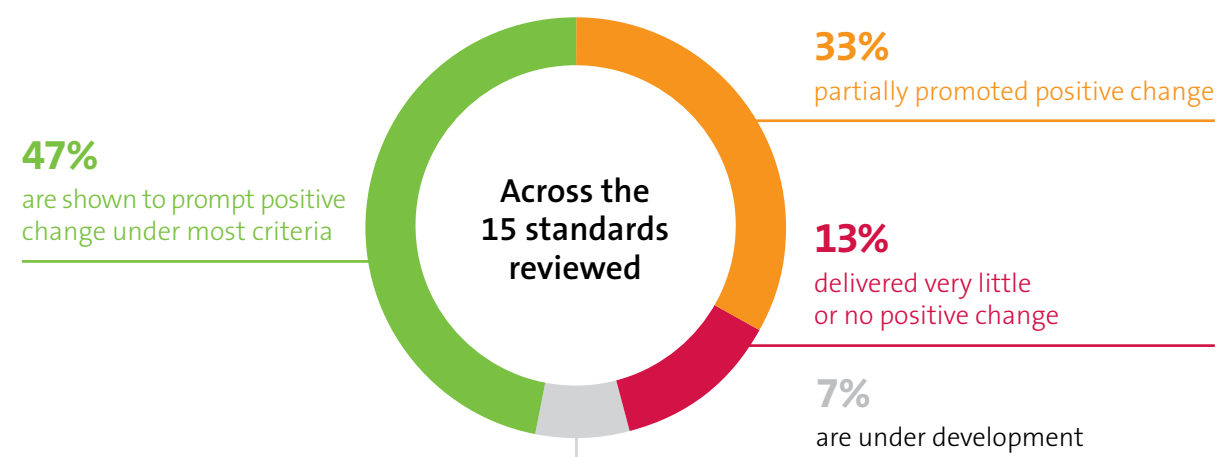
# Sustainable production standards: Do they make a difference?



## Can the food industry rely on standards to create positive change?

Certification is used by many companies and producers to demonstrate their commitment to improve the sustainability of the raw materials they use. Our review found that in the last few years the use of standards has increased for all but one (Skylark) of the initiatives reviewed.

But is compliance with these standards creating the desired results?



Across the 15 standards reviewed, seven (47%) are shown to prompt positive change under all – or almost all – criteria, five (33%) partially delivered positive change, two (13%) were found to promote very little or no positive change, and one (7%) was under development and not possible to assess at the time of review (see Table I). This means that seven standards didn't meet the low bar of at least one example of positive change against most (over 80%) high-level criteria – although it must be remembered that the ambition, content and number of each standard's criteria differ.

### Box II How was evidence of positive change assessed?

■ ≥80% of criteria
 ■ ≥40% to <80% of criteria
 ■ <40% of criteria
 ■ Under development

Academic and grey literature on the results of standards was reviewed. Grey literature includes publications such as research papers, business and NGO reports, and conference proceedings. Literature produced by the standards was also reviewed. Evidence of positive change under each standard's criteria was assessed. Green indicates that at least one example of positive change was found for ≥80% of a standard's criteria; amber indicates that at least one example of positive change was found for ≥40% to <80% of criteria; and red shows that at least one example of positive change was found for <40% of standard criteria. Analysis is based on information found; a standard may score red due to lack of data rather than because it prompts no positive change. Assessment was not possible for standards currently under development (grey). Scores do not reflect the magnitude of change and the type and quality of information behind each score differs. For further details on the methodology, see Part II.

### Box III What are FSA equivalence scores?

■ Gold standard
 ■ Silver standard
 ■ Bronze standard

The Sustainable Agriculture Initiative Platform's Farm Sustainability Assessment Tool (FSA) benchmarks the criteria, and governance and verification of standards against the three FSA performance levels. Gold indicates that a standard requires the most ambitious sustainable farming practices, silver marks standards that require adherence to practices used by leading companies, and bronze shows which standards require a solid base of good farming practices. Scores have been included to provide comparison across different standard's criteria. As of 16 October 2017, 10 out of 15 standards in this report have been assessed by FSA (FSA, 2017). For further details, see: [fsatool.com](http://fsatool.com).

## Do standards help tackle broader social and environmental issues in food production?

The above analysis assumes the criteria of standards are sufficient to create positive change. Yet the criteria of each standard vary. For example, some do not focus on social issues. Will the increasing uptake of standards help fix the environmental and social challenges plaguing food production?

Table II presents evidence from our findings that standards can help resolve environmental issues such as land degradation or pollution, and social issues including poor working and living conditions. It also records evidence for positive human and financial outcomes. Improved human knowledge of beneficial production practices helps create positive environmental and social change, while the ability to financially invest in changes to production – and rewards for doing so – are necessary to support long-term sustainable production.

Table II shows that standards do offer promise when viewed as one approach to tackling environmental, social, human and financial challenges in food production. But results vary considerably across individual standards. This is due to multiple factors, including the specific criteria of each standard, whether criteria are met, and the limited evidence of impacts on the ground. Even those marked green may have only demonstrated one, isolated example of prompting positive change. Our snapshot reveals just how partial understanding of the broader outcomes of standards is in many cases.



Table I Positive change by standard

Standard holder†	First standard launched	Applicability	Countries with certified operations	No. producers/land area certified	Uptake	Mission	Standard reviewed	Evidence of positive change (see Box II)	FSA Equivalence* (see Box III)
UTZ‡	2002	Commodity-specific (cocoa, tea, coffee, hazelnuts)	57	987,493 farmers 3.4 million ha	Share of global production area cocoa 15%, coffee 5%, tea 1% Certified area 2015-17 cocoa +77%, coffee +25%, tea +62%	Sustainable farming is the norm	UTZ Certified Code of Conduct		
RTRS	2006	Commodity-specific (soy)	8	10,788 producers 1.2 million ha	Share of global soybean area 0.6% Certified area 2016-17 +30%	Responsible soy production	Standard for Responsible Soy Production v3.1		
RSPO	2007	Commodity-specific (oil palm)	16	3.2 million ha	Certifies 19% of global production Certified area 2014-15 +32%	Sustainable palm oil is the norm	Principles and Criteria		
Bonsucro	2008	Commodity-specific (sugar & ethanol)	9	470 members 0.9 million ha	Share of global sugarcane area 3% Certified area 2011-15 +~27%	Responsible sugarcane production creates lasting value	Production Standard v4.2		
Sustainable Rice Platform	2015	Commodity-specific (rice)	12 (in which SRP is being scaled up)	85 members	Field testing in 2016 Scale up in 2017 Aim: cover 1 million farmers	Sustainable best practices in rice production	Standard on Sustainable Rice Cultivation v1.0		
GlobalG.A.P.	1997 (as EUREPGAP)	Sector (agriculture)	>125	>180,000 producers 3.1 million ha	Crops, Area 2010-15 +40% Crop producers 2015-16 >+12%	Implementation of Good Agricultural Practices for a sustainable future	Crops Base Control Points and Compliance Criteria v5.1		
Red Tractor	2000	Sector (agriculture)	1	>78,000 scheme members	Largest UK food standard New members 2015-17 >+32%	Traceable, safe, responsibly produced food	Beef & Lamb Standards v4.0		
LEAF	2001	Sector (agriculture)	36 (but mainly UK)	1,103 businesses 0.36 million ha	Certifies 34% of UK fruit & veg Certified area 2013-17 +49%	Inspire and enable sustainable farming	LEAF Marque Standard v14.1		
Rainforest Alliance‡	2001	Sector (agriculture)	57	1.3 million farmers 3.5 million ha	Share of global production tea 20%, cocoa 10%, coffee 6% Certified area 2015-17 +21%	Conserve biodiversity and ensure sustainable livelihoods	Rainforest Alliance Sustainable Agriculture Standard v1.2		
Fairtrade	2002	Sector (agriculture)	73	>1.6 million farmers 2.5 million ha	Global production area share coffee 14%, cocoa 6%, tea 3% Certified area 2013-15 coffee +29%, cocoa +33%, tea +14%	Fairer trade and combat poverty among producers	Common Principles		
Skylark	2006	Sector (agriculture)	1	388 farmers >45,000 ha	New farmers 2014-15 ~0%	Future-proof and healthy food production	Priority Indicators		
FSC	1994	Sector (forestry)	85	1,566 FMU certificates 199.5 million ha	Certifies 5% global forest area Area certified 2016-18 +5.9%	Environmentally appropriate, socially beneficial, and economically viable forest management	Principles for Responsible Forest Management		
PEFC	1999	Sector (forestry)	37	750,000 forest owners 304.2 million ha	Certifies 6% global forest area Area certified 2016-17 +0.9%	Give society confidence that people manage forests sustainably	Sustainable Forest Management Requirements		
MSC	1999	Sector (fisheries)	35	296 fisheries	Certifies 12% of global wild catch Fisheries certified 2015-16 +5.3%	Contribute to the health of the world's oceans	MSC Fisheries Standard v2.0		
Friend of the Sea	2008	Sector (fisheries)	45	>500 companies 88 fisheries	Certifies 10% of global wild catch Wild catch production 2014-15 +3%	Conserve marine habitat	Wild Sustainable Fishing Requirements v3.1		

† Standards are ordered by applicability, then date of launch.  
 \* A loose interpretation of 'commodity' has been used – with some standards marked \* arguably applying to an industry rather than commodity.  
 ± 10 of the 15 standards have been assessed by SAI FSA.  
 ‡ UTZ and Rainforest Alliance were assessed prior to their merger in 2018.

Performance Key

≥80% of criteria

≥40% to <80% of criteria

<40% of criteria

Under development

FSA Equivalence Key





Gold

Silver

Bronze



Table II Positive change by outcome\*

Outcome	Standard applicability			
	Commodity-specific	Agriculture	Forestry	Fisheries
<b>Environmental</b> 	Evidence of improved water and soil health management occurs most frequently. Standards also shown to improve habitat restoration in some cases.	Evidence shows decreases in pesticide use, and better water and waste management in some cases. One standard improved biodiversity.	Evidence is mixed, but examples of reduced forest degradation and improved conservation measures.	Difficult to attribute stock biomass increases directly to certification. One case of better waste management.
<b>Social</b> 	Standards are shown to improve labour conditions as well as respect for the rights of local communities in some cases.	Evidence suggests that certified farms have better working conditions when certified under three standards.	Evidence suggests standards promote more responsible employment practices in some cases.	Very limited data.
<b>Human</b> 	Standards are used as a tool for sparking increased dialogue between buyers and suppliers. Training can help improve agricultural practices.	Standards can help improve knowledge of good agricultural practices.	Improved understanding of legal requirements.	Limited data. Certified fisheries undertake research into their impacts on habitats under one scheme.
<b>Financial</b> 	Evidence of increased income through reduced production costs and/or higher yields, but benefits vary.	Improvements in farmer incomes for some commodities due to productivity increases, premiums, and/or production cost savings.	Benefits vary widely by company and product.	For one standard evidence shows cases of certified producers benefiting from demand from new markets, premiums, and cost savings on exports.

\* This table provides a snapshot of our findings in Part II.

## Are standards useful?

Our review found standards are useful because they:

- 1 Can provide widely recognised definitions of sustainable production
- 2 Are market-based and can, in theory, provide long-term producer incentives that development projects promoting good agricultural practices (GAP) often lack
- 3 Can offer downstream companies with access to sustainable products, without the costs and lock-in of creating company-specific standards
- 4 Often push for continuous improvement of agricultural practices
- 5 Help align industry action on sustainability, creating a community of knowledge and practice-sharing.

But standards are less useful for promoting sustainability because:

- 1 Criteria may vary in ambition and rigour
- 2 As standards are voluntary, uptake will likely be limited unless producers perceive clear benefits
- 3 Uptake is prone to a self-selection bias – often only sophisticated producers and companies can comply
- 4 Many do not focus on driving landscape-level change (for example, see Smit et al, 2015)
- 5 The true impact of many standards is poorly understood due to lack of impact studies and the inability to separate the impact of a standard from other locally relevant initiatives.

For certification to radically shift global production practices, sustainability standards would have to become an expected baseline. This is unlikely to happen because:

- + **High entry barriers:** Smallholders produce 80% of food consumed in the developing world (IFAD, 2013). Large-scale, sustainable change in food production will need to include these farmers. But the cost of certification is frequently too high for many farmers.
- + **Demand vs. supply:** Mismatches in demand and supply can limit uptake (for example, see Bonsucro (2017) for ethanol availability and trade challenges).
- + **Farmer benefits:** The benefits of certification are often not enough for many farmers, especially smallholders. For example, price premiums for certified crops are not always large enough to cover the costs of certification.
- + **Governance:** Expansion of standards is hampered by governance arrangements. For example, unclear or contested land rights prevent farmers from participating (Selfa & Quintero, 2014).
- + **Rise of individual company initiatives:** Some manufacturers and retailers have moved to adopt and promote their own standards. These shifts by companies with globally significant market shares may limit uptake of commodities certified by third parties.
- + **Market dominance vs. continuous improvement:** Government support can aid uptake. Yet for some standards that have achieved market dominance, such as Red Tractor in the UK, anti-competitiveness concerns have historically limited the strengthening of criteria (Levett-Therivel Sustainability Consultants, 2005).

## The bottom line

Nearly half of the standards reviewed create at least some change for the better. But is this good news enough to promote widespread sustainable agriculture practices?

The uptake of voluntary sustainability standards is at a critical point, with questions being asked about their value to farmers, marketers and consumers. This report underlines just how difficult it is to judge that value because there is so little public information available on the impact of standards. Standards organisations must step up and provide better evidence, or risk becoming irrelevant.



# Part II In depth



Part II provides the methodology and evidence found for each standard. Standards are presented in order of the Table I (page 6). For an introduction to each initiative, please refer to the Appendix (page 29).

## METHODOLOGY

### The standards assessment in context: understanding methodological choices

Determining the impact that a standard has presents a challenge. For example, it's difficult to establish whether a change in production practices is the direct result of one standard alone, or whether other social, environmental, political or regulatory factors also contribute. Moreover, just because a standard has a positive impact in one geography or with one producer, does not mean this unique incident can necessarily be extrapolated to production in another context. Finally, each standard aims to achieve different objectives using an individual approach. One result of this is that standards tend to measure success in different ways (for a summary of the literature, see ISEAL 2017).

The aim of this report is to collate available online, open-access data on whether standards are driving 'positive change' in terms of improved production practices that benefit farmers, communities, and the environment. In light of the challenges noted above, a number of points must be kept in mind when reading this report:

- Our definition of positive change is expansive. We consider a range of metrics that demonstrate a standard has prompted a shift towards sustainable production, from increases in producer focus on sustainability issues to research on the broader outcomes or impacts of standards.
- We have gathered information structured around the high-level criteria of each standard. These criteria provide a simplified definition of what sustainable production looks like to each certification programme. As not all programmes have performance metrics available, criteria provided a standardised metric. This report does not reflect the wider work of these organisations, any positive change prior to certification, or change under other standards belonging to the organisation beyond those recorded.
- To aid interpretation of our findings, we have provided assessment of the evidence found. This assessment does not consider the magnitude of change achieved, nor is it reflective of anything other than online, open access literature. Our research provides a starting point from which to complement these findings through, for example, interviews with a range of stakeholders or further data held privately by the standard.
- Data quality varies significantly. Standards such as UTZ employ third parties to undertake independent reviews, while others provide little detail beyond membership and meetings held. There is predictably a larger body of literature around older, well-known standards such as FSC and RSPO. Given the limited availability of data, own-party documentation of standard outcomes was included alongside third-party reviews. This partly circumvents discrimination of newer, less well-covered standards, but the lack of independent reviews of some data inputs should be noted. While every effort was made to only use accurate, reliable information, note that the methodologies of the sources included were not interrogated.
- The quantity of data is uneven and too often non-existent. This is partly due to the historic tendency of standards to measure success by metrics such as the number of organisations or



farmers involved, rather than metrics such as the ability of the standard to reduce biodiversity loss or improve water stewardship (Oya, 2017) (Steering Committee of the State-of-Knowledge Assessment of Standards and Certification, 2012). This has, at times, severely limited the analysis. In particular, the lack of baseline data meant that change delivered by standards frequently had to be taken on word, rather than calculated over time.

- This report does not evaluate the requirements of each standard. Equivalency scores from Sustainable Agriculture Initiative Platform’s Farm Sustainability Assessment were included to provide a reference point between standards.

In summary, the intention of this report is to provide a resource gathering literature in the public domain to start a conversation on what positive change standards are achieving. It is not to draw comparisons between standards other than to indicate what the availability of (varied) data shows.

## Research process

The research process entailed a review of open access academic and reputable grey literature found via internet searches on Google and Google Scholar, as well as analysis of each initiative’s own materials. Sources are predominantly English language. To capture current understanding, the study focused on recent literature, mostly published since 2013. In April 2018, the findings were shared with the standards for their feedback on any further available information. Feedback was received from 5 of the 15 standards. The views represented in this report are Context’s and not those of the standards.

## Presentation of findings

Tables recording the findings are divided into a series of columns. These cover:

- **Criteria** presents the high-level criteria of each standard. These were used to outline how each certification programme individually defines sustainable production within its standard(s). When a certification programme offers multiple standards but has criteria that apply to all schemes, these were used. In the absence of overarching criteria, one standard was selected.
- **Applicability** records the products or industry on which the standard focuses.
- **Uptake** presents data on market coverage and use of the standard.
- **Evidence** records documented positive change resulting from implementation of the criteria.
- **Evidence of positive change** summarises the extent to which published, internet available, open access literature shows that the standard drives positive change under each of its criteria (see assessment details below).
- **FSA equivalency** records the equivalence level of the standard(s) to the Sustainable Agriculture Initiative Platform’s Farm Sustainability Assessment (SAIP FSA) criteria, according to SAIP FSA as of 16 October 2017 (FSA, 2017).
- **Summary by outcome** looks beyond the specific criteria to summarise the environmental, social, human (knowledge), and financial benefits delivered directly or indirectly, largely focused on the production level.
- **Barriers** records challenges to scaling uptake.



## Assessment of evidence

To aid analysis, the extent to which each standard is documented to be driving change under its criteria was colour-coded. Green indicates that at least one example of positive change was found for  $\geq 80\%$  of the standard's criteria; amber indicates that at least one example of positive change was found for  $\geq 40\%$  to  $< 80\%$  of criteria; and red shows that at least one example of positive change was found for  $< 40\%$  of standard criteria. This analysis is based on the information we found; a standard may score red due to lack of data rather than because it is delivering no positive change. Standards that are under development at the time of research - and for which it is therefore too soon to examine how implementation is achieving positive change - are marked grey.

It is important to recognise the differences between the intent, breadth and number of criteria in each standard. Some standards have three or four high-level criteria, while others have ten or more. This analysis is intended to aid reading of the data and not to draw comparison between different standards.



## UTZ

Criteria	Uptake	Evidence	Evidence of positive change	Summary by outcome	Barriers
<p>The UTZ Certified Code of Conduct requires:</p> <ol style="list-style-type: none"> <li><b>Farm management:</b> Optimise yields, provide transparent systems for premiums, risk assessments, keep records, and provide training.</li> <li><b>Farming practices:</b> Suitable planting varieties, soil fertility, integrated pest management, pesticides and fertilisers, product handling irrigation.</li> <li><b>Social &amp; living conditions:</b> Observe the ILO labour conventions, access to education and decent housing.</li> <li><b>Environment:</b> Use water and energy efficiently, protect and/or restore natural habitats, protect biodiversity, manage waste, reduce soil erosion and have capacity to adapt to climate change. (UTZ, 2016a)</li> </ol>	<ul style="list-style-type: none"> <li><b>Farmers (2017):</b> 987,493 (75% cocoa; 23% coffee; 2% tea)</li> <li><b>Workers (2017):</b> 368,123</li> <li><b>Countries with certified operations (2017):</b> 57</li> <li><b>Certified area (2017, ha):</b> 3.4 million</li> <li><b>Top 3 countries by area (ha, 2017):</b> Côte D'Ivoire 1,388,636; Ghana 567,424; Nigeria 195,310</li> <li><b>UTZ estimated production (mt, 2017):</b> Cocoa 1,449,881; coffee 857,803 (green coffee equivalent); tea &amp; rooibos 119,883 (processed product)</li> <li><b>Share of global production area (2015):</b> cocoa 14.7%; coffee 5.2%; tea 1.3%</li> <li><b>Increase in certified cocoa area (ha):</b> 2011:460,390; 2015: 1,530,137; 2017: 2,706,596</li> <li><b>Increase in certified coffee area (ha):</b> 2011: 348,086; 2015: 473,953; 2017: 592,977</li> <li><b>Increase in certified tea &amp; rooibos area (ha):</b> 2011: 26,230; 2015: 47,828; 2017: 77,298</li> </ul> <p>(Source: UTZ, 2016c; UTZ, 2017b; personal communication with UTZ, April 2018; Lernoud et al, 2017)</p>	<ul style="list-style-type: none"> <li><b>Farm management (1):</b> Studies agree yields increase for coffee, tea and cocoa, but vary on the significance of the increase (Oya, 2017) (Waarts, 2015) (Aidenvironment, 2016) (García, 2014) (Haagsma, 2016).</li> <li><b>Farming practices (2):</b> Findings are largely positive (Aidenvironment, 2016) (BSD, 2016) (García, 2014). Certification improves knowledge and implementation of GAP (Ingram, 2013). Non-certified cocoa farmers benefit from trainings and adopt the GAP of certified neighbours (Aidenvironment, 2016). Cocoa and tea quality tends to increase but exporters report quality still only meets minimum requirements (Aidenvironment, 2016) (Haagsma, 2016) (UTZ, 2016b). Cocoa farmers in Indonesia and Rooibos farmers in South Africa were more aware of pesticide risks. Most stopped using toxic pesticides (UTZ, 2016b). In Brazil, 49% of coffee farmers experienced improvements in soil quality. In India, 84% of tea estates reported improved soil quality; 95% of non-certified farmers reported no change (UTZ, 2016b).</li> <li><b>Social &amp; living conditions (3):</b> Tend to improve, although some studies find no difference (e.g. Chiputwa, 2015). Certified farms are less likely to fail labour inspections (UTZ, 2016b) (García, 2014) (BSD, 2016) (Haagsma, 2016). Producers felt more optimistic about their quality of life (García, 2014). Child labour remains an issue (Waarts, 2015).</li> <li><b>Environment (4):</b> In Côte D'Ivoire, UTZ had no impact on water or soil conservation but a positive impact on waste management and natural habitats (Ingram, 2013). In Brazil, 49% of farmers improved the restoration of natural habitats (UTZ, 2016b).</li> </ul>	<p>≥80% of criteria</p> <p>FSA Equivalency</p> <p>Gold</p>	<ul style="list-style-type: none"> <li><b>Environmental:</b> Studies record improvements in habitat restoration and waste management (Ingram, 2013) (UTZ, 2016b).</li> <li><b>Social:</b> Studies report improved relations between workers and plantation owners, and improved livelihoods for all. But the extent of positive change varies (Chiputwa, 2015) (Ingram, 2014).</li> <li><b>Human:</b> UTZ helps spread knowledge of better farming practices to non-certified farmers (Aidenvironment, 2016).</li> <li><b>Financial:</b> Incomes mostly increase after certification. But cocoa prices remain too low to support viable livelihoods (UTZ, 2016b) (Waarts, 2015) (BSD, 2016) (Ingram, 2013). Market access does not always improve but increased price information allows for the negotiation of better deals (Aidenvironment, 2016).</li> </ul>	<ul style="list-style-type: none"> <li>Demand for certified products does not match supply. Commitment from buyers is important for driving certification (UTZ, 2016b).</li> <li>Knowledge and cost barriers still prevent the inclusion of less organised, smallholder farmers (BSD, 2016).</li> </ul>
Applicability					
Multi-crop (coffee, cocoa, tea, hazelnuts)					



## ROUND TABLE ON RESPONSIBLE SOY (RTRS)

Criteria	Uptake	Evidence	Evidence of positive change	Summary by outcome	Barriers
<p>The five principles of the RTRS Standard for Responsible Soy Production v3.1 are:</p> <ol style="list-style-type: none"> <li>1. Legal compliance and good business practices</li> <li>2. Responsible labour conditions</li> <li>3. Responsible community relations</li> <li>4. Environmental responsibility</li> <li>5. Good agricultural practices (RTRS, 2017)</li> </ol>	<ul style="list-style-type: none"> <li>• <b>Countries with certified producers (2017):</b> 8</li> <li>• <b>Producers (2015):</b> 10,788</li> <li>• <b>Certified area (ha, 2017):</b> 1,242,177</li> <li>• <b>Production volume available to market (mt, 2017):</b> 3,685,248</li> <li>• <b>All credits sold (2017):</b> 3,887,216 (equivalent to 3,526,423 mt of certified product)</li> <li>• <b>Top 5 countries (ha, 2015):</b> Brazil 431,238 (1.6% of national soybean area); Argentina 211,600 (1.1%); India 27,542 (0.2%); Paraguay 19,647 (0.6%); China 19,298 (0.3%)</li> <li>• <b>Share of global soybean area (2015):</b> 0.6%</li> <li>• <b>Increase in certified area (ha, 2011-16):</b> 143,800 - 956,083</li> <li>• <b>Increase in RTRS certified production volume (mt, 2011-16):</b> 381,658 - 2,803,800</li> </ul> <p>(Source: RTRS, 2014h; RTRS, 2014i; RTRS, 2016; personal communication with RTRS, April 2018; Lernoud et al, 2017)</p>	<ul style="list-style-type: none"> <li>• <b>Legal compliance &amp; good business practices (1):</b> In Brazil, where full compliance with environmental laws is often a challenge, producers were more aware of legislation and confident in its interpretation (RTRS, 2014c) (RTRS, 2014d). Certification improved farm organisation in terms of infrastructure and internal processes (RTRS, 2014d) (RTRS, 2015).</li> <li>• <b>Labour conditions (2):</b> In India, training sessions mean employees now use appropriate safety clothing (RTRS, 2014b). In Brazil, one worker reports improved working and living conditions (RTRS, 2015) and farms report higher employee satisfaction (Cameron, 2017).</li> <li>• <b>Community relations (3):</b> Farmers in Brazil report that RTRS rarely profits them financially but that they have benefitted from improved community relations (Cameroon, 2017).</li> <li>• <b>Environmental responsibility (4):</b> RTRS has faced critique over its environmental requirements. While deforestation indicators have been strengthened, issues such as pesticides and GM-soy have invited criticism (GMWatch, Friends of the Earth, Corporate Europe Observatory, 2011) (Potts, 2014). In India, certification reduced pesticide use (RTRS, 2014b). In Brazil, producers improved their water use and preservation of vegetation (RTRS, 2014c), but interviewees agreed that RTRS had not saved any forested areas from conversion (Cameron, 2017).</li> <li>• <b>Good agricultural practices (5):</b> In India, better irrigation techniques improved soil health and productivity (RTRS, 2014b).</li> </ul> <p><i>Most data is self-reported.</i></p>	<p>≥80% of criteria</p> <p>FSA Equivalency</p> <p>Silver</p>	<ul style="list-style-type: none"> <li>• <b>Environmental:</b> Positive change in farming practices such as reduced pesticide use and water management (RTRS, 2014c) (RTRS, 2014b).</li> <li>• <b>Social:</b> Few studies, but improved labour conditions and community relations (RTRS, 2014b) (RTRS, 2015).</li> <li>• <b>Human:</b> Unilever and the Dutch Foundation for Chain Transition Responsible Soy (a foundation of Dutch feed companies) view RTRS as a useful tool for engaging the soy community on sustainability (RTRS, 2014f) (RTRS, 2014e). Studies vary on the successful inclusion of smaller producers (Garrett, 2016).</li> <li>• <b>Financial:</b> The average payback period is as little as 3 years for producers larger than 2,500 hectares that can sell their full crop certified (KPMG, 2013). Small farmers in India to large dairy cooperatives report improved brand value (Solidaridad, 2012) (RTRS, 2014a).</li> </ul>	<ul style="list-style-type: none"> <li>• Four key barriers to mainstreaming certified soy production are: weak market demand for certified soy, variable availability of certified soy, fragmentation of the certification landscape and cost of certification to producers (KPMG, 2013).</li> <li>• There is a lack of demand for sustainable soy. Soy, around 75% of which is used for animal feed, is an 'invisible' product in the supply chain. Future expansion will be reliant on manufacturers and policy-makers rather than on consumers (Potts, 2014).</li> </ul>
Applicability					
Soy production globally					



## ROUNDTABLE ON SUSTAINABLE PALM OIL (RSPO)

Criteria	Uptake	Evidence	Evidence of positive change	Summary by outcome	Barriers
<p>The Principles and Criteria of RSPO are:</p> <ol style="list-style-type: none"> <li>1. Commitment to transparency</li> <li>2. Compliance with applicable laws and regulations</li> <li>3. Commitment to long-term economic and financial viability</li> <li>4. Use of appropriate best practices by growers and millers</li> <li>5. Environmental responsibility and conservation of natural resources and biodiversity</li> <li>6. Responsible consideration of employees, and of individuals and communities affected by growers and mills</li> <li>7. Responsible development of new plantings</li> <li>8. Commitment to continuous improvement in key areas of activity (RSPO, 2013)</li> </ol>	<ul style="list-style-type: none"> <li>• <b>Oil palm area certified (ha, June 2017):</b> 3,236,429 million</li> <li>• <b>Countries with certified operations (June 2017):</b> 16</li> <li>• <b>Share of total global oil palm production (2017):</b> 19%</li> <li>• <b>Certified area by region (ha, June 2017):</b> Indonesia 1,719,606; Malaysia 945,619; Latin America 285,687; Rest of Asia-Pacific 230,361; Africa 55,156</li> <li>• <b>Certified palm oil production capacity (mt, 2016):</b> 10,850,196</li> <li>• <b>Certified palm kernel production capacity (mt, 2016):</b> 2,444,103</li> <li>• <b>Members (June 2017):</b> 3,422 in 89 countries</li> <li>• <b>Certificate holders (2015):</b> 2,588</li> <li>• <b>Increase in certified area (2014-15):</b> 32%</li> <li>• <b>Increase in members (2015-2016):</b> 2,282 - 2,941</li> <li>• <b>Total sales - certified palm oil (2013 - 2016):</b> 4,513,273 - 5,632,731</li> </ul> <p>(Source: RSPO, 2017; RSPO, 2018; Lernoud et al, 2017)</p>	<ul style="list-style-type: none"> <li>• <b>Compliance with laws and regulations (2):</b> Local communities in Malaysia and Indonesia have been empowered to accept or reject plantation development. But many communities find the complaint procedure too lengthy. In 2016, 37 of 56 complaints were linked to local land rights (Ruysschaert, 2016).</li> <li>• <b>Economic &amp; financial viability (3):</b> In Indonesia, smallholders that achieved certification benefited through organisational changes that increased productivity and consequently profits (Hidayat, 2015). Certified farms improved their yields and quality (Brandi, 2013).</li> <li>• <b>Environmental responsibility (5):</b> In Indonesia, certification led to “small-scale effects” including reduced chemical usage, soil quality improvement, erosion control, improved waste management, and buffer zones near rivers (Brandi, 2013). Certification lowered deforestation by 33%, but most plantations contained little residual forest when certified. Certification had no causal impact on forest loss in peatlands (Carlson, 2018). Mono-culture plantations are barriers for biodiversity (Ruysschaert, 2016) (Azhar, 2015).</li> <li>• <b>Consideration of employees and local communities (6):</b> Communities are more empowered to accept or reject plantation development (Ruysschaert, 2016). Whether plantations follow requirements is, in practice, variable partly due to limited direct involvement of indigenous peoples in processes and the fact standards seek to go beyond the law but are not above it (Colchester, 2016).</li> <li>• <b>Responsible development (7):</b> Certification reduces fire activity when the likelihood of fire is low (i.e. non-peatlands in wetter years) but not when the likelihood is high (i.e. on non-peatlands in dry years or on peatlands) (Cattau, 2016).</li> </ul>	<p>≥40% to &lt;80% of criteria</p> <p>FSA Equivalency</p> <p>Gold</p>	<ul style="list-style-type: none"> <li>• <b>Environmental:</b> Studies point to modest ecological benefits. Monoculture plantations remain an issue for biodiversity (See Evidence).</li> <li>• <b>Social:</b> Greater awareness of local communities’ rights but certified plantations do not necessarily benefit nearby communities or non-certified businesses any more than non-certified plantations (Ruysschaert, 2016).</li> <li>• <b>Financial:</b> The cost of certification is higher than premiums for certified products (Ruysschaert, 2016). Improved yields and fruit quality can provide economic benefits, but for smallholders this depends on market connections (Brandi, 2013). Certification does not improve access to markets (Hidayat, 2015).</li> </ul>	<ul style="list-style-type: none"> <li>• Low premiums along with information and organisational challenges limit uptake by smaller producers (Ruysschaert, 2016) (Brandi, 2015). Smallholders produce ~40% of the world’s palm oil (RSPO, n. d.). RSPO has had a taskforce focused on this issue since 2005 (Savilkaakso, 2016). Around 12% of palm oil certified by RSPO is from smallholder schemes (Colchester, 2016).</li> </ul>
<b>Applicability</b>					
Palm oil production (crude palm oil mill and supply base producing the fresh fruit bunches)					



## BONSUCRO

Criteria	Uptake	Evidence	Evidence of positive change	Summary by outcome	Barriers
<p>The Bonsucro Production Standard v4.2 contains six principles:</p> <ol style="list-style-type: none"> <li>1. Obey the law</li> <li>2. Respect human rights and labour standards</li> <li>3. Manage input, production and processing efficiencies to improve sustainability</li> <li>4. Actively manage biodiversity and ecosystem services</li> <li>5. Continuously improve key areas of the business</li> <li>6. [Additional mandatory requirement for biofuels under the EU Renewable Energy Directive (2009/28/EC) and revised Fuel Quality Directive (2009/30/EC)] (Bonsucro, 2016)</li> </ol>	<ul style="list-style-type: none"> <li>• <b>Members (2016):</b> 470 in 42 countries</li> <li>• <b>Number of certified mills (2016):</b> 61 in 9 countries</li> <li>• <b>Production (2016):</b> 90% of production is in Brazil</li> <li>• <b>Area certified (ha, 2015):</b> 907,207</li> <li>• <b>Certified sugarcane production (mt, 2015):</b> 51,090,000</li> <li>• <b>Certified cane sugar production (mt, 2015):</b> 3,320,000</li> <li>• <b>Share of global sugarcane area (2015):</b> 3.4%</li> <li>• <b>Increase in area certified (million ha, 2011-15):</b> 711.7 - 907.2</li> <li>• <b>Increase in cane sugar production (million mt, 2011-15):</b> 3.0 - 3.3</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Labour standards (2):</b> In 2016, all mills demonstrated compliance with the minimum worker age, and the absence of child or forced labour. 56% of mills reported improved practices due to the standard. In 2017, Bonsucro reported the lowest level of on farm accidents yet, with 3.81 accidents per million hours worked. In 2015, wages were paid at 19% above the minimum wage (the lowest since data collection began).</li> <li>• <b>Manage efficiencies to improve sustainability (3):</b> In 2016, over 90% of mills achieved yields above the aims set by Bonsucro. This has increased from 50% in 2015. Overall yields are 16 tons of cane/ha above the FAO average.</li> <li>• <b>Biodiversity &amp; ecosystems (4):</b> In 2016, farms used the least herbicide since 2011. Mills have avoided over 3 million tons of CO<sub>2</sub> equivalent emissions between 2011/12 and 2015/16 through sustainable production.</li> <li>• <b>Continuously improve (5):</b> Certified mills keep improving their water efficiency - in 2015, mills reached the lowest water use per ton of product to date. Water use has decreased from 9.4 m<sup>3</sup>/T in 2011 to 0.5 m<sup>3</sup>/T in 2015.</li> </ul>	<p>≥80% of criteria</p> <p>FSA Equivalency</p> <p>Gold</p>	<ul style="list-style-type: none"> <li>• <b>Environmental:</b> Bonsucro demonstrates that it reduces water usage and increases yields, suggestive of improved practices that can benefit the environment more broadly.</li> <li>• <b>Social:</b> Human rights and labour standards are upheld. Producers attributed Bonsucro with driving health and safety improvements.</li> <li>• <b>Human:</b> The certification process led to ED&amp;F Man maintaining a more regular dialogue with its suppliers to ensure standards were being met. Producers improved water use and labour practices.</li> <li>• <b>Financial:</b> Agriculture costs decreased for mills certified since 2011/12. In 2015, the average cost was 52.1% of total sales. For all mills, it was 76.9%.</li> </ul> <p>All data from Bonsucro (2017).</p>	<ul style="list-style-type: none"> <li>• The majority of production is in Brazil (90%), but buyers of certified products are spread over several countries. Trade regulations (e.g. quotas, trade agreements, and other mechanisms) mean the availability but also the location of certified products is a crucial factor for purchase of certified products such as ethanol (Bonsucro, 2017).</li> </ul>
<b>Applicability</b>	(Source: Bonsucro, 2017; Lernoud et al, 2017)	All data from Bonsucro (2017).			
Any sugarcane mill and its supplying area selling sugarcane derived products					



## SUSTAINABLE RICE PLATFORM (SRP)

Criteria	Uptake	Evidence	Evidence of positive change	Summary by outcome	Barriers
<p>The SRP Standard provides a working definition of sustainability in any rice system and allows sustainability scoring at farm level.</p> <p>The SRP Standard on Sustainable Rice Cultivation v1.0 includes:</p> <ol style="list-style-type: none"> <li><b>Farm management:</b> Record keeping, training, crop calendar</li> <li><b>Pre-planting:</b> No heavy metals, salinity, land conversion, invasive species, levelling, seed variety</li> <li><b>Water use</b></li> <li><b>Nutrient management</b></li> <li><b>Pest management</b></li> <li><b>Harvest and postharvest:</b> Timing of harvest, drying, storage, rice stubble, rice straw</li> <li><b>Health and safety</b></li> <li><b>Labour rights:</b> Child labour, hazardous work, education, forced labour, wages, freedom of association, discrimination (SRP, 2015)</li> </ol>	<ul style="list-style-type: none"> <li><b>Members (2018):</b> 85</li> <li><b>Countries with members (2018):</b> 25</li> <li><b>Top 3 membership regions (2018):</b> EU 25 members; South East Asia 36; India &amp; Pakistan 14</li> <li><b>Future plans:</b> One million rice smallholders adopt sustainable best practices in rice production</li> </ul> <p>(Source: SRP, 2018a; SRP, 2018b)</p>	<p><i>The SRP Standard and SRP Performance Indicators* were launched in 2015. The Performance Indicators complement the Standard by enabling users to verify improvements and impacts. The SRP Standard was field-tested during 2016 and scaled up in 2017 in the following countries: Australia, Brazil, Cambodia, India, Myanmar, Nigeria, Pakistan, the Philippines, Sri Lanka, Thailand, USA and Vietnam (personal communication with SRP, April 2018). The Standard and Performance Indicators are under revision during 2017-18 to enhance user-friendliness, focus and the scoring system, based on lessons from pilot field-testing (SRP, 2018c).</i></p> <p><i>Examples of current use of the SRP Standard include uptake by Thailand's Ministry of Agriculture and Cooperatives (working with GIZ) to reduce GHG emissions from rice production by 26% in five years through 10,000 farmers adopting SRP (UNEP, 2017). AMRU Rice, a leading Cambodian rice export company, and Loc Troi Group, a Vietnamese agricultural services provider, are also using SRP. These projects will train 2,000 and 4,000 farmers respectively on good agricultural practices (The Financial, 2017) (IFC, 2017).</i></p> <ul style="list-style-type: none"> <li><b>Water use (3):</b> Implementing new growing techniques as part of a 2016 SRP pilot in Pakistan resulted in a 30% reduction in water use (Mars, 2017).</li> </ul> <p><i>* Indicators complement the standard by enabling users to verify improvements and impacts. They include: profitability, food safety, water use, input management, health &amp; safety, GHG, child labour and women's empowerment.</i></p>	<p><b>Under development at time of review</b></p>	<ul style="list-style-type: none"> <li><b>Environmental:</b> A 2016 pilot project in Pakistan by Mars Food together with WWF, Helvetas and the International Rice Research Institute demonstrates reduced water usage (Mars, 2017).</li> <li><b>Social:</b> The same pilot project records one rice farmer reporting that increases in income (following adoption of SRP) mean he can now provide a better education for his children (Mars, 2017).</li> <li><b>Financial:</b> Sales of SRP Standard rice resulted in higher incomes for farmers in Thailand (Better Rice Initiative, 2017). The same pilot project as above recorded that new growing techniques delivered an 8% increase in yield and a 32% increase in net income (Mars, 2017).</li> </ul>	<ul style="list-style-type: none"> <li>While pilot projects have had successes, it remains to be seen if farmers will continue to adopt practices once donor support ends. According to SRP, the demonstrated benefits for farmers in terms of improved livelihoods (reduced costs) point towards sustained adoption based on an intrinsic business case for farmers (personal communication with SRP, April 2018).</li> </ul>
<b>Applicability</b>					
Global rice production					



## GLOBALG.A.P.

Criteria	Uptake	Evidence	Evidence of positive change	Summary by outcome	Barriers
<p>The Integrated Farm Assurance Crops Base Control Points and Compliance Criteria v5.1 are:</p> <ol style="list-style-type: none"> <li>1. Traceability</li> <li>2. Propagation material</li> <li>3. Soil management and conservation</li> <li>4. Fertilizer application</li> <li>5. Water management</li> <li>6. Integrated pest management</li> <li>7. Plant protection products</li> <li>8. Equipment</li> </ol> <p>This covers specific activities beyond the All Farms Base Control Points and Criteria v5.1, that include:</p> <ul style="list-style-type: none"> <li>• Site history and site management</li> <li>• Record keeping and internal self-assessment</li> <li>• Hygiene</li> <li>• Workers' health, safety and welfare</li> <li>• Subcontractors</li> <li>• Waste and pollution management, recycling and re-use</li> <li>• Conservation</li> <li>• Complaints</li> <li>• Recall/withdrawal procedure</li> <li>• Food defence</li> <li>• GlobalG.A.P. status</li> <li>• Logo use</li> <li>• Traceability &amp; segregation</li> <li>• Mass balance</li> <li>• Food safety policy declaration</li> <li>• Food fraud mitigation</li> </ul> <p>(GlobalG.A.P., 2017a; 2017b; 2017c; 2017d; 2017e)</p> <p><i>GlobalG.A.P. also offers livestock and aquaculture certification.</i></p>	<ul style="list-style-type: none"> <li>• <b>Number of producers (2016):</b> &gt;180,000</li> <li>• <b>Countries with certified producers (2016):</b> &gt;125</li> <li>• <b>Crop area certified (ha, 2015):</b> 3,112,057</li> <li>• <b>Top 5 non-covered crops by area (ha, 2015):</b> potatoes 328,714; bananas 247,932; apples 240,674; grapes 169,122; oranges 153,610</li> <li>• <b>Top 5 countries by area (ha, 2015):</b> Spain 380,017; USA 325,133; South Africa 189,714; Chile 181,909; Italy 178,059</li> <li>• <b>Increase in certified producers (2010-15):</b> 105,507 - 160,452</li> <li>• <b>Increase in certified area (ha, 2010-15):</b> 2,221,977 - 3,112,057</li> </ul> <p>(Source: GlobalG.A.P., 2017f; Lernoud et al, 2017)</p>	<ul style="list-style-type: none"> <li>• <b>Soil management (3):</b> In Kenya, certification "significantly and positively increased" the likelihood that French bean farmers would adopt soil conservation measures or undertake changing crop varieties as adaption strategies to climate change (Oteino, 2017, p1).</li> <li>• <b>Water management (5):</b> In Kenya, certification "significantly and positively increased" the likelihood that French bean farmers would adopt water harvesting (Oteino, 2017, p1).</li> <li>• <b>Plant production products (7):</b> Studies find reductions in pesticide usage (Colen &amp; Maertens, 2011) (Humphrey, 2009).</li> </ul>	<p><b>&lt;40% of criteria</b></p> <p><b>FSA Equivalency</b></p> <p>Most standards are silver.</p> <p>A few standard variations are 'partially equivalent'.</p>	<ul style="list-style-type: none"> <li>• <b>Environmental:</b> Very limited data finds a decrease in pesticide use, and increased probability that water and soil management techniques are adopted (Colen &amp; Maertens, 2011) (Henson &amp; Humphrey, 2009) (Oteino, 2017).</li> <li>• <b>Social:</b> Extremely limited data suggests improved employment conditions in terms of contract security. In Senegal, employees are offered longer contracts than on non-certified farms (Colen &amp; Maertens, 2011).</li> <li>• <b>Human:</b> Certification improved climate change awareness and GAP adoption by smallholders (Oteino, 2017).</li> <li>• <b>Financial:</b> Studies find certified farmers benefit from productivity increases (Colen &amp; Maertens, 2011), but less financially-or technically-able farmers are excluded by certification costs and uncertain premiums (FAO, 2014). Some studies find improved market access (Colen &amp; Maertens, 2011). Early adopters in particular saw large increases in the value of their export sales (FAO, 2014).</li> </ul>	<ul style="list-style-type: none"> <li>• Once donor support for projects expire, small farmers often decertify due to the costs and complications of recertification as well as uncertain or inadequate price premiums (FAO, 2014).</li> <li>• For small-scale fruit and vegetable farmers in Thailand, support by an exporter has been identified as a vital factor in the decision to certify (Kersting &amp; Wollni, 2011).</li> </ul>
<b>Applicability</b>					
Whole agricultural production process of fruit & vegetables, flowers & ornamentals, combinable crops, tea and hops from before the plant is in the ground.					



## RED TRACTOR

Criteria	Uptake	Evidence	Evidence of positive change	Summary by outcome	Barriers
<p>The Beef and Lamb Standards v4.0 cover:</p> <ol style="list-style-type: none"> <li>1. Documents and procedures</li> <li>2. Staff and labour providers</li> <li>3. Traceability and assurance status</li> <li>4. Vermin control</li> <li>5. Housing, shelter and handling facilities</li> <li>6. Feed and water</li> <li>7. Animal health and welfare</li> <li>8. Artificially reared youngstock</li> <li>9. Biosecurity and disease control</li> <li>10. Animal medicines and husbandry procedures</li> <li>11. Fallen stock</li> <li>12. Livestock transport</li> <li>13. Responsible use of agrochemicals</li> <li>14. Nutrient management (Red Tractor, 2017a)</li> </ol> <p>Red Tractor also offers standards for combinable crops and sugar beet, dairy, pigs, poultry, and fresh produce (Red Tractor, 2017g; 2017c; 2017d; 2017f).</p>	<ul style="list-style-type: none"> <li>• <b>Total members (2017):</b> &gt;78,000</li> <li>• <b>Members - by standard (2015):</b> 24,090 beef &amp; lamb; 17,928 combinable crops &amp; sugar beet; 11,435 dairy; 2,470 fresh produce; 2,059 pig; 1,097 UK broiler chicken</li> <li>• <b>Countries with certified area (2017):</b> 1</li> <li>• Largest food standard scheme in the UK (self-description)</li> <li>• <b>Increase in new members (2015-17):</b> 59,079 - &gt;78,000</li> <li>• <b>Market share (2015):</b> Beef &amp; Lamb assured members represent 82% of finished cattle and 65% of finished sheep; Combinable Crops &amp; Sugar Beet assured members represent 80% of whole UK crop area; Fresh Produce assured members represent an average of 75% of UK crops; Dairy assured members represent 95% of all litres produced in Britain; Pig assured members represent 85% of UK pigs at slaughter</li> </ul> <p>(Source: Red Tractor, n.d.; Red Tractor, 2015; Red Tractor, 2017h; Red Tractor, 2018a; Red Tractor, 2018c)</p>	No studies found.	<p>&lt;40% of criteria</p> <p><b>FSA Equivalency</b></p> <p>Most standards are silver.</p> <p>A few standard variations are 'partially equivalent'.</p>	<ul style="list-style-type: none"> <li>• <b>Social:</b> 65% of shoppers recognise the logo and 57% say it influences their purchasing habits (Red Tractor, 2015).</li> <li>• <b>Human:</b> The UK government uses Red Tractor to define appropriate food standards (Food Standards Agency, 2012).</li> <li>• <b>Financial:</b> Certified beef and lamb fetch higher prices and farmers can save money on legally required inspections through reductions in the number of inspections needed (Red Tractor, 2017b) (House of Commons, 2011).</li> </ul>	<ul style="list-style-type: none"> <li>• Standard reform has, at least historically, been held back due to anti-competitiveness concerns, given the market dominance of Red Tractor (Levett-Therivel Sustainability Consultants, 2005).</li> <li>• Red Tractor has consistently tried to reduce the complexity and 'wordiness' of standards during revisions (Red Tractor, 2015) (Red Tractor, 2017e).</li> </ul>
<b>Applicability</b>					
The above criteria apply to beef and lamb					



## LINKING ENVIRONMENT AND FARMING (LEAF)

Criteria	Uptake	Evidence	Evidence of positive change	Summary by outcome	Barriers
<p>LEAF aims to increase the implementation of more environmentally sustainable farming practices through the Integrated Farm Management principles.</p> <p>In LEAF Marque Standard v14.1, these include:</p> <ol style="list-style-type: none"> <li>1. Organisation and planning (essential requirements include compliance with a relevant baseline assurance system such as GlobalG.A.P. or Red Tractor).</li> <li>2. Soil management and fertility</li> <li>3. Crop health and protection</li> <li>4. Pollution control and by-products management</li> <li>5. Animal husbandry</li> <li>6. Energy efficiency</li> <li>7. Water management</li> <li>8. Landscape and nature conservation</li> <li>9. Community engagement (LEAF, 2016a)</li> </ol>	<ul style="list-style-type: none"> <li>• <b>Certified businesses (2017):</b> 1,013</li> <li>• <b>Countries with certified area (2017):</b> 36</li> <li>• <b>Certified crop area harvested (ha, 2017):</b> 367,395</li> <li>• <b>Types of crops certified (2016):</b> 137</li> <li>• <b>Top 3 countries by area (ha, 2017):</b> UK 301,493; Spain 18,337; France 12,954</li> <li>• <b>Top 5 crops harvested (ha) (2017):</b> wheat 100,078; oilseed rape 31,300; barley 29,615; potato 28,733; lettuce 11,389</li> <li>• <b>Share of UK fruit and vegetables (2017):</b> 34% (90% of UK leeks; 88% beetroot; 83% watercress; 82% asparagus)</li> <li>• <b>Increase in certified businesses (2013-17):</b> 955 - 1,013</li> <li>• <b>Increase in certified area (ha, 2013-17):</b> 247,053 - 367,395</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Organisation (1):</b> In 2015, 61% of farms had an environmental policy. By 2016, 100% had a policy (LEAF, 2016b &amp; 2017).</li> <li>• <b>Soil management (2):</b> Businesses measuring nitrogen efficiency increased from 383 in 2014 to 554 in 2016. 33% recorded organic matter (LEAF, 2017).</li> <li>• <b>Crop protection (3):</b> In 2016, a protection strategy covered 190,809 ha of land (LEAF, 2017). In 2015, 198,799 ha were covered (LEAF, 2016b). Farms use 8-20% less plant protection product and more biological controls (Reed, 2017).</li> <li>• <b>Pollution control (4):</b> 49% of businesses follow waste best management (LEAF, 2017). In 2015, 461 businesses carried out a carbon footprint analysis compared to 275 in 2013 (LEAF, 2016b).</li> <li>• <b>Animal husbandry (5):</b> In 2016, all farms had a Livestock Health Plan (LEAF, 2017). Animals reared to LEAF standards more than doubled (LEAF, 2016b).</li> <li>• <b>Energy efficiency (6):</b> In 2016, 390 businesses monitored energy consumption compared to 385 in 2015. 44% generate renewable energy (LEAF, 2017).</li> <li>• <b>Water management (7):</b> In 2016, 41% of all businesses measured water efficiency for irrigated crops (LEAF, 2017). In 2013, 471 businesses measured efficiency compared to 490 in 2015 (LEAF, 2016b).</li> <li>• <b>Nature conservation (8):</b> Certified farms leave 13% of land as natural habitat (LEAF, 2017). Businesses with at least 5% of land for habitat management increased from 632 in 2013 to 686 in 2016 (LEAF, 2016b). Farmers noted marked improvement in birds, insects and mammals (Reed, 2017).</li> <li>• <b>Community engagement (9):</b> 53,259 visitors to farms in 2016 (LEAF, 2017).</li> </ul>	<p>≥80% of criteria</p> <p><b>FSA Equivalency</b></p> <p>Most standards are gold when underpinned by appropriate baseline assurance systems (see criteria 1) and UK legislation.</p> <p>A few standard variations are 'partially equivalent'.</p>	<ul style="list-style-type: none"> <li>• <b>Environmental:</b> LEAF has prompted farmers to improve measurement of on-farm processes impacting the environment (LEAF, 2017). Conservation efforts seem to improve biodiversity (Reed, 2017).</li> <li>• <b>Social:</b> LEAF links farmers with communities through farm visits, although it is unclear if engagement has increased over time (LEAF, 2017).</li> <li>• <b>Human:</b> Helps improve farmer knowledge of on-farm processes through, for example, measurement of water efficiency (LEAF, 2016b).</li> <li>• <b>Financial:</b> Farmers felt the standard benefitted them through premiums or incremental cost savings from improved practices. For example, 54% of farmers surveyed reported that improved energy efficiency led to savings of £10,000 to £17,000 per year (Reed, 2017).</li> </ul> <p><i>Data is largely self-reported.</i></p>	<ul style="list-style-type: none"> <li>• Most farmers report client demand as the primary reason for joining (Reed, 2017). Continued client demand will likely be important for future uptake.</li> </ul>
<b>Applicability</b>					
Certification covers the whole farm business, including sites and fields managed centrally	(Source: LEAF, 2014; LEAF, 2016b; LEAF, 2017)				



## RAINFOREST ALLIANCE

Criteria	Uptake	Evidence	Evidence of positive change	Summary by outcome	Barriers
<p>The Rainforest Alliance Sustainable Agriculture Standard v1.2 principles cover four outcome areas plus an optional fifth for cattle certification:</p> <ol style="list-style-type: none"> <li>1. Effective planning and management systems</li> <li>2. Biodiversity conservation (includes habitat and species protection)</li> <li>3. Natural resource conservation (includes water, waste, soil and pest management)</li> <li>4. Improved livelihoods and human wellbeing (includes workers' and communities' rights)</li> <li>5. [Sustainable cattle production (cattle only).]</li> </ol> <p>(Rainforest Alliance, 2017)</p>	<ul style="list-style-type: none"> <li>• <b>Producers (2017):</b> 1.3 million</li> <li>• <b>Countries (2017):</b> 57</li> <li>• <b>Certified area (ha, 2017):</b> 3.5 million</li> <li>• <b>Top 5 products by area (ha, 2015):</b> cocoa 737,551; tea 472,499; coffee 405,083; bananas 109,660; oil palm 49,844</li> <li>• <b>Top 4 countries by area (ha, 2017):</b> Côte D'Ivoire 618,000; Brazil 367,000; Kenya 362,000; India 244,000</li> <li>• <b>Share of global banana production (2017):</b> 6.4%</li> <li>• <b>Share of the global coffee production (2017):</b> 5.6%</li> <li>• <b>Share of global cocoa production (2017):</b> 10.2%</li> <li>• <b>Share of global tea production (2017):</b> 19.9%</li> <li>• <b>Increase in certified area (thousand ha, 2010-15):</b> 712 - 2,897</li> <li>• <b>Increase in production area (thousand ha, 2013-15):</b> banana 79.4 - 209.7; oil palm 37 - 50; cocoa 1,199 - 1,530; coffee ~430 - ~410; tea 306 - 472</li> </ul> <p>(Source: Newsom &amp; Milder, 2018; Lernoud et al, 2017)</p>	<ul style="list-style-type: none"> <li>• <b>Effective management (1):</b> Certification increased banana yields in Ecuador. Yields were 1.5-2 times higher for cocoa in Ghana and Côte d'Ivoire (Milder &amp; Newsom, 2015).</li> <li>• <b>Biodiversity (2):</b> One study on banana production in Latin America found that certified farms have less insect diversity than non-RA certified farms, and around the same level of bird diversity. Organic farming was found to perform best (Sanderson Bellamy, 2016). Cocoa and coffee farms retain more tree cover (Newsom, 2017) (Milder &amp; Newsom, 2015) (Takahashi &amp; Todo, 2017).</li> <li>• <b>Natural resources (3):</b> Farms have healthier soil and contribute to protecting water resources (Milder &amp; Newsom, 2015). In Colombia, small-scale certified farmers adopt "significantly" more environmentally friendly practices, such as tree diversity, watershed protection, efficient water use and responsible waste disposal. No notable difference was found in fertiliser and herbicide use (Rueda &amp; Lambin, 2013).</li> <li>• <b>Livelihoods and wellbeing (4):</b> Certification increased incomes. Studies are mixed as to whether this is driven by higher prices or productivity (Mitiku, 2017) (Milder &amp; Newsom, 2015). Health and safety standards tend to be higher. Farms are found to comply with child labour laws (Newsom et al, 2017) (Milder &amp; Newsom, 2015). In Colombia, certified farmers' children had significantly higher educational levels than non-certified farmers (Rueda &amp; Lambin, 2013).</li> </ul>	<p>≥80% of criteria</p> <p>FSA Equivalency</p> <p>Silver</p>	<ul style="list-style-type: none"> <li>• <b>Environmental:</b> More tree cover retained, healthier soil and improved water resource protection in some cases (see Evidence).</li> <li>• <b>Social:</b> Working conditions improve (see Evidence).</li> <li>• <b>Financial:</b> Increased income from better yields and prices. Farms stay in the programme due to non-premium benefits such as access to information, networks and resources (Rueda &amp; Lambin, 2013).</li> </ul>	<ul style="list-style-type: none"> <li>• Increasing market demand and market incentives will help uptake of the programme, for example for cocoa (Newsom, 2017).</li> </ul>
<b>Applicability</b>					
All crops and cattle products produced on the whole area within the farm's limits					



## FAIRTRADE

Criteria	Uptake	Evidence	Evidence of positive change	Summary by outcome	Barriers
<p>The Common Principles are considered in all standards applicable to small-scale producers and workers and their organisations:</p> <ol style="list-style-type: none"> <li><b>Social development:</b> Democratic decision-making and workers' rights</li> <li><b>Economic development:</b> Buyers must pay a Fairtrade Minimum Price or a Premium to producers. If requested, buyers are required to offer pre-financing.</li> <li><b>Environmental development:</b> GAP (minimize and safe use of agrochemicals, waste, soil fertility, water use, no GMOs). Organic production is promoted.</li> <li><b>No child or forced labour</b></li> </ol> <p>(Fairtrade, 2017a; 2017b)</p>	<ul style="list-style-type: none"> <li><b>Certified area harvested (ha, 2015):</b> 2,479,339</li> <li><b>Countries with certified producers and workers (2016):</b> 73</li> <li><b>Certified farmers (2016):</b> &gt;1.6 million</li> <li><b>Top 5 products by area (thousand ha, 2015):</b> coffee 1,297; cocoa 570; sugarcane 187; tea 122; grapes/wine 93</li> <li><b>Top 5 countries by area (ha, 2015):</b> Ghana 250,983; Colombia 218,520; Peru 209,319; Ethiopia 208,481; Côte D'Ivoire 186,342</li> <li><b>Total production volume (mt, 2015):</b> 3,085,692</li> <li><b>Production volume sold under the Fairtrade label (mt, 2015):</b> 1,030,786</li> <li><b>Share of global coffee area (2015):</b> 13.5%</li> <li><b>Share of global cocoa area (2015):</b> 5.5%</li> <li><b>Share of global sugar cane area (2015):</b> 0.7%</li> <li><b>Share of global tea area (2015):</b> 3.2%</li> <li><b>Increase in total certified farmers (2013-15):</b> 1,305,500 - 1,466,127</li> <li><b>Change in area certified (2013-15):</b> coffee 29%; cocoa 33%; tea 14%</li> </ul> <p>(Source: Fairtrade, 2015; Fairtrade, 2016; Fairtrade, 2017c; Lernoud et al, 2017)</p>	<ul style="list-style-type: none"> <li><b>Social development (1):</b> Workers felt more listened to and had a stronger sense of ownership than at non-certified banana plantations (LEI Wageningen UR, 2016). Certification improved transparency at orange cooperatives (Max Havelaar Foundation, 2014). Fairtrade provided female cotton farmers with greater control of their income. But all studies report social norms continue to limit the roles women perform (CEVAL, 2009) (Nelson &amp; Smith, 2011).</li> <li><b>Economic development (2):</b> For banana producers in Colombia, the premium lowered production costs. 35% of premium income was spent on productivity improvements (CEVAL, 2009). Cotton farmers received higher prices for Fairtrade goods 2004-07, but markets dropped off in 2007 and supply exceeded demand (Nelson &amp; Smith, 2011). Some link premiums to clear improvements in food, housing and education (LEI Wageningen UR, 2016) (Nelson et al, 2016). Others find modest improvements, but that incomes still only cover basic needs (Pound, 2013).</li> <li><b>Environmental development (3):</b> Fairtrade is often used in combination with other environmental certifications. This makes impacts difficult to attribute (CEVAL, 2009). In Mali, positive health impacts were observed due to a decrease in toxic pesticide use, although impacts could not be individually attributed to Fairtrade (Nelson &amp; Smith, 2011).</li> <li><b>Child labour (4):</b> Evidence is limited, but studies record growth in the sensitisation of farmers to these issues (Nelson &amp; Smith, 2011).</li> </ul>	<p>≥40% to &lt;80% of criteria</p> <p>FSA Equivalency</p> <p>Silver</p>	<ul style="list-style-type: none"> <li><b>Environmental:</b> Very limited information. Impacts are difficult to attribute directly to Fairtrade (see Evidence column).</li> <li><b>Social:</b> Evidence varies but Fairtrade is shown to improve farmers' livelihoods and working conditions. There is limited positive evidence of the empowerment of women (see Evidence).</li> <li><b>Human:</b> Fairtrade improved coffee producers' management and technical capacity (Nelson, 2016).</li> <li><b>Financial:</b> The benefits of premiums vary. For crops such as bananas, premiums compensate for sales prices below the cost of production. For cotton, premiums increased income (see Evidence column). In Uganda, Fairtrade reduced the likelihood of poverty by 50% among smallholder coffee farmers (Chiputwa, 2015).</li> </ul>	<ul style="list-style-type: none"> <li>The cost of certification can deter small producer organisations (Pound, 2013).</li> <li>Lack of demand for certified products can present a problem for scaling Fairtrade (Nelson, 2016). Concurrently, long-term supporters such as Sainsbury's have decided to replace Fairtrade with their own 'fairly traded' programme (Vidal, 2017).</li> </ul>
<p><b>Applicability</b></p> <p>Agricultural and manufactured goods, including bananas, cocoa, coffee, cotton, flowers, fresh fruits, honey, gold, rice, spice and herbs, sugar, tea, wine and composite products. Standards are applicable in 120+ countries. (ITC, 2017)</p>					

## SKYLARK (VELDLEEUWERIK)

Criteria	Uptake	Evidence	Evidence of positive change	Summary by outcome	Barriers
<p>Farmers must create a sustainability plan that prioritises improvements under the ten indicators. The plan must include at least four indicators for the next year. Farmers must attend regional meetings to share and improve knowledge.</p> <p>The ten priority indicators:</p> <ol style="list-style-type: none"> <li>1. Product value</li> <li>2. Soil fertility</li> <li>3. Soil erosion</li> <li>4. Nutrients (includes fertilisation and use of rest products)</li> <li>5. Biodiversity</li> <li>6. Water</li> <li>7. Energy</li> <li>8. Crop protection</li> <li>9. Local economy (includes relations with other farms and firms)</li> <li>10. Human capital (includes neighbours and community)</li> </ol> <p>(Veldleeuwerik, 2015) (Veldleeuwerik, n.d. a)</p>	<ul style="list-style-type: none"> <li>• <b>Participating farmers (2015):</b> 388 (2014: ~400)</li> <li>• <b>Countries (2017):</b> 1</li> <li>• <b>Number of partners (2015):</b> 63</li> <li>• <b>Regional groups (2015):</b> 40</li> <li>• <b>Acreage of skylark participants (ha, 2015):</b> &gt;45,000</li> <li>• <b>Crops (2015):</b> 80</li> <li>• <b>Crop production (mt, 2015):</b> sugar beets 453,592; potatoes 337,472; onions 163,293; grains 117,934</li> </ul> <p>(Source: Vos, 2015; Veldleeuwerik, 2016; Westerink et al, 2017)</p>	<p>Skylark does not measure its environmental change as yet but is considering ways to start monitoring in order to demonstrate achievements (Veldleeuwerik, n.d. c) (Skylark board at the Skylark congress 15 June 2017 in Westerlink, 2017).</p> <ul style="list-style-type: none"> <li>• <b>Develop individual plans (1-10):</b> Farmers interviewed increased the number of measures for every indicator between 2015-16, showing increased action. Plans included 2,837 indicators in 2015 (Kuneman, 2017).</li> <li>• <b>Product value (1):</b> Skylark farmers have lower costs for crop protection and energy than the average Dutch farmer (Kuneman, 2017).</li> <li>• <b>Soil fertility (2):</b> 67% of farms regularly profile their soil in 2015 (Veldleeuwerik, 2016). Skylark farmers fertilise more frequently than the national average (27% to 20%) (Kuneman, 2017).</li> <li>• <b>Nutrients (4):</b> 60% of farms use on-farm manure and 52% use compost (Veldleeuwerik, 2016). Skylark promotes faster adoption of green manures and fertilisation in spring (Kuneman, 2017).</li> <li>• <b>Biodiversity (5):</b> 24% of farms used multi-annual field margins. 54% of farmers use a decision support system to manage pests. 59% installed poles for birds of prey (Veldleeuwerik, 2016). No differences found between the general Dutch trend and Skylark farmers (Kuneman, 2017).</li> <li>• <b>Water (6):</b> As a result of the learning process promoted by Skylark, a farmer group in Midden-Brabant worked with the local water board to improve water quality management (Westerink, 2017).</li> <li>• <b>Energy (7):</b> In 2016, 50% of Skylark farmers produced solar energy, compared to 2% Dutch national average (Kuneman, 2017).</li> <li>• <b>Crop protection (8):</b> 27% of farms used precision fertilizing. In 2016, 59% of Skylark farmers used mechanical weed control, compared to a static Dutch 2012 average of 25%. Skylark encouraged the introduction of drift minimising techniques (Kuneman, 2017).</li> <li>• <b>Human capital (10):</b> In 2016, 38% of farmers are Agrarische Natuurvereniging members, compared to a 9.5% national average. 31% attend farm study classes, compared to a 1% national average (Kuneman, 2017).</li> </ul>	<p>≥80% of criteria</p> <p>FSA Equivalency</p> <p>Silver</p>	<ul style="list-style-type: none"> <li>• <b>Environmental:</b> Skylark encourages careful use of crop protection and an increase in the use of green manure (Kuneman, 2017).</li> <li>• <b>Human:</b> In 2015, 38 knowledge meetings were held (2014: 25) (EISA, 2016). In Midden-Brabant, farmers find meetings a positive experience and challenge each other to improve. Participation helped enhance farmers' understanding of the interrelations between farm management, soil and water (Westerink, 2017).</li> </ul>	<ul style="list-style-type: none"> <li>• The investment to participate in Skylark in terms of time and money is considerable (Westerink, 2017).</li> <li>• In the Midden-Brabant area of the Netherlands, high land prices are a threshold for whether farmers implement buffer strips. The governance arrangements of land were also an important factor in whether farmers take sustainability actions (Westerink, 2017).</li> </ul>
<b>Applicability</b>					
Arable crops in the Netherlands					



## FOREST STEWARDSHIP COUNCIL (FSC)

Criteria	Uptake	Evidence	Evidence of positive change	Summary by outcome	Barriers
<p>Forest owners or managers must meet the ten FSC principles for responsible forest management:</p> <ol style="list-style-type: none"> <li>1. Legal compliance</li> <li>2. Maintain or enhance workers' social &amp; economic wellbeing</li> <li>3. Uphold indigenous people's legal and customary rights</li> <li>4. Maintain or enhance local communities' social and economic wellbeing</li> <li>5. Efficient management that maintains or enhances economic viability and environmental and social benefits</li> <li>6. Maintain, conserve and/or restore ecosystems</li> <li>7. A management plan that guides staff and informs stakeholders</li> <li>8. Progress towards this plan</li> <li>9. Maintain or enhance high conservation values</li> <li>10. Management activities in compliance with organisational policies and FSC Principles &amp; Criteria. (FSC, 2017b) (FSC, 2015a)</li> </ol>	<ul style="list-style-type: none"> <li>• <b>Area certified (ha, May 2018):</b> 199,533,293</li> <li>• <b>Countries with certified area (May 2018):</b> 85</li> <li>• <b>Top 5 countries by area (ha, May 2018):</b> Canada 54,583,464; Russian Federation 46,426,114; US 13,909,757; Sweden 12,237,335; Belarus 8,753,000</li> <li>• <b>Forest management certificate holders (May 2018):</b> 1,566</li> <li>• <b>Share of total global forest area (2015):</b> 4.66%</li> <li>• <b>Increase in certified area (May 2016 - May 18):</b> 188,385,242 - 199,533,293</li> <li>• <b>Increase in certificate holders (May 2016 - May 2018):</b> 1,388 - 1,566 (Source: FSC, n.d. a; Lernoud et al, 2017)</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Legal compliance (1):</b> In Cameroon and Gabon, certified FMUs better enforce the law (Cerutti, 2016) (WWF, 2014).</li> <li>• <b>Workers' wellbeing (2):</b> In Cameroon, Gabon and Republic of Congo certified FMUs provide better working and living conditions (Cerutti, 2014).</li> <li>• <b>Indigenous peoples (3):</b> Recognition varies. Often only partial community consent is obtained. There are difficulties when national law does not recognise the same customary rights (Colchester, 2016). FSC reports positive experiences for the Sami in Sweden (FSC, 2015b).</li> <li>• <b>Local communities (4):</b> Studies in Russia and Cameroon find certification improved dialogue between companies and local communities. But communities report tensions when companies enforce the law around the FMU. There is sometimes greater social peace among non-certified FMUs that permit local customs, even illegal ones (Cerutti, 2014) (WWF, 2014).</li> <li>• <b>Efficient management (5):</b> Interventions can have economic benefits (FSC, 2014a) (Breukink, 2015) and social benefits, but not for all (Burivalova, 2016).</li> <li>• <b>Ecosystem protection (6):</b> Some studies find that FSC improves environmental performance, mitigates forest degradation and maintains the quality and quantity of fauna at levels similar to natural forests (FSC, 2014b) (WWF, 2014) (Savilkaakso, 2016) (Burivalova, 2016). In Kalimantan, Indonesia, certification reduced deforestation by 5% and air pollution by 31%, although it had no significant impact on fire incidences (Miteva, 2015). Others find FSC has no notable impact (Panlasigui, 2015) (Nordén, 2016) (Blackman, 2015).</li> </ul>	<p>≥40% to &lt;80% of criteria</p>	<ul style="list-style-type: none"> <li>• <b>Environmental:</b> Some authors find no impact, while others record positive outputs for the protection of forest ecosystems. Some see FSC as having "a significant, potential role in maintaining forest values" (Romero, 2015, p. xiii).</li> <li>• <b>Social:</b> Employment conditions are found to improve. Tensions are reported with local communities &amp; indigenous peoples (see Evidence).</li> <li>• <b>Human:</b> Assists FMUs in understanding legal requirements and to use the economic value of forests in balance with other values (FSC, 2014a).</li> <li>• <b>Financial:</b> Benefits vary widely by company (Breukink, 2015). Businesses adopting FSC often already comply with the standards and have market access. FSC is an add-on benefit rather than an incentive to improve practices (Savilkaakso, 2016).</li> </ul>	<ul style="list-style-type: none"> <li>• Cost of compliance deters smaller FMUs from certifying (Romero, 2015).</li> <li>• Growth is reliant on client demand; 78% of businesses certify for this reason (FSC, 2017a). Demand is therefore essential for future growth.</li> <li>• Forestry products are often sold on domestic markets. This makes the opportunity cost of preserving local forests a major consideration for FMUs that are competing against other local non-certified businesses (Potts, 2014).</li> <li>• The compatibility of standards with local socio-political contexts and legal frameworks is an important consideration for increasing access to certification (Potts, 2014).</li> </ul>
<b>Applicability</b>					
<p>Natural forests, plantations and other (i.e. non-forest) vegetation types, which should be limited to land uses involving the growing of trees (FSC, 2005)</p>					

## PROGRAMME FOR THE ENDORESMENT OF FOREST CERTIFICATION (PEFC)

Criteria	Uptake	Evidence	Evidence of positive change	Summary by outcome	Barriers
<p>The criteria of the specific Sustainable Forest Management requirements are:</p> <ol style="list-style-type: none"> <li>1. Maintenance and appropriate enhancement of forest resources and their contribution to the global carbon cycle</li> <li>2. Maintenance of forest ecosystem health and vitality</li> <li>3. Maintenance and encouragement of the productive functions of forests (wood and non-wood)</li> <li>4. Maintenance, conservation and enhancement of biological diversity in forest ecosystems</li> <li>5. Maintenance and enhancement of protective functions in forest management (notably soil and water)</li> <li>6. Maintenance of other socio-economic functions and conditions</li> <li>7. Compliance with legal requirements (PEFC, 2010)</li> </ol>	<ul style="list-style-type: none"> <li>• <b>Certified forest owners (2015):</b> 750,000</li> <li>• <b>Countries with certified area (Sept 2017):</b> 37</li> <li>• <b>Certified smallholders (2016):</b> ~1 million</li> <li>• <b>Chain-of-custody certificate holders (Sept 2017):</b> 11,262</li> <li>• <b>Area of certified forest (ha, Sept 2017):</b> 304,201,947</li> <li>• <b>Top 5 countries by area certified (million ha, Sept 2017):</b> Canada 130.9; US 33.5; Australia 23.8; Finland 17.7; Russia 12.9</li> <li>• <b>Certified forest area by region (Sept 2017):</b> North America 54%; Europe 31%; Oceania 8%; Asia 5%; Central &amp; South America 2%.</li> <li>• <b>Share of total global forest area (2015):</b> 6.12%</li> <li>• <b>Increase in certified area (million ha, 2013-16):</b> 253.1 - 301.6</li> </ul> <p>(Source: PEFC, 2016; PEFC, 2017; Lernoud et al, 2017)</p>	<ul style="list-style-type: none"> <li>• <b>Forest resource maintenance (1):</b> In Finland, PEFC helped increase root rot control and raised awareness of avoiding harvesting damage (Luoma, 2015).</li> <li>• <b>Forest ecosystem maintenance (2):</b> In Finland, PEFC certification helped improve retention trees and decaying wood left during harvesting. It increased awareness of the importance of natural sites - forest owners felt more positive about conservation as a result (Luoma, 2015). In Sweden, no evidence was found that PEFC or FSC certification improved conservation of environmentally important areas or retention of trees or stumps (Nordén, 2016). A pilot life cycle assessment found that PEFC certified wood has around 65% less impact on the quality of ecosystems than non-certified wood, primarily due to the avoidance of deforestation impacts (De Schryver, 2012).</li> <li>• <b>Compliance (7):</b> In Finland, PEFC certification helped distribute information on legislation and its execution. It improves the harmonisation of industry practices concerning employer liability, such as in contractual practices and occupational safety (Luoma, 2015).</li> </ul>	<p>≥40% to &lt;80% of criteria</p>	<ul style="list-style-type: none"> <li>• <b>Environmental:</b> Certified wood releases ten times less GHG emissions than non-certified wood (De Schryver, 2012). Limited evidence shows certification can help improve forest management and conservation in some cases (see Evidence column).</li> <li>• <b>Social:</b> Limited evidence shows that PEFC can promote socially responsible employment practices relating to documentation of contracts and safety (Luoma, 2015).</li> <li>• <b>Human:</b> Limited evidence shows that PEFC helps improve understandings of current legislation (Luoma, 2015).</li> <li>• <b>Financial:</b> Premiums vary depending on the product. Existing studies suggest certified logs (PEFC or FSC) can receive between 2-30% premiums (Potts, 2014).</li> </ul>	<ul style="list-style-type: none"> <li>• There is no indication that sustainable timber will become the de facto 'price of entry' into mainstream markets. As forest certification increases in importance, it is possible that broader adoption of certification in mass markets may mean that future uptake (FSC &amp; PEFC) will need to be supported more by other benefits such as market access and soft benefits connected to risk reduction and improved management (Potts, 2014).</li> </ul>
<b>Applicability</b>					
All types of forests					



## MARINE STEWARDSHIP COUNCIL (MSC)

Criteria	Uptake	Evidence	Evidence of positive change	Summary by outcome	Barriers
<p>The MSC Fisheries Standard measures if a fishery is well-managed and sustainable. Fisheries working towards sustainability can engage in pre-assessment and Fishery Improvement Projects (FIPs) prior to certification.</p> <p>The MSC Fisheries Standard v2.0 comprises three core principles:</p> <ol style="list-style-type: none"> <li><b>Sustainable target fish stocks:</b> Management that does not lead to over-fishing or depletion of exploited populations, and, for populations that are depleted, measures are taken to ensure their recovery.</li> <li><b>Environmental impact of fishing:</b> Maintain the structure, productivity, function and diversity of the ecosystem on which the fishery depends.</li> <li><b>Effective management</b> that respects laws and includes organisational frameworks requiring responsible and sustainable resource use. (MSC, 2014)</li> </ol>	<ul style="list-style-type: none"> <li><b>Fisheries certified (2016):</b> 296</li> <li><b>Countries (2016):</b> 35</li> <li><b>Total volume wild catch fisheries (mt, 2015):</b> 9,236,543</li> <li><b>Top 5 production countries (mt, 2015):</b> US 2,766,637; Norway 1,402,861; Russian Federation 1,186,497; Marshall Islands 616,410; Japan 449,151</li> <li><b>Top 5 wild catch species - production volume (mt, 2015):</b> Alaska pollock 2,153,477; cod 1,234,170; herring 751,621; tuna 723,136; scallops 583,381</li> <li><b>Share of global marine wild catch (2016):</b> 12%</li> <li><b>Share of global certified wild catch (2015):</b> -50%</li> <li><b>Increase in fisheries certified (2015-16):</b> 281 - 296</li> </ul> <p>(Source: MSC, 2016; MSC, 2017; Potts, 2016)</p>	<ul style="list-style-type: none"> <li><b>Sustainable target fish stocks (1):</b> The MSC assessment process catalysed development of well-defined harvest control rules for skipjack tuna in the Indian Ocean (MSC, 2017).</li> <li><b>Environmental impact of fishing (2):</b> Since 2000, 94% of MSC certified fisheries have had to make at least one improvement, resulting in 1,238 changes - many of which relate to the environmental impacts of the fishery. Between 2000 and 2015, 39 fisheries out of 185 MSC certified fisheries made at least one improvement to habitats' management. Of these 117 improvements, 27% were research actions, 27% technical actions, 24% impacts assessments, and 2% governance actions. Research and impact assessment actions demonstrate fisheries are helping fill habitat impact knowledge gaps. Technical and governance actions show MSC certified fisheries are improving the management of habitat impacts. New monitoring systems (e.g. required self-reporting) saw 12 fisheries record important species in new locations (MSC, 2017). Blackmore et al (2015, p. 69) find the literature shows certification does result in improved environmental performance during pre-assessment, certification, and subsequent surveillance, although some studies show fisheries are likely already meeting best practice and "in many situations no changes are to be expected" (MRAG, 2011, p. 93).</li> <li><b>Effective management (3):</b> MSC certification helped improve the quality of stock management of the mackerel icefish in Australia (MSC, 2009).</li> </ul>	≥80% of criteria	<ul style="list-style-type: none"> <li><b>Environmental:</b> In nearly all regions, stocks have higher biomass following certification (2000 vs. 2013-16). "This suggests that either a desire to obtain MSC certification incentivised better stock stewardship, or that the MSC label was sought as recognition of efforts made to recover stocks to healthy levels of biomass" (MSC, 2017 p.25).</li> <li><b>Social:</b> Certification helped secure government infrastructure funding for the community sourcing a red rock lobster fishery in Mexico (MSC, 2009).</li> <li><b>Human:</b> MSC has helped support, if not prompt, fisheries to undertake and explore research to expand knowledge of the fishery (see Evidence).</li> <li><b>Financial:</b> The Kyoto Danish Seine Fishery Federation was less influenced by larger markets following certification (Wakamatsu, 2012). Others report demand from new markets, price premiums, and export costs savings (MSC, 2009). Some fisheries in developing countries report improved financial and government support following certification due to improved reputation (Blackmore, 2015).</li> </ul>	<ul style="list-style-type: none"> <li>Technical knowledge and cost limit uptake (Pérez-Ramírez, 2012) (Pérez-Ramírez, 2015) (Blackmore, 2015).</li> </ul>
<b>Applicability</b>					
Wild capture of marine and freshwater organisms					

## FRIEND OF THE SEA (FOS)

Criteria	Uptake	Evidence	Evidence of positive change	Summary by outcome	Barriers
<p>FOS - Wild Sustainable Fishing Requirements v3.1 are:</p> <ol style="list-style-type: none"> <li><b>Stock status:</b> Not overexploited or overfished (small-scale and artisanal fishery exceptions)</li> <li><b>Ecosystem and habitat impact:</b> Comply with protected area regulations, data on fishing impact, no damaging gear</li> <li><b>Gear selectivity:</b> No bycatch of vulnerable or high risk endangered species, maximum discard rate of 8%</li> <li><b>Legal conformity</b></li> <li><b>Fishery management:</b> Management measures in place, inclusion of small-scale fishing communities</li> <li><b>Waste management</b></li> <li><b>Energy management</b></li> <li><b>Social accountability</b> (FOS, 2017a)</li> </ol> <p><i>FOS also operates an aquaculture standard.</i></p>	<ul style="list-style-type: none"> <li><b>Fisheries (2016):</b> 88</li> <li><b>Countries with certified fisheries (2016):</b> 45</li> <li><b>Companies (2016):</b> &gt;500</li> <li><b>Wild catch production volume (million mt, 2015):</b> 9.3</li> <li><b>Certified wild catch production in top 5 FOS countries (mt, 2014):</b> Peru 5,500,000; Chile 1,101,200; US 591,000; Philippines 500,000; Morocco 310,000</li> <li><b>Share of total wild catch seafood (2015):</b> 10.1%</li> <li><b>Share of total certified wild catch (2015):</b> ~50%</li> <li><b>Increase in certified wild catch production (million mt, 2008-15):</b> 2008: 0.1; 2014: ~9.0; 2015: 9.3</li> </ul> <p><i>(Source: FOS, 2017b; Potts, 2016)</i></p>	<ul style="list-style-type: none"> <li><b>Stock status (1):</b> Between 2008-16, FOS records two fisheries improved their stock status, while one became overexploited. In the first half of 2017, “some FOS fisheries” implemented measures to bring levels back to maximum sustainable yields (FOS, 2017c, p1). Using 2011 information, 19% of stocks in FOS certified fisheries were found to be overfished (and 31% of MSC stocks) (Froese &amp; Proelss, 2012). Following this assessment, FOS decertified three stocks and noted the remaining 12% was due to differences in the time intervals of FAO stock data used (Cressey, 2012). As of 2017, FOS report that five of the six fisheries considered overexploited are no longer certified (FOS, 2017c).</li> <li><b>Gear selectivity (3):</b> Between 2008-16, FOS estimates corrective actions saved 70 sharks and 80,000 endangered fish per year. During 2008-16, no discards were avoided due to FOS (FOS, 2017c).</li> <li><b>Legality (4):</b> During 2008-16, 23 unregistered fishing vessels in Indonesia and Colombia registered as a result of corrective actions. In Belize and Bolivia, two vessels with flags of convenience registered (FOS, 2017c).</li> <li><b>Waste (6):</b> Between 2008-16, one ton/year of waste was saved from poor management due to corrective actions in Portugal and the Azores. One ozone depleting plant (CFC) was corrected in Portugal (FOS, 2017c).</li> </ul>	<p>≥40% to &lt;80% of criteria</p>	<ul style="list-style-type: none"> <li><b>Environmental:</b> Limited evidence records better management of waste (FOS, 2017c).</li> <li><b>Financial:</b> No information found, but FOS is potentially less costly for producers than other standards (Potts, 2016).</li> </ul>	<ul style="list-style-type: none"> <li>Lower barriers to entry in terms of the cost and duration of the certification processes mean that growth in FOS certification appears to be driven by fisheries seeking to distinguish themselves from competitors, rather than due to demand (Steering Committee of the State-of-Knowledge Assessment of Standards and Certification, 2012) (Potts, 2016).</li> </ul>
<b>Applicability</b>					
All fisheries globally					



## Annex: Introduction to each standard

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### BONSUCRO

[www.bonsucro.com](http://www.bonsucro.com)

Founded in 2007, Bonsucro is a non-profit, multi-stakeholder initiative that aims to ensure responsible sugarcane production creates lasting value for people, communities, businesses, economies and eco-systems in all cane-growing origins. (Bonsucro, n.d.) (Bonsucro, 2016) (Lernoud et al, 2017)

### FAIRTRADE

[www.fairtrade.net](http://www.fairtrade.net)

Fairtrade is a global organisation that works to secure a better deal for farmers and workers. Its mission is to connect disadvantaged producers and consumers, to promote fairer trade conditions and to empower producers to combat poverty and take more control of their lives. The Fairtrade certification mark first launched in 2002. (Fairtrade, 2018)

### FOREST STEWARSHIP COUNCIL (FSC)

[www.ic.fsc.org](http://www.ic.fsc.org)

Established in 1993, FSC is a global non-profit organisation that sets standards for what is a responsibly managed forest. It aims to promote environmentally appropriate, socially beneficial, and economically viable management of forests globally. (FSC, n.d. b) (FSC, 2015a)

### FRIEND OF THE SEA (FOS)

[www.friendofthesea.org](http://www.friendofthesea.org)

FOS is a non-profit, non-governmental organisation. Established in 2008, it aims to safeguard the marine environment and its resources by incentivising a sustainable market and implementing conservation projects. (FOS, 2017a) (FOS, 2017d)

### GLOBALG.A.P.

[www.globalgap.org](http://www.globalgap.org)

GlobalG.A.P. is a global organisation whose mission is to connect farmers and brand owners in the production and marketing of safe food to provide reassurance for consumers. G.A.P. stands for Good Agricultural Practice. Started as EUREPGAP in 1997, the organisation changed its name to GlobalG.A.P. in 2007. (GlobalG.A.P., n.d. a) (GlobalG.A.P, n.d. b)

### LINKING ENVIRONMENT AND FARMING (LEAF)

[www.leafuk.org](http://www.leafuk.org)

Founded in 1991, the mission of LEAF is to inspire and enable sustainable farming that is prosperous, enriches the environment and engages local communities. The LEAF Marque, developed in 2001, is an environmental assurance system recognising that food has been grown sustainably with care for the environment. The principles of Integrated Farm Management (IFM) underpin LEAF Marque certification. (LEAF, 2012) (LEAF, n.d.)

## **MARINE STEWARDSHIP COUNCIL (MSC)**

[www.msc.org](http://www.msc.org)

MSC is an international non-profit organisation founded in 1997. Its mission is to use the MSC ecolabel and fishery certification programme to contribute to the health of the world's oceans through recognising and rewarding sustainable fishing practices, influencing consumer purchasing choices, and working with partners to transform the seafood market to a sustainable basis. (MSC, n.d.) (Potts et al, 2016)

## **PROGRAMME FOR THE ENDORSEMENT OF FOREST CERTIFICATION (PEFC)**

[www.pefc.org](http://www.pefc.org)

PEFC is an international, non-profit, non-governmental organisation that aims to promote sustainable forest management through independent third-party certification. As an umbrella organisation, PEFC works by endorsing national forest certification systems tailored to local priorities and conditions. It endorses 39 national certification systems. (PEFC, 2018)

## **RAINFOREST ALLIANCE**

[www.rainforest-alliance.org](http://www.rainforest-alliance.org)

Rainforest Alliance is an international, non-profit organisation working to build strong forests, healthy agricultural landscapes, and thriving communities through creative, pragmatic collaboration. The Rainforest Alliance Sustainable Agriculture Standard was developed by the Sustainable Agriculture Network (SAN), a network of 11 conservation and rural development NGOs from a variety of countries. It was initially called the SAN Standard. Since November 2017, the standard is solely managed by Rainforest Alliance. In 2018, Rainforest Alliance merged with UTZ. The two standards will be run separately until the publication of a single new standard in 2019. (Rainforest Alliance, 2018) (Newsom & Milder, 2018)

## **RED TRACTOR**

[www.redtractor.org.uk](http://www.redtractor.org.uk)

Established in 2000, Red Tractor is a non-profit company run by the food industry to ensure food comes from a trustworthy and safe source. It has grown to be the UK's biggest farm and food standards scheme. The company aims to set robust standards for good agricultural practice, safe food, protection from pollution, and animal health and welfare; it aims to ensure conformance with these standards; ensure correct labelling is used; and to communicate the benefits of Red Tractor to customers. (Red Tractor, 2018a) (Red Tractor, 2018b)

## **ROUND TABLE ON RESPONSIBLE SOY (RTRS)**

[www.responsiblesoy.org](http://www.responsiblesoy.org)

RTRS is a civil organisation that aims to promote responsible production, processing and trading of soy globally. Founded in 2006, RTRS is a member-based initiative. Members include representatives from the soy value chain and civil society from around the world. (RTRS, 2014g) (Lernoud et al, 2017)



## ROUNDTABLE ON SUSTAINABLE PALM OIL (RSPO)

[www.rspo.org](http://www.rspo.org)

RSPO aims to transform markets to make sustainable palm oil the norm. Founded in 2004, the not-for-profit unites stakeholders from different sectors of the palm oil industry to develop and implement global standards for sustainable palm oil. Groups include oil palm producers, processors or traders; consumer goods manufacturers; retailers; banks and investors; and environmental and social non-governmental organisations. (RSPO, 2018) (Lernoud et al, 2017)

## SKYLARK (VELDLEEUWERIK)

[www.veldleeuwerik.nl](http://www.veldleeuwerik.nl)

Skylark (or Veldleeuwerik in Dutch) aims to realize future-proof and healthy food production that takes a responsible approach to nature, soil, air, water and habitat. The organisation grew from an initiative started by Heineken in 2002, while the Skylark foundation was established in 2006. (Veldleeuwerik, n.d. b)

## SUSTAINABLE RICE PLATFORM (SRP)

[www.sustainablerice.org](http://www.sustainablerice.org)

SRP is a multi-stakeholder platform established in December 2011. It is co-convened by the UN Environment and the International Rice Research Institute (IRRI) to promote resource efficiency and sustainability in the global rice sector through an alliance that links research, production, policy making, trade and consumption. (SRP, n.d.)

## UTZ

[www.utz.org](http://www.utz.org)

UTZ is a multi-stakeholder initiative founded in 2002. It is the largest programme for coffee and cocoa certification. UTZ also offers certification schemes for commodities including (herbal) tea, rooibos and hazelnuts. Its mission is to create a world where sustainable farming is the norm. In 2018, Rainforest Alliance merged with UTZ. The two standards will be run separately until the publication of a single new standard in 2019. (UTZ, 2017a) (Lernoud et al, 2017) (Newsom & Milder, 2018)

## References

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Aidenvironment. (2016). Evaluation of UTZ in the Indonesian cocoa sector. Amsterdam, Netherlands: Aidenvironment. Retrieved from <https://www.utz.org/wp-content/uploads/2016/04/Evaluation-of-UTZ-in-the-indonesian-cocoa-sector.pdf>

Azhar, B., Saadun, N., Puan, C. L., Kamarudin, N., Aziz, N., Nurhidayu, S., & Fischer, J. (2015). Promoting landscape heterogeneity to improve the biodiversity benefits of certified palm oil production: Evidence from Peninsular Malaysia. *Global Ecology and Conservation*, 3. Retrieved from <http://www.sciencedirect.com/science/article/pii/S2351989415000232>

Better Rice Initiative. (2017, June). Contribute to better rice production and nutrition in South East Asia. Better Rice Initiative Asia - Monthly Update. Retrieved September 2017, from <http://www.better-rice-initiative-asia.org/admin/upload/resources/17-06-2017-1497677591.pdf>

Blackman, A., Leonard, G., & Rivera Planter, M. (2015). Does eco-certification stem tropical deforestation? Forest Stewardship Council certification in Mexico. Washington DC, U.S.: Resources for the Future. Retrieved from <http://www.rff.org/files/document/file/RFF-DP-15-36.pdf>

Blackmore, E., Norbury, H., Mohammed, E. Y., Bartolini Cavicchi, S., & Wakeford, R. (2015). What's the catch? Lessons from and prospects for Marine Stewardship Council certification in developing countries. Retrieved September 2017, from IIED: <http://pubs.iied.org/pdfs/16596IIED.pdf>

Bonsucro. (n.d.) About Bonsucro. Retrieved from <http://www.bonsucro.com/what-is-bonsucro/>

Bonsucro. (2016). Production Standard V4.2. London, U.K.: Bonsucro. Retrieved from <http://www.bonsucro.com/wp-content/uploads/2017/04/Bonsucro-PS-STD-English-2.pdf>

Bonsucro. (2017). Outcome Report. U.K.: Bonsucro. Retrieved from [http://www.bonsucro.com/wp-content/uploads/2017/01/Bonsucro-Outcome-Report-2017\\_Final.pdf](http://www.bonsucro.com/wp-content/uploads/2017/01/Bonsucro-Outcome-Report-2017_Final.pdf)

Brandi, C., Cabani, T., Hosang, C., Schirmbeck, S., Westermann, L., & Weise, H. (2013). Sustainability certification in the Indonesian palm oil sector. Benefits and challenges for smallholders. Bonn, Germany: German Development Institute. Retrieved from [https://www.die-gdi.de/uploads/media/Studies\\_74.pdf](https://www.die-gdi.de/uploads/media/Studies_74.pdf)

Breukink, G., Levin, J., & Mo, K. (2015). Profitability and sustainability in responsible forestry. Economic impacts of FSC certification on forest operators. WWF. Retrieved from [http://d2ouvy59p0dg6k.cloudfront.net/downloads/profitability\\_and\\_sustainability\\_in\\_responsible\\_forestry\\_main\\_report\\_final.pdf](http://d2ouvy59p0dg6k.cloudfront.net/downloads/profitability_and_sustainability_in_responsible_forestry_main_report_final.pdf)

BSD. (2016). Effects of UTZ certification according to coffee farmers in Brazil. São Paulo, Brazil: Consortium BSD Consulting and Ibi Été Consultoria Ltda. Retrieved from [https://utz.org/wp-content/themes/utz/download-attachment.php?post\\_id=4235](https://utz.org/wp-content/themes/utz/download-attachment.php?post_id=4235)

Burivalova, Z., Hua, F., Koh, L. P., Garcia, C., & Putz, F. (2016). A critical comparison of conventional, certified, and community management of tropical forests for timber in terms of environmental, economic, and social variables. *Conservation Letters*, 10(1). Retrieved from <http://onlinelibrary.wiley.com/doi/10.1111/conl.12244/pdf>

Cameron, B. (2017). A step toward supply chain sustainability: The Round Table on Responsible Soy in Brazil, 2005-2017. *Innovations for Successful Societies*. Retried from [https://successfultsocieties.princeton.edu/sites/successfultsocieties/files/BC\\_Certification\\_Brazil\\_Soy\\_Formatted\\_17.8.17\\_3.pdf](https://successfultsocieties.princeton.edu/sites/successfultsocieties/files/BC_Certification_Brazil_Soy_Formatted_17.8.17_3.pdf)

Cattau, M., Marlier, M. E., & DeFries, R. (2016). Effectiveness of Roundtable on Sustainable Palm Oil (RSPO) for reducing fires on oil palm concessions in Indonesia from 2012 to 2015. *Environmental Research Letters*, 11(10). Retrieved from <http://iopscience.iop.org/article/10.1088/1748-9326/11/10/105007/pdf>

Cerutti, P. et al. (2014). Social impacts of the Forest Stewardship Council certification: An assessment in the Congo basin. *Occasional Paper 103*. Retrieved September 2017, from CIFOR: [https://c402277.ssl.cf1.rackcdn.com/publications/674/files/original/CIFOR\\_FSC\\_Social\\_Impact\\_Study\\_-\\_Full\\_Report.pdf?1396829697](https://c402277.ssl.cf1.rackcdn.com/publications/674/files/original/CIFOR_FSC_Social_Impact_Study_-_Full_Report.pdf?1396829697)

Cerutti, P., Lescuyer, G., Tacconi, L., Eba'a Atyi, R., Essiane, E., Nasi, R., Tabi Ekebil, P. P., & Tsanga, R. (2016). Social impacts of the Forest Stewardship Council certification in the Congo basin. *International Forestry Review*, 18(1). Retrieved from [http://www.cifor.org/publications/pdf\\_files/articles/ACerutti1601.pdf](http://www.cifor.org/publications/pdf_files/articles/ACerutti1601.pdf)



- CEVAL. (2009). Summary of results Fairtrade impact summary. Saarbrücken, Germany: TransFair Germany & Max Havelaar Foundation Switzerland. Retrieved from [https://www.fairtrade.net/fileadmin/user\\_upload/content/2009/resources/Summary\\_of\\_Results\\_Fairtrade\\_Impact\\_Study.pdf](https://www.fairtrade.net/fileadmin/user_upload/content/2009/resources/Summary_of_Results_Fairtrade_Impact_Study.pdf)
- Chiputwa, B., Spielman, D. J., & Qaim, M. (2015). Food standards, certification, and poverty among coffee farmers in Uganda. *World Development*, 66. Retrieved from: <https://www.sciencedirect.com/science/article/pii/S0305750X1400271X>
- Colchester, M. (2016). Do commodity certification systems uphold indigenous people's rights? Lessons from the Roundtable on Sustainable Palm Oil and Forest Stewardship Council. In P. e. Castka, *Certification and Biodiversity - How Voluntary Certification Standards impact biodiversity and human livelihoods* (pp. 150-165). Gland, Switzerland: CEESP and IUCN. Retrieved from [https://www.iucn.org/sites/dev/files/policy\\_matters\\_21\\_chapter\\_10\\_do\\_commodity\\_certification\\_systems\\_uphold\\_indigenous\\_peoples\\_rights\\_lessons\\_from\\_the\\_roundtable\\_on\\_sustainable\\_palm\\_oil\\_and\\_forest\\_stewardship\\_council.pdf](https://www.iucn.org/sites/dev/files/policy_matters_21_chapter_10_do_commodity_certification_systems_uphold_indigenous_peoples_rights_lessons_from_the_roundtable_on_sustainable_palm_oil_and_forest_stewardship_council.pdf)
- Colen, L., & Maertens, M. (2011). Private standards and employment insecurity: Global GAP in the Senegalese horticulture export sector. Zurich, Switzerland: EAAE. Retrieved from [http://ageconsearch.umn.edu/bitstream/114286/2/Colen\\_Liesbeth\\_666.pdf](http://ageconsearch.umn.edu/bitstream/114286/2/Colen_Liesbeth_666.pdf)
- COSA. (2013). The COSA measuring sustainability report: coffee and cocoa in 12 countries. Philadelphia, PA: The Committee on Sustainability Assessment. Retrieved from <https://thecosa.org/wp-content/uploads/2014/01/The-COSA-Measuring-Sustainability-Report.pdf>
- Cressey, D. (2012). Seafood labelling under fire. *Nature. News*. Retrieved from <https://www.nature.com/news/seafood-labelling-under-fire-1.10626>
- De Schryver, A., Guignard, C., Rossi, V., & Humbert, S. (2012). Comparative life cycle assessment of certified and non-certified wood. Final Report. Quantis. Retrieved from [https://www.quantis-intl.com/pdf/PEFC\\_Certified%20and%20non-certified%20wood\\_final%20report\\_v1.2.pdf](https://www.quantis-intl.com/pdf/PEFC_Certified%20and%20non-certified%20wood_final%20report_v1.2.pdf)
- EISA. (2016). Annual Report 2015. Retrieved from <http://www.gabonatermesztok.hu/documents/EISA-AR-2015-final.pdf>
- Fairtrade. (2015). Scope and benefits of Fairtrade. Seventh edition 2015. Retrieved from [https://www.fairtrade.net/fileadmin/user\\_upload/content/2009/resources/2015-Monitoring\\_and\\_Impact\\_Report\\_web.pdf](https://www.fairtrade.net/fileadmin/user_upload/content/2009/resources/2015-Monitoring_and_Impact_Report_web.pdf)
- Fairtrade. (2016). Monitoring the scope and benefits of Fairtrade. Retrieved from <https://monitoringreport2016.fairtrade.net/en/introduction/>
- Fairtrade. (2017a). Aims of Fairtrade Standards. Retrieved from Fairtrade: <https://www.fairtrade.net/standards/aims-of-fairtrade-standards.html#c3947>
- Fairtrade. (2017b). Standards for Small Producer Organizations. Retrieved from Fairtrade: <https://www.fairtrade.net/standards/our-standards/small-producer-standards.html>
- Fairtrade. (2017c). Creating innovations, scaling up impact. Annual report 2016-2017. Retrieved from <https://annualreport16-17.fairtrade.net/en/>
- Fairtrade. (2018). About. Fairtrade. Retrieved from <https://www.fairtrade.net/about-fairtrade.html>
- FAO. (2014). Impact of international voluntary standards on smallholders. Rome: FAO. Retrieved from <http://www.fao.org/3/a-i3682e.pdf>
- Food Standards Agency. (2012, September 19). Food certification and assurance schemes. Retrieved October 2017, from <https://www.gov.uk/guidance/kitemarks-in-farmed-meat-and-produce>
- FOS. (2012). Friend of the Sea benchmarks scoring and recognition. FOS. Retrieved from [http://www.friendofthesea.org/public/news/fos%20benchmarks%20and%20recognitions\\_0.pdf](http://www.friendofthesea.org/public/news/fos%20benchmarks%20and%20recognitions_0.pdf)
- FOS. (2017a). FOS - Wild Sustainable Fishing Requirements v3.1. Retrieved from [http://www.friendofthesea.org/public/catalogo/FOS%20Wild%20standard%20V3.1\\_en.pdf](http://www.friendofthesea.org/public/catalogo/FOS%20Wild%20standard%20V3.1_en.pdf)
- FOS. (2017b). Annual report 2016. Milan, Italy: Friend of the Sea. Retrieved from [http://www.friendofthesea.org/public/page/fos-foe\\_annual\\_report\\_2016\\_web.pdf](http://www.friendofthesea.org/public/page/fos-foe_annual_report_2016_web.pdf)
- FOS. (2017c). Scheme Scope and Objectives. Retrieved from <http://www.friendofthesea.org/public/page/t1%20scheme%20scope%20and%20objectives%20fos.pdf>

- FOS. (2017d). Who we are. Retrieved from Friend of the Sea: <http://www.friendofthesea.org/about-us.asp?ID=9>
- Froese, R., & Proelss, A. (2012). Evaluation and legal assessment of certified seafood. *Marine Policy*, 36(6), 1284-1289. Retrieved from [http://www.fishbase.de/rfroese/MS\\_C\\_MarPol2012.pdf](http://www.fishbase.de/rfroese/MS_C_MarPol2012.pdf)
- FSA. (2017). Benchmarking results and planning overview. FSA Tool. Retrieved October 2017 from [http://www.fsatool.com/fileadmin/user\\_upload/FSA\\_Crops\\_Benchmarking\\_Results\\_\\_\\_Planning\\_15-10-17\\_\\_\\_Locked\\_.xlsx](http://www.fsatool.com/fileadmin/user_upload/FSA_Crops_Benchmarking_Results___Planning_15-10-17___Locked_.xlsx)
- FSC. (n.d. a) Facts & Figures. May 2018. Retrieved from <https://ic.fsc.org/en/facts-and-figures>
- FSC. (n.d. b) What is FSC. Retrieved May 2018 from <https://ic.fsc.org/en/what-is-fsc>
- FSC. (2005). FSC Policy. Scope of application of the FSC Principles and Criteria for Forest Stewardship. Retrieved from <https://ic.fsc.org/en/document-center/id/32>
- FSC. (2014a). FSC Monitoring & Evaluation Report. Context, figures, effects and impacts. Public Report 2013 (revised version March 2014). Retrieved from <http://www.standardsimpacts.org/sites/default/files/FSC%20M&E%20context%20figures%20impacts%202013.pdf>
- FSC. (2014b). FSC in Suriname: ecological benefits. Retrieved January 2018, from <http://www.fsc.nl/nl-nl/nieuws/id/1737>
- FSC. (2015a). FSC International Standard. FSC Principles and Criteria for Forest Management v5.2. Bonn, Germany: FSC. Retrieved from <https://ic.fsc.org/en/document-center/id/59>
- FSC. (2015b). FSC forest management in Sweden: social aspects. Retrieved January 2018, from <http://www.fsc.nl/nl-nl/nieuws/id/1722>
- FSC. (2017a). Market info pack 2016-2017. FSC. Retrieved from [https://www.google.co.uk/url?sa=t&rct=j&q=&esrc=s&source=web&cd=7&ved=0ahUKEwjmqe\\_S7P7VAhVSLFAKHU7gCf8QFghLMAY&url=https%3A%2F%2Fic.fsc.org%2Ffile-download.fsc-market-info-pack-2016-2017.a-1728.pdf&usq=AFQjCNHfjOgH0me4vOmHAaDNEqDx7aOxqA](https://www.google.co.uk/url?sa=t&rct=j&q=&esrc=s&source=web&cd=7&ved=0ahUKEwjmqe_S7P7VAhVSLFAKHU7gCf8QFghLMAY&url=https%3A%2F%2Fic.fsc.org%2Ffile-download.fsc-market-info-pack-2016-2017.a-1728.pdf&usq=AFQjCNHfjOgH0me4vOmHAaDNEqDx7aOxqA)
- FSC. (2017b). The ten FSC Principles. Retrieved from Forest Stewardship Council from <https://ic.fsc.org/en/what-is-fsc-certification/principles-criteria/fscs-10-principles>
- García, C., García, J., Ochoa, G., Mora, & Castellanos, J. (2014). Impact evaluation of UTZ certified coffee program in Colombia (2008-2012). Manizales, Colombia: CRECE. Retrieved from [https://utz.org/wp-content/themes/utz/download-attachment.php?post\\_id=4241](https://utz.org/wp-content/themes/utz/download-attachment.php?post_id=4241)
- Garrett, R. D. (2016). Assessing the potential additionality of certification by the Round table on Responsible Soybeans and the Roundtable on Sustainable Palm Oil. *Environmental Research Letters*, 11. Retrieved from <http://iopscience.iop.org/article/10.1088/1748-9326/11/4/045003/pdf>
- GlobalG.A.P. (n.d. a). Who we are. Retrieved from [https://www.globalgap.org/uk\\_en/who-we-are/about-us/](https://www.globalgap.org/uk_en/who-we-are/about-us/)
- GlobalG.A.P. (n.d. b). History. Retrieved from [https://www.globalgap.org/uk\\_en/who-we-are/about-us/history/index.html](https://www.globalgap.org/uk_en/who-we-are/about-us/history/index.html)
- GlobalG.A.P. (2017a). Integrated Farm Assurance - Crops base - Fruit and Vegetables. Control Points and Compliance Criteria. English version 5.1. Retrieved from [https://www.globalgap.org/.content/.galleries/documents/170630\\_GG\\_IFA\\_CPCC\\_FV\\_V5\\_1\\_en.pdf](https://www.globalgap.org/.content/.galleries/documents/170630_GG_IFA_CPCC_FV_V5_1_en.pdf)
- GlobalG.A.P. (2017b). Integrated Farm Assurance - Crops base - Flowers and Ornamentals. Control Points and Compliance Criteria. English version 5.1. Retrieved from [https://www.globalgap.org/.content/.galleries/documents/170630\\_GG\\_IFA\\_CPCC\\_FO\\_V5\\_1\\_en.pdf](https://www.globalgap.org/.content/.galleries/documents/170630_GG_IFA_CPCC_FO_V5_1_en.pdf)
- GlobalG.A.P. (2017c). Integrated Farm Assurance - Crops base - Combinable Crops. Control Points and Compliance Criteria. English version 5.1. Retrieved from [https://www.globalgap.org/.content/.galleries/documents/170630\\_GG\\_IFA\\_CPCC\\_CC\\_V5\\_1\\_en.pdf](https://www.globalgap.org/.content/.galleries/documents/170630_GG_IFA_CPCC_CC_V5_1_en.pdf)
- GlobalG.A.P. (2017d). Integrated Farm Assurance - Crops base - Hop. Control Points and Compliance Criteria. English version 5.1. Retrieved from [https://www.globalgap.org/.content/.galleries/documents/170922\\_GG\\_IFA\\_CPCC\\_HO\\_V5\\_1\\_en.pdf](https://www.globalgap.org/.content/.galleries/documents/170922_GG_IFA_CPCC_HO_V5_1_en.pdf)
- GlobalG.A.P. (2017e). Integrated Farm Assurance - Crops base - Tea. Control Points and Compliance Criteria. English version 5.1. Retrieved from [https://www.globalgap.org/.content/.galleries/documents/170630\\_GG\\_IFA\\_CPCC\\_TE\\_V5\\_1\\_en.pdf](https://www.globalgap.org/.content/.galleries/documents/170630_GG_IFA_CPCC_TE_V5_1_en.pdf)



- GlobalG.A.P. (2017f). Integrity assessment 2016. Retrieved from [https://www.globalgap.org/export/sites/default/.content/.galleries/Documents\\_for\\_Mailings/170725\\_Integrity\\_Report.pdf](https://www.globalgap.org/export/sites/default/.content/.galleries/Documents_for_Mailings/170725_Integrity_Report.pdf)
- GMWatch, Friends of the Earth, Corporate Europe Observatory. (2011). Certified responsible? Critical assessment of the Round Table on Responsible Soy. Retrieved September 2017, from Toxic Soy: [http://www.toxicsoy.org/toxicsoy/RTRS\\_files/RTRS%20backgrounder%20v2.pdf](http://www.toxicsoy.org/toxicsoy/RTRS_files/RTRS%20backgrounder%20v2.pdf)
- Haagsma, B., Vredevelde, T., Yoosuf, A., & Maurice, D. (2016). External Evaluation of the UTZ Tea Programme in Sri Lanka. Sustainable Advisory Services, the Netherlands and Nucleus Foundation, Sri Lanka. Retrieved from <https://www.utz.org/wp-content/uploads/2016/07/External-evaluation-of-the-UTZ-tea-program-in-Sri-Lanka-2016.pdf>
- Henson, S., & Humphrey, J. (2009). The impacts of private food safety standards on the food chain and on public standard-setting processes. Rome, Italy: FAO and WHO. Retrieved from [https://www.fsis.usda.gov/shared/PDF/Codex\\_al32\\_09Dbe.pdf](https://www.fsis.usda.gov/shared/PDF/Codex_al32_09Dbe.pdf)
- Hidayat, N. K., Glasbergen, P., Offermans, A. (2015). Sustainability certification and palm oil smallholders' livelihood: A comparison between scheme smallholders and independent smallholders in Indonesia. International Food and Agribusiness Management Review, 18(3). Retrieved from <https://www.ifama.org/resources/Documents/v18i3/Hidayat-Glasbergen-Offermans.pdf>
- House of Commons. (2011). Environment, Food and Rural Affairs Committee - Tenth Report. Retrieved September 2017, from <https://publications.parliament.uk/pa/cm201012/cmselect/cmenvfru/1266/126605.htm>
- IFAD. (2013). Smallholders, food security and the environment. Rome, Italy: International Fund for Agricultural Development. Retrieved from <https://www.ifad.org/documents/10180/666cac24-14b6-43c2-876d-9c2d1f01d5dd>
- IFC. (2017). IFC Partners with Loc Troi Group to Promote Sustainable Rice Production in Vietnam. Retrieved September 2017, from <https://ifcextapps.ifc.org/IFCExt/Pressroom/IFCPressRoom.nsf/0/A654DC813708972085258082000D745F>
- Ingram, V., Waarts, Y., Ge, L., Vugt, S. v., Wegner, L., Puister-Jansen, L., Ruf, F., Tanoh, R. (2014). Impact of UTZ certification of cocoa in Ivory Coast. Assessment framework and baseline. LEI Wageningen UR. Retrieved from <http://library.wur.nl/WebQuery/wurpubs/fulltext/307584>
- ISEAL. (2017). Evaluating the impact of sustainability standards. Lessons learnt on research design and methods from three impact evaluations. Retrieved from [https://community.isealliance.org/sites/default/files/DIPI%20Methodological%20Learnings%20Final%20April%202017%20for%20print\\_0.pdf](https://community.isealliance.org/sites/default/files/DIPI%20Methodological%20Learnings%20Final%20April%202017%20for%20print_0.pdf)
- ITC. (2017). Fairtrade International - Small Producers Organizations. Last updated: April 2017. Standards Map Retrieved from <http://www.standardsmap.org/quick-scan?standards=71&shortlist=71&product=Wine&origin=Any&market=Any&cbi=87:87:885>
- ITC. (2018). Standards Map. Retrieved in May 2018 from <https://sustainabilitymap.org/standard-identify>
- Kersting, S., & Wollni, M. (2011). Public-private partnerships and GLOBALGAP standard adoption: evidence from small-scale fruit and vegetable farmers in Thailand. Zurich, Switzerland: EAAE. Retrieved from [http://ageconsearch.umn.edu/bitstream/114761/2/Kersting\\_Sarah\\_277.pdf](http://ageconsearch.umn.edu/bitstream/114761/2/Kersting_Sarah_277.pdf)
- KPMG. (2013, May). Sustainable insight. A roadmap to responsible soy. Approaches to increase certification and reduce risk. Retrieved September 2017, from IDH: <https://www.idhsustainabletrade.com/uploaded/2016/11/KPMG-Roadmap-to-responsible-soy-2013.pdf>
- Kuneman, G. (2017). De impact van Veldleeuwierik; 15 jaar verder. CLM. Retrieved from <https://www.clm.nl/uploads/pagina-pdfs/Presentatie%20resultaten%20Veldleeuwierik.pdf>
- LEAF. (n.d.) What we do. Retrieved from <https://leafuk.org/about-leaf/what-we-do>
- LEAF. (2012). 21 Years of Linking Environment and Farming. Past reflections, future directions. Retrieved from [https://archive.leafuk.org/eblock/services/resources.ashx/000/685/575/21\\_Year\\_Book\\_FINAL\\_small.pdf](https://archive.leafuk.org/eblock/services/resources.ashx/000/685/575/21_Year_Book_FINAL_small.pdf)
- LEAF. (2014). LEAF - Inspiring and enabling sustainable farming. A review of our global impacts 2014. LEAF. Retrieved from <https://s3-eu-west-1.amazonaws.com/wbd-whiteroom-leaf-website-production/annual-reports/LEAF-Sustainability-LOW-RES-FINAL.pdf>

- LEAF. (2016a). LEAF Marque Standard Version 14.1. Stoneleigh Park, U.K.: LEAF. Retrieved from [https://s3-eu-west-1.amazonaws.com/wbd-whiteroom-leaf-website-production/LEAF\\_Marque\\_Standard\\_v14.1\\_FINAL.pdf](https://s3-eu-west-1.amazonaws.com/wbd-whiteroom-leaf-website-production/LEAF_Marque_Standard_v14.1_FINAL.pdf)
- LEAF. (2016b). Delivering more sustainable food and Farming. LEAF's global impacts report 2016. Stoneleigh Park, Warwickshire: LEAF. Retrieved from [https://archive.leafuk.org/eblock/services/resources.ashx/001/276/734/Global\\_Impacts\\_Report\\_2016\\_Web.pdf](https://archive.leafuk.org/eblock/services/resources.ashx/001/276/734/Global_Impacts_Report_2016_Web.pdf)
- LEAF. (2017). Delivering more sustainable food and farming. LEAF's global impacts report 2017. Stoneleigh Park, Warwickshire: LEAF. Retrieved from [https://s3-eu-west-1.amazonaws.com/wbd-whiteroom-leaf-website-production/annual-reports/LEAF\\_Global\\_Impacts\\_Report\\_2017\\_FINAL\\_Low\\_Resolution.pdf](https://s3-eu-west-1.amazonaws.com/wbd-whiteroom-leaf-website-production/annual-reports/LEAF_Global_Impacts_Report_2017_FINAL_Low_Resolution.pdf)
- LEI Wageningen UR. (2016). Baseline study: Fairtrade certification in the banana hired labour sector. U.K.: Fairtrade International. Retrieved from <http://www.fairtrade.org.uk/~media/FairtradeUK/What%20is%20Fairtrade/Documents/Policy%20and%20Research%20documents/Impact%20reports/LEI%20banana%20research%20summary%20FINAL.pdf>
- Lernoud, J., Potts, J., Sampson, G., Garibay, S., Lynch, M., Voora, V., Willer, H., & Wozniak, J. (2017, June). The State of Sustainable Markets 2017. Statistics and emerging trends. Geneva: ITC, IISD, FiBL. Retrieved September 2017, from [http://www.intracen.org/uploadedFiles/intracenorg/Content/Publications/State-of-Sustainable-Market-2017\\_web.pdf](http://www.intracen.org/uploadedFiles/intracenorg/Content/Publications/State-of-Sustainable-Market-2017_web.pdf)
- Levett-Therivel Sustainability Consultants. (2005). Sustainability Implications of the Little Red Tractor Scheme. Sustainable Development Commission. Retrieved from <http://www.sd-commission.org.uk/data/files/publications/050119%20Sustainability%20implications%20of%20the%20Little%20Red%20Tractor%20scheme.pdf>
- Luoma, P., Pitkamaki, A., & Raivio, T. (2015). The impacts of PEFC certification 2000-2014. Gaia Group Oy. Retrieved from [http://pefc.fi/wp-content/uploads/2017/02/PEFC\\_Impact\\_Study.pdf](http://pefc.fi/wp-content/uploads/2017/02/PEFC_Impact_Study.pdf)
- Mars. (2017). Mars Food announces industry first step on mission to reduce impact and improve sustainability of rice. Retrieved April 2018, from <http://www.mars.com/uk/en/press-center/newsroom/mars-food-announces-industry-first-step-on-mission-to-reduce-impact-and-improve-sustainability-of-rice>
- Max Havelaar Foundation. (2014). Assessing the benefits of Fairtrade orange juice for Brazilian small-scale farmers. Utrecht: Fairtrade & Max Havelaar. Retrieved from [https://www.fairtrade.net/fileadmin/user\\_upload/content/2009/resources/140930-OrangeJuice-Impact-Study-Brazil-Response-Fairtrade-MHNL-CH-final.pdf](https://www.fairtrade.net/fileadmin/user_upload/content/2009/resources/140930-OrangeJuice-Impact-Study-Brazil-Response-Fairtrade-MHNL-CH-final.pdf)
- Milder, J. C., & Newsom, D. (2015). SAN/Rainforest Alliance Impacts Report. evaluating the effects of the SAN/Rainforest Alliance certification system on farms, people, and the environment. USA and Mexico: Rainforest Alliance and Sustainable Agriculture Network. Retrieved from [http://www.san.ag/biblioteca/docs/SAN\\_RA\\_Impacts\\_Report.pdf](http://www.san.ag/biblioteca/docs/SAN_RA_Impacts_Report.pdf)
- Miteva, D. A., Loucks, C. J., & Pattanayak, S. K. (2015). Social and environmental impacts of forest management certification in Indonesia. PLoS ONE 10(7). Retrieved from <http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0129675#sec001>
- Mitiku, F., de Mey, Y., Nyssen, J., & Maertens, M. (2017). Do private sustainability standards contribute to income growth and poverty alleviation? A comparison of different coffee certification schemes in Ethiopia. Sustainability, 9(2), 246. Retrieved from <http://www.mdpi.com/2071-1050/9/2/246/html>
- MRAG. (2011). Researching the environmental impacts of the MSC certification programme. Retrieved from <https://www.msc.org/documents/environmental-benefits/measuring-environmental-impacts-report-2011/environmental-impacts-of-the-msc-programme-full-report>
- MSC. (n.d.). What is the MSC? Retrieved from <https://20.msc.org/about-the-msc/what-is-the-msc>
- MSC. (2009). Net benefits. The first ten years of MSC certified fisheries. Retrieved from <https://www.msc.org/documents/fisheries-factsheets/net-benefits-report/Net-Benefits-report.pdf>
- MSC. (2014). MSC Fisheries Standard and Guidance v2.0. London, U.K.: Marine Stewardship Council. Retrieved from <https://www.msc.org/documents/scheme-documents/fisheries-certification-scheme-documents/fisheries-standard-version-2.0>
- MSC. (2016). Global Impacts Report 2016. Retrieved from <https://www.msc.org/documents/environmental-benefits/global-impacts/msc-global-impacts-report-2016>



MSC. (2017). Global impacts report 2017. Retrieved September 2017, from Marine Stewardship Council:  
<https://www.msc.org/documents/environmental-benefits/global-impacts/msc-global-impacts-report-2017>

Nelson, V., Haggard, J., Martin, A., Donovan, J., Borasino, E., Hasyium, W., Mhando, N., Senga, M., Mgumia, J., Quintanar Guandarrama, E., Kendar, Z., Valdez, J., & Morales, D. (2016). Fairtrade coffee: A study to assess the impact of Fairtrade for coffee smallholders and producer organisations in Indonesia, Mexico, Peru, and Tanzania. Chatham, UK: Natural Resources Institute, University of Greenwich. Retrieved from  
[https://www.fairtrade.net/fileadmin/user\\_upload/content/2009/resources/1611\\_NRI\\_Coffee\\_Evaluation-final\\_report.pdf](https://www.fairtrade.net/fileadmin/user_upload/content/2009/resources/1611_NRI_Coffee_Evaluation-final_report.pdf)

Nelson, V., & Smith, S. (2011). Fairtrade Cotton: Assessing impact in Mali, Senegal, Cameroon and India. London, U.K.: University of Greenwich & Institute of Development Studies. Retrieved from  
[https://www.fairtrade.net/fileadmin/user\\_upload/content/2009/resources/2011\\_Fairtrade\\_Cotton\\_Assessing\\_Impact\\_in\\_Mali\\_Senegal\\_Cameroon\\_and\\_India\\_summary.pdf](https://www.fairtrade.net/fileadmin/user_upload/content/2009/resources/2011_Fairtrade_Cotton_Assessing_Impact_in_Mali_Senegal_Cameroon_and_India_summary.pdf)

Newsom, D., Milder, J. C., & Bare, M. (2017). Toward a sustainable cocoa sector. Effects of SAN/Rainforest Alliance certification on farmer livelihoods and the environment. New York, U.S.: Rainforest Alliance. Retrieved from <https://www.rainforest-alliance.org/sites/default/files/2017-04/toward-sustainable-cocoa-sector.pdf>

Newsom, D. & Milder, J. (2018). 2018 Rainforest Alliance Impacts Report. Retrieved from [https://www.rainforest-alliance.org/sites/default/files/2018-03/RA\\_Impacts\\_2018.pdf](https://www.rainforest-alliance.org/sites/default/files/2018-03/RA_Impacts_2018.pdf)

Norden, A., Coria, J., & Villalobos, L. (2016). Evaluation of the Impact of Forest Certification on Environmental Outcomes in Sweden. Gothenburg, Sweden: University of Gothenburg. Retrieved from  
[https://gupea.ub.gu.se/bitstream/2077/44417/1/gupea\\_2077\\_44417\\_1.pdf](https://gupea.ub.gu.se/bitstream/2077/44417/1/gupea_2077_44417_1.pdf)

Oteino, P. S., Ogotu, C. A., Mburu, J., Nyikal, R. A. (2017). Effect of Global-GAP policy on smallholder French beans farmers' climate change adaptation strategies in Kenya. *African Journal of Agricultural Research*, 12(8), 577-587. Retrieved from <http://www.academicjournals.org/journal/AJAR/article-full-text/397237362854>

Oya, C., Schaefer, F., Skolidou, D., McCosker, C., & Langer, L. (2017). Effects of certification schemes for agricultural production on socio-economic outcomes in low- and middle-income countries: A systematic review. *Campbell Systematic Review*. Retrieved from [https://www.campbellcollaboration.org/library/download/882\\_65a1f7ff3efa860a5ae4cb934c902dad.html](https://www.campbellcollaboration.org/library/download/882_65a1f7ff3efa860a5ae4cb934c902dad.html)

Panlasigui, S., Rico-Straffon, J., Swenson, J., Loucks, C. J., & Pfaff, A. (2015). Early days in the certification of logging concessions: Estimating FSC's deforestation impact in Peru and Cameroon. Durham, North Carolina, U.S.: Duke Nicholas Institute for Environmental Policy Solutions and Duke University Energy Initiative. Retrieved from  
<http://sites.nicholasinstitute.duke.edu/environmentaleconomics/files/2015/08/WP-EE-15-05-FULL-PDF.pdf>

PEFC. (2010). PEFC International Standard. Sustainable Forest Management - Requirement. Geneva, Switzerland: PEFC Council. Retrieved from [https://www.pefc.org/images/documents/PEFC\\_ST\\_1003\\_2010\\_SFM\\_Requirements\\_2010\\_11\\_26.pdf](https://www.pefc.org/images/documents/PEFC_ST_1003_2010_SFM_Requirements_2010_11_26.pdf)

PEFC. (2016). Delivering impacts in the forest and beyond. Retrieved from  
[https://www.pefc.org/images/documents/brochures/Delivering\\_Impacts\\_in\\_the\\_Forest\\_and\\_Beyond\\_2016.pdf](https://www.pefc.org/images/documents/brochures/Delivering_Impacts_in_the_Forest_and_Beyond_2016.pdf)

PEFC. (2017, September). PEFC Global statistics: SFM & CoC Certification. Data: Sep 2017. Retrieved from  
[https://www.pefc.org/images/documents/PEFC\\_Global\\_Certificates\\_-\\_Sep\\_2017.pdf](https://www.pefc.org/images/documents/PEFC_Global_Certificates_-_Sep_2017.pdf)

PEFC. (2018). About PEFC. Retrieved from <https://www.pefc.org/about-pefc/who-we-are>

Pérez-Ramírez, M., Phillips, B., Lluch-Belda, D., & Lluch-Cota, S. (2012). Perspectives for implementing fisheries certification in developing countries. *Marine Policy*, 36(1), 297-302. Retrieved from  
[https://espace.curtin.edu.au/bitstream/handle/20.500.11937/25142/190940\\_190940.pdf?sequence=2&isAllowed=y](https://espace.curtin.edu.au/bitstream/handle/20.500.11937/25142/190940_190940.pdf?sequence=2&isAllowed=y)

Pérez-Ramírez, M., Castrejon, M., Gutierrez, N., & Defeo, O. (2015). The Marine Stewardship Council certification in Latin America and the Caribbean: A review of experiences, potentials and pitfalls. *Fisheries Research*. Retrieved from  
[https://www.researchgate.net/profile/Nicolas\\_Gutierrez6/publication/284914338\\_The\\_Marine\\_Stewardship\\_Council\\_certification\\_in\\_Latin\\_America\\_and\\_the\\_Caribbean\\_A\\_review\\_of\\_experiences\\_potentials\\_and\\_pitfalls/links/565d8a6b08ae1ef92982c129.pdf](https://www.researchgate.net/profile/Nicolas_Gutierrez6/publication/284914338_The_Marine_Stewardship_Council_certification_in_Latin_America_and_the_Caribbean_A_review_of_experiences_potentials_and_pitfalls/links/565d8a6b08ae1ef92982c129.pdf)

Potts, J., Lynch, M., Wilkings, A., Huppe, G., Cunningham, M., & Voora, V. (2014). The state of sustainability initiatives in review 2014. Standards and the green economy. Manitoba, Canada and London, UK: IISD and IIED. Retrieved from  
[https://www.iisd.org/pdf/2014/ssi\\_2014.pdf](https://www.iisd.org/pdf/2014/ssi_2014.pdf)

- Potts, J., Wilkings, A., Lynch, M., McFatrige, S. (2016). State of sustainability initiatives review: Standards and the blue economy. Winnipeg, Canada: IISD. Retrieved from <https://www.iisd.org/sites/default/files/publications/ssi-blue-economy-2016.pdf>
- Pound, B. (2013). Branching out: Fairtrade in Malawi. London, U.K.: Fairtrade. Retrieved from [https://www.fairtrade.net/fileadmin/user\\_upload/content/2009/resources/2013-04-Malawi-Fairtrade-Impact-FinalLR.pdf](https://www.fairtrade.net/fileadmin/user_upload/content/2009/resources/2013-04-Malawi-Fairtrade-Impact-FinalLR.pdf)
- Rainforest Alliance. (2017). Rainforest Alliance Sustainable Agriculture Standard. Version 1.2. Retrieved from [https://www.rainforest-alliance.org/business/sas/wp-content/uploads/2017/11/03\\_rainforest-alliance-sustainable-agriculture-standard\\_en.pdf](https://www.rainforest-alliance.org/business/sas/wp-content/uploads/2017/11/03_rainforest-alliance-sustainable-agriculture-standard_en.pdf)
- Rainforest Alliance. (2018). About. Retrieved from <https://www.rainforest-alliance.org/about>
- Red Tractor. (n.d.) FAQ. How many companies are currently allowed to use the mark on their food? Retrieved from <https://assurance.redtractor.org.uk/who-we-are/faq#5805>
- Red Tractor. (2015). Annual review. Red Tractor. Retrieved from <https://www.redtractor.org.uk/contentfiles/RedTractor-573.pdf>
- Red Tractor. (2017a). Beef & Lamb Standards v4.0. Red Tractor Assurance. Retrieved from [https://assurance.redtractor.org.uk/contentfiles/Farmers-6800.pdf?\\_=636343316823538543](https://assurance.redtractor.org.uk/contentfiles/Farmers-6800.pdf?_=636343316823538543)
- Red Tractor. (2017b). Benefits. Retrieved September 2017, from <https://assurance.redtractor.org.uk/standards/benefits>
- Red Tractor. (2017c). Combinable Crops and Sugar Beet Standards v4.0. Red Tractor Assurance. Retrieved from [https://assurance.redtractor.org.uk/contentfiles/Farmers-6799.pdf?\\_=636416940132804468](https://assurance.redtractor.org.uk/contentfiles/Farmers-6799.pdf?_=636416940132804468)
- Red Tractor. (2017d). Dairy Standards v4.0. Red Tractor Assurance. Retrieved from [https://assurance.redtractor.org.uk/contentfiles/Farmers-6802.pdf?\\_=636359680695407277](https://assurance.redtractor.org.uk/contentfiles/Farmers-6802.pdf?_=636359680695407277)
- Red Tractor. (2017e). Farm Standards. Retrieved September 2017, from <https://assurance.redtractor.org.uk/standards/search>
- Red Tractor. (2017f). Fresh Produce Standards v4.0. Red Tractor Assurance. Retrieved from [https://assurance.redtractor.org.uk/contentfiles/Farmers-6825.pdf?\\_=636359680070470179](https://assurance.redtractor.org.uk/contentfiles/Farmers-6825.pdf?_=636359680070470179)
- Red Tractor. (2017g). Pigs Standards v4.0. Red Tractor Assurance. Retrieved from [https://assurance.redtractor.org.uk/contentfiles/Farmers-6801.pdf?\\_=636359680512574955](https://assurance.redtractor.org.uk/contentfiles/Farmers-6801.pdf?_=636359680512574955)
- Red Tractor. (2017h). Welcome to Red Tractor. Retrieved October 2017, from <https://www.redtractor.org.uk/?src=landing>
- Red Tractor. (2018a). About us. Retrieved from <https://assurance.redtractor.org.uk/who-we-are>
- Red Tractor. (2018b). Who we are. Company mission. Retrieved from <https://assurance.redtractor.org.uk/who-we-are/company-mission>
- Red Tractor. (2018c). Who we are. History. Retrieved from <https://assurance.redtractor.org.uk/who-we-are/history>
- Romero, C., Guariguata, M., R., Putz, F. E., Sills, E. O., Lima, G. R., Papp, L., Voigtlaender, M., & Vidal, E. (2015). The context of natural forest management and FSC certification in Brazil. Bogor, Indonesia: CIFOR. Retrieved from [http://www.cifor.org/publications/pdf\\_files/OccPapers/OP-148.pdf](http://www.cifor.org/publications/pdf_files/OccPapers/OP-148.pdf)
- RSPO. (n.d.) Smallholders. Retrieved from <https://www.rspo.org/smallholders>
- RSPO. (2013). RSPO P&C for the Production of Sustainable Palm Oil (2013). RSPO. Retrieved from <http://www.rspo.org/key-documents/certification/rspo-principles-and-criteria>
- RSPO. (2016). Impact report. Retrieved from <http://www.rspo.org/publications/download/df716d24dd1ee80>
- RSPO. (2017). Impact report. Retrieved from <https://rspo.org/key-documents/impact-reports#>
- RSPO. (2018). About us. RSPO. Retrieved from <https://rspo.org/about>
- RTRS. (2014a). FrieslandCampina. Retrieved September 2017, from [http://www.responsiblesoy.org/wpdm-package/case-studies/?wpdm=2595&ind=t5-4yWyboIdjbOf-QOyaef8L8vwWlm-v1Px0E9KnmQ2D8vHqc0m0PJvLr4FMoolo0F9rLjQvHh1KTGd60\\_tw&lang=en](http://www.responsiblesoy.org/wpdm-package/case-studies/?wpdm=2595&ind=t5-4yWyboIdjbOf-QOyaef8L8vwWlm-v1Px0E9KnmQ2D8vHqc0m0PJvLr4FMoolo0F9rLjQvHh1KTGd60_tw&lang=en)

- RTRS. (2014b). India Soy Forum. Retrieved September 2017, from [http://www.responsiblesoy.org/wpdm-package/case-studies/?wpdmdl=2595&ind=YBevMuG49P2\\_SARbw6w3J7gK00Zy\\_TL\\_EMnA\\_P6Jb5CHOBD3Jos8800h7EtnmQrP&lang=en](http://www.responsiblesoy.org/wpdm-package/case-studies/?wpdmdl=2595&ind=YBevMuG49P2_SARbw6w3J7gK00Zy_TL_EMnA_P6Jb5CHOBD3Jos8800h7EtnmQrP&lang=en)
- RTRS. (2014c). Meet, share and learn about the impact of responsible soy. Retrieved September 2017, from <http://www.responsiblesoy.org/field-trip-2015/?lang=en>
- RTRS. (2014d). RTRS, BASF, and Amaggi do a study on the concrete benefits of soy certification. Retrieved September 2017, from <http://www.responsiblesoy.org/english-rtrs-basf-and-amaggi-do-a-study-on-the-concrete-benefits-of-soy-certification/?lang=en>
- RTRS. (2014e). The Dutch Foundation for Chain Transition Responsible Soy. Retrieved September 2017, from [http://www.responsiblesoy.org/wpdm-package/case-studies/?wpdmdl=2595&ind=ZPV50QeegGVKR3Mp7zv9lznWfAK6v\\_YNV8IARJNo-wz84vIDrAJ7ji2dK9sl3V08yQzdFvc5NNKOfN82TTj8IViCYMx2WwxdryqWY\\_wpyc&lang=en](http://www.responsiblesoy.org/wpdm-package/case-studies/?wpdmdl=2595&ind=ZPV50QeegGVKR3Mp7zv9lznWfAK6v_YNV8IARJNo-wz84vIDrAJ7ji2dK9sl3V08yQzdFvc5NNKOfN82TTj8IViCYMx2WwxdryqWY_wpyc&lang=en)
- RTRS. (2014f). Unilever. Retrieved September 2017, from [http://www.responsiblesoy.org/wpdm-package/case-studies/?wpdmdl=2595&ind=KxeGk1RrT61usu1phgPDR0tlpq5\\_DM8e6Z9VRBM9ui\\_Xboh5yQ\\_g0LOSG0iRhgjP&lang=en](http://www.responsiblesoy.org/wpdm-package/case-studies/?wpdmdl=2595&ind=KxeGk1RrT61usu1phgPDR0tlpq5_DM8e6Z9VRBM9ui_Xboh5yQ_g0LOSG0iRhgjP&lang=en)
- RTRS. (2014g). About us. Retrieved from <http://www.responsiblesoy.org/about-rtrs/about-us/?lang=en>
- RTRS. (2014h). Certified Volumes and Producers. RTRS. Retrieved April 2018 from <http://www.responsiblesoy.org/mercado/volumenes-y-productores-certificados/?lang=en>
- RTRS. (2014i). RTRS Credit Buys. RTRS. Retrieved April 2018 from <http://www.responsiblesoy.org/mercado/volumenes-y-productores-certificados/?lang=en>
- RTRS. (2015). The Impact of RTRS Responsible Soy. Retrieved from YouTube, January 2018, from [https://www.youtube.com/watch?v=yimteJFY\\_8c](https://www.youtube.com/watch?v=yimteJFY_8c)
- RTRS. (2016). Management Report 2016. RTRS. Retrieved from <http://www.responsiblesoy.org/wp-content/uploads/2017/07/InformeGestion-ING.pdf>
- RTRS. (2017). RTRS Standard Responsible Soy production V3.1. Buenos Aires, Argentina: RTRS. Retrieved from <http://www.responsiblesoy.org/wpdm-package/rtrs-standard-responsible-soy-production-v3-1/?lang=en>
- Rueda, X., & Lambin, E. F. (2013). Responding to Globalization: Impacts of Certification on Colombian Small-Scale Coffee Growers. *Ecology and Society*, 18(3). Retrieved from <https://www.ecologyandsociety.org/vol18/iss3/art21/#environmental>
- Ruyschaert, D. (2016). The Impact of Global Palm Oil Certification on Transnational Governance, Human Livelihoods and Biodiversity Conservation. In P. Castka, & D. Leaman, *Certification and Biodiversity - How voluntary certification standards impact biodiversity and human livelihoods* (pp. 46-58). Taipei, Taiwan: IUCN and Natural Resources. Retrieved from <https://portals.iucn.org/library/sites/library/files/documents/Policy%20Matters%20-%20Issue%2021.pdf>
- Sanderson Bellamy, A., Svensson, O., van den Brink, P. J., & Tedengren, M. (2016). What is in a label? Rainforest-Alliance certified banana production versus non-certified conventional banana production. *Global Ecology and Conservation*, 7, 39-48. Retrieved from <http://orca.cf.ac.uk/91253/4/1-s2.0-S2351989416300543-main.pdf>
- Savilkaakso, S., Cerutti, P., Zumaeta, J. G. M., & Ruslandi. (2016). Conserving biodiversity and improving human livelihoods through interaction between public regulation and forest management certification. In Castka, P. et al. *Certification and Biodiversity - How Voluntary Certification Standards impact biodiversity and human livelihoods*. Policy Matters, Issue 21. (pp. 73-90). Gland, Switzerland: CEEP & IUCN. Retrieved from [http://www.cifor.org/publications/pdf\\_files/Books/CSavilaakso1601.pdf](http://www.cifor.org/publications/pdf_files/Books/CSavilaakso1601.pdf)
- Selfa, T., Bain, C., & Moreno Quitero, R. (2015). Depoliticizing land and water 'grabs' in Colombia: the limits of Bonsucro certification for enhancing sustainable biofuel practices. *Agriculture Human Values*, 31, 455-468. Retrieved from [https://www.researchgate.net/profile/Theresa\\_Selfa/publication/310480705\\_Depoliticizing\\_land\\_and\\_water\\_'grabs'\\_in\\_Colombia\\_the\\_limits\\_of\\_Bonsucro\\_certification\\_for\\_enhancing\\_sustainable\\_biofuel\\_practices\\_MSI\\_Multi-stakeholder\\_initiatives\\_Procana\\_Colombi](https://www.researchgate.net/profile/Theresa_Selfa/publication/310480705_Depoliticizing_land_and_water_'grabs'_in_Colombia_the_limits_of_Bonsucro_certification_for_enhancing_sustainable_biofuel_practices_MSI_Multi-stakeholder_initiatives_Procana_Colombi)
- Smit, H., McNally, R. & Gijsenbergh, A. (2015). Implementing deforestation-free supply chains - certification and beyond. SNV. Retrieved from, [http://theredddesk.org/sites/default/files/resources/pdf/deforestation\\_free\\_supply\\_chains\\_single\\_pages\\_0.pdf](http://theredddesk.org/sites/default/files/resources/pdf/deforestation_free_supply_chains_single_pages_0.pdf)
- Solidaridad. (2012, July 24). CONO helps to improve agricultural practices in India. Retrieved September 2017, from <https://www.solidaridadnetwork.org/news/cono-helps-to-improve-agricultural-practices-in-india>



- SRP. (2015). Standard on Sustainable Rice Cultivation v1.0. Bangkok: Sustainable Rice Platform. Retrieved from <http://www.sustainablerice.org/assets/docs/SRP%20Standard%20for%20Sustainable%20Rice%20Cultivation%20v%201.0.pdf>
- SRP. (2018a) Members. Sustainable Rice Platform. Retrieved from <http://www.sustainablerice.org/Get-Involved/#members-list>
- SRP. (2018b) About us. Sustainable Rice Platform. Retrieved from <http://www.sustainablerice.org/About-Us/#mission-goal>
- SRP. (2018c) Home - Important Announcement. Sustainable Rice Platform. Retrieved from <http://www.sustainablerice.org/>
- Steering Committee of the State-of-Knowledge Assessment of Standards and Certification. (2012). Toward sustainability: The role and limitations of certification. Washington DC, U.S.: RESOLVE, Inc. Retrieved from <http://www.resolve.org/site-assessment/files/2012/06/Toward-Sustainability-report-summary-and-appendicesv2.pdf>
- Takahashi, R., & Todo, Y. (2017). coffee certification and forest quality: Evidence from a wild coffee forest in Ethiopia. World Development, 158-166. Retrieved from <http://www.sciencedirect.com/science/article/pii/S0305750X1630554X>
- The Financial. (2017, June 20). IFC Partners with AMRU Rice to Promote Sustainable Rice Production in Cambodia. Retrieved September 2017, from <http://www.finchchannel.com/business/65833-ifc-partners-with-amru-rice-to-promote-sustainable-rice-production-in-cambodia>
- UN. (2016). Goals. Retrieved from United Nations Sustainable Development Goals: <http://www.un.org/sustainabledevelopment/sustainable-development-goals/>
- UNEP. (2017). Thai Government Promotes Low-Emission Rice Farming. Retrieved September 2017, from <http://www.unep.org/asiapacific/thai-government-promotes-low-emission-rice-farming>
- UTZ. (2016a). The UTZ Certified Code of Conduct. Amsterdam, Netherlands: UTZ. Retrieved from [https://utz.org/wp-content/themes/utz/download-attachment.php?post\\_id=5639](https://utz.org/wp-content/themes/utz/download-attachment.php?post_id=5639)
- UTZ. (2016b). UTZ Impact Report. UTZ. Retrieved from [https://utz.org/wp-content/themes/utz/download-attachment.php?post\\_id=6120](https://utz.org/wp-content/themes/utz/download-attachment.php?post_id=6120)
- UTZ. (2016c). Facts and Figures. Retrieved from <https://www.utz.org/wp-content/uploads/2016/04/Annual-Report-2015-factsandfigures.pdf>
- UTZ. (2017a). About us. UTZ. Retrieved from <https://utz.org/who-we-are/about-utz/>
- UTZ. (2017b). What is the reach of UTZ? Retrieved from <https://utz.org/better-business-hub/strengthening-your-reputation/what-is-the-reach-of-utz/>
- Veldleeuwerik. (n.d. a). De 10 Veldleeuwerik indicatoren. Stichting Veldleeuwerik. Retrieved from <https://veldleeuwerik.nl/veldleeuwerik/de-werkwijze/indicatoren/>
- Veldleeuwerik. (n.d. b). The mission and vision. Retrieved from <https://veldleeuwerik.nl/en/skylark/the-mission-and-vision/>
- Veldleeuwerik. (n.d. c). Hoe duurzaam is de Veldleeuwerik deelnemer? Retrieved May 2018 from <https://veldleeuwerik.nl/hoe-duurzaam-is-de-veldleeuwerik-deelnemer/>
- Veldleeuwerik. (2015). Certificatieschema v1.0. Stichting Veldleeuwerik. Retrieved from <https://veldleeuwerik.nl/wp-content/uploads/2016/05/CERTIFICATIESCHEMA-VELDLEEUWERIK-V1.0.pdf>
- Veldleeuwerik. (2016). Veldleeuwerik in Beeld. Stichting Veldleeuwerik. Retrieved from <https://veldleeuwerik.nl/wp-content/uploads/2016/04/160248-Stichting-Veldleeuwerik-Jaarverslag-2015.pdf>
- Vidal, J. (2017). 'Move by UK supermarkets threatens to bring Fairtrade crashing down'. The Guardian. 25 June 2017. Retrieved from <https://www.theguardian.com/global-development/2017/jun/24/fairtrade-crashing-down-sainsburys-tesco-tea-growers-nairobi>
- Vos, P. (2015, December 31). 'Boer moet aantoonbaar verduurzamen.' Boerderij. Retrieved from <https://www.boerderij.nl/Akkerbouw/Achtergrond/2015/12/Boer-moet-aantoonbaar-verduurzamen-2739147W/>
- Waarts, Y., Ingram, V., Linderhof, V., Puister-Jansen, L., van Rijn, F., Aryeetey, R. (2015). Impact of UTZ certification on cocoa producers in Ghana, 2011 to 2014. Den Haag, Netherlands: LEI Wageningen UR. Retrieved from <https://www.utz.org/wp-content/uploads/2016/04/Impact-of-UTZ-certification-on-cocoa-producers-in-Ghana-2011-2014.pdf>

Westerink, J., van Doorn, A., & Perez-Soba, M. (2017). Skylark case study: social learning and land lease as mechanisms for the delivery of ecosystem services in intensive arable farming. Wageningen, The Netherlands: Wageningen University & Research, Environmental Research. Retrieved from [https://www.iasc2017.org/wp-content/uploads/2017/07/8J\\_Judith-Westerink.pdf](https://www.iasc2017.org/wp-content/uploads/2017/07/8J_Judith-Westerink.pdf)

WWF. (2014). Research review: the impact of Forest Stewardship (FSC) certification. Retrieved September 2017, from WWF: [http://d2ouvy59p0dg6k.cloudfront.net/downloads/fsc\\_research\\_review\\_2.pdf](http://d2ouvy59p0dg6k.cloudfront.net/downloads/fsc_research_review_2.pdf)