SOCIAL AND ENVIRONMENTAL STANDARDS

CONTRIBUTING TO MORE SUSTAINABLE VALUE CHAINS

International Trade Centre

European University Institute

SOCIAL AND ENVIRONMENTAL STANDARDS:

CONTRIBUTING TO MORE SUSTAINABLE VALUE CHAINS

Abstract for trade information services

ID=43206 2016 F-09.03.01 SOC

International Trade Centre (ITC)

Social and Environmental Standards: Contributing to More Sustainable Value Chains
Geneva: ITC/EUI, 2016. xii, 39 pages
Doc. No. OCE-16-20.E

The joint ITC-EUI report aims at uncovering factors making environmental and social standards producer-friendly. It shows how the institutional design of standards and their governance structure can make standards more accessible to producers through cost sharing, assistance and transparency, and how country-level characteristics affect the number of standards available. The report concludes with recommendations on how standard-setting organizations and value chain players can foster inclusiveness and sustainable development, and provides guidance for policymakers on supporting the integration of their SMEs and small farmers into sustainable value chains.

Descriptors: **Certification, Global Value Chains, Standards, Sustainable Development, Sustainable Supply Chains, Sustainable Value Chains, Voluntary Standards.**

For further information on this report, contact Olga Solleder (solleder@intracen.org).

English

Citation: International Trade Centre and European University Institute (2016). *Social and environmental standards: Contributing to more sustainable value chains.* ITC, Geneva.

The International Trade Centre (ITC) is the joint agency of the World Trade Organization and the United Nations.

ITC, Palais des Nations, 1211 Geneva 10, Switzerland (www.intracen.org)

Foreword

The increase in consumer demand for sustainable trade has given rise to a growing array of social and environmental standards. These standards play a valuable role in supporting greener supply chains, as evidenced by their dramatic expansion. Between 2008 and 2014, areas certified by the Roundtable on Sustainable Palm Oil increased almost thirtyfold; the Rainforest Alliance/Sustainable Agriculture Network's areas of coverage expanded more than ninefold. The UTZ certified area grew by 6.5 times between 2010 and 2014 (ITC, 2016).

Standards related to working conditions and the protection of basic human rights play an important role in supporting corporate social responsibility. The Ethical Trading Initiative (ETI) Base Code, Social Accountability 8000 (SA 8000) Standard and Business Social Compliance Initiative (BSCI) Code of Conduct are among the major social responsibility schemes currently applied worldwide.

Another driver of voluntary sustainability standards (VSS) is global supply chains. The rise of global supply chains has facilitated efficiency gains and given consumers access to a greater variety of and lower-priced products. However, this trend has also made production more complex. Lead firms need to be able to ensure that suppliers conform to quality and safety standards. They need to establish systems to monitor the production process, including the traceability of the origin and flow of inputs and processed products. Product and production process standards developed by the private sector as opposed to governments are among several tools used to ensure that suppliers satisfy minimum quality, safety, social and environmental norms.

As a result, a plethora of voluntary standards have emerged. Some of these standards have been adopted by companies and others by consumer groups. Several initiatives overlap with each other and compete in the market. Producers may confront significant complexity and uncertainty over which standards to adopt. The same is true for consumers seeking to buy products that conform to environmental, social and quality standards.

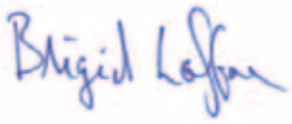
To help overcome these challenges, ITC launched the Trade for Sustainable Development Programme (T4SD) eight years ago, with strong support from the German Government, the Swiss Government and the European Commission. The programme's goal is to promote sustainable supply chains as a means to help developing countries and their small and medium-sized enterprises (SMEs) add value to their products and services. One of the main outputs of T4SD is the Standards Map website and database, which contain information on more than 200 standards systems, codes of conduct and audit protocols addressing sustainability hotspots in global supply chains.

Understanding the requirements of different sustainability standards is only a first step. That is why ITC partnered with the European University Institute (EUI) to produce this groundbreaking report. It marks the first time that the richness and depth of information in the T4SD database has been analysed from an econometric perspective. This enables a better understanding of the landscape of voluntary standards and provides insights into the geographic patterns of their operations and accessibility to producers. The Global Governance Programme of the EUI's Robert Schuman Centre is an ideal partner in this effort. The Robert Schuman Centre has an active research programme on multilevel governance and international regulatory cooperation. Voluntary sustainability standards are relevant to both of these dimensions.

Several important messages can be taken away from the ITC-EUI analysis. Key among them is that voluntary standards are more producer-friendly and more transparent if both buyers and producers are involved in standards management or governance. In addition, the size of the economy and the quality of government institutions are important determinants of the number of standards operating in countries, and hence of their availability to producers.

We are very pleased with this first outcome of ITC-EUI collaboration and trust that the findings of this policy report will be a useful resource to standard-setting organizations, policymakers, suppliers and lead firms as they work to better integrate developing-world SMEs into sustainable and responsible supply chains.

Arancha González
Executive Director
International Trade Centre



Brigid Laffan
Director
Robert Schuman Centre for Advanced Studies
European University Institute

Acknowledgements

This report is a joint publication of the International Trade Centre (ITC) and the Global Governance Programme of the Robert Schuman Centre of the European University Institute (EUI). It has been prepared by Matteo Fiorini (EUI), Philip Schleifer (University of Amsterdam, former Max Weber Fellow at EUI), Olga Solleder (ITC) and Regina Taimasova (ITC) under the lead of Marion Jansen (ITC), Joseph Wozniak (ITC) and Bernard Hoekman (EUI).

Data were provided by the Trade for Sustainable Development (T4SD) team of ITC. Publication of the report was made possible thanks to support from the Swiss and German Governments. Anders Aeroe (ITC) and Mathieu Lamolle (ITC) provided useful comments and feedback.

The production of the report was managed by Natalie Domeisen, Evelyn Seltier and Olga Solleder (ITC). Erica Meltzer and Dianna Rienstra edited the report. Serge Adeagbo and Franco Iacovino (ITC) provided digital printing services.

Contents

Figures, Tables and Boxes

Abbreviations

EUI	European University Institute
G7	Group of Seven
G20	Group of Twenty
GDP	Gross domestic product
ISEAL	International Social and Environmental Accreditation and Labelling
ITC	International Trade Centre
LPI	Logistics Performance Index
NGO	Non-governmental organization
OECD	Organisation for Economic Co-operation and Development
SME	Small and medium-sized enterprise
sd	Standard deviation
T4SD	Trade for Sustainable Development
UNFSS	United Nations Forum on Sustainability Standards
VSS	Voluntary sustainability standards
WTO	World Trade Organization

Executive Summary

New sustainability imperatives

Social and environmental standards have increasingly become a tool of choice in international value chains, covering products from crops to electronics and services. Many studies have explored the nature of these standards, their effects on various stakeholders and the distribution of profits among the value chain actors. However, no large-scale empirical evidence is available on how accessible and user-friendly these standards are for producers.

This report is intended to fill that gap and provide evidence for informed decision-making by standard setters, value chain players and policymakers. First, it describes the evolution, coverage and design of voluntary sustainability standards (VSS). Second, it analyses how the institutional design and governance of standards define the support VSS provide to producers; it looks at where standards operate and what drives their presence in countries and hence their accessibility to producers. Third, it provides conclusions and policy recommendations, and is followed by an appendix on the regression results.

The findings presented in the report are based on the first econometric assessment of 181 VSS sourced from ITC's Standards Map database. The assessment was conducted jointly by ITC and the European University Institute (EUI). It covers a vast array of sustainability standards, audit protocols, codes of conduct and frameworks developed by private, public and non-governmental actors.

Standards are growing, but not equally

The most striking feature of VSS is their wide and uneven spread, as evidenced in the analysis based on geography, sectoral coverage and target groups.

History and trends: VSS first emerged in developed countries, but a growing number of new standards are now being created in developing countries, especially in large developing countries.

Geographical scope: Several VSS are truly global; there is access to at least some voluntary certification opportunities in all countries. However, the number of available standards is much higher in larger and richer countries, where there is also more demand for certified products.

Sectoral scope: Standards cover goods, services and processes, most frequently focusing on extraction and primary production.

Target groups: Some standards explicitly target developing countries or SMEs and smallholders, but the number of such standards is limited.

Standards design and governance vary significantly

This report identifies and analyses several criteria for standards design and governance that are unambiguously beneficial for producers, including stakeholder engagement, producer support, transparency, producer-friendly aspects of conformity assessment and mechanisms for sharing certification costs between producers and other value chain actors. The availability of this information is especially important for the successful uptake of standards by SMEs and smallholders, as they reduce the costs of implementing and complying with sustainability standards, thereby making the standards more accessible and producer-friendly.

Stakeholder engagement

Stakeholder involvement is a crucial element in VSS governance, and the range, types and roles of stakeholders vary per standard. The levels of engagement also vary across stakeholder groups. The group with the highest level of engagement is producers, followed by civil society and buyers. Most sustainability standards involve producers in some capacity; producers help manage 46% of the standards analysed for this report.

Support to producers

Setters of sustainability standards support producers in various ways, mostly through guidance tools and documents. Many of them also offer technical assistance in meeting the standards' requirements. However, significantly fewer standards offer technical assistance in other areas, such as improving productivity, efficiency or market access. And while many standards facilitate learning, only a few offer financial assistance to producers. A number of standards systems offer their support in different languages, but only a few adapt them to the local context, in terms of sector, firm size and overall level of technical capacity, for example.

Transparency

Transparency levels vary considerably across standards. Almost all standard setters make information about standards' content available on their respective websites. About one-third of the standards listed in the Standards Map also disclose information about the certification/verification process and their application and development procedures. Far fewer standards are as transparent about their assessment methodologies.

Conformity assessment

Conformity assessment is the process of verifying whether a producer complies with the requirements of a standard and can include onsite visits and inspections, interviews with workers, document control and product testing. The most frequent type of conformity assessment is the third-party assessment. This is the most credible type of assessment, as it is conducted by independent entities, referred to as certification or conformity assessment bodies. Easier-to-apply and less costly types of conformity assessment may be available to producers. For example, 76 of the 181 sustainability standards discussed in this report offer group certification, while 30 accept first-party assessment, i.e. self-verification conducted by the producer itself. While these are less difficult for producers to use, consumers may also find them less credible. As a result, conformity assessment is a complex balancing act between maintaining credibility among consumers and accessibility for producers.

Implementation and certification costs

Demonstrating compliance with VSS is becoming increasingly important for gaining access to value chains and consumer markets, which raises the issue of the burden of implementation and certification costs. SMEs and small farmers in developing countries may find it harder to use standards because there is often a fixed-cost component that is independent of the value of their operations. In the long run, these fixed costs could be offset through improved market access and associated economies of scale and productivity gains.

The Standards Map database includes information on the cost incidence of implementing VSS systems. In 64% of the standards, producers are solely responsible for paying the implementation costs; 28% of the standards use a model in which these costs are shared more equally between producers and other value chain actors. In only a very small proportion of cases are the implementation costs borne by the standards system (3%) or other value chain actors (4%), without any contribution from producers. The distribution of certification costs follows a similar pattern.

Sustainability labels

Most standards have policies for labels and claims made in marketing material that can be used either directly on product packaging or off-product to demonstrate a producer's participation in a voluntary standard. This differentiates a producer's products from those of non-certified competitors.

Traceability

Traceability systems are employed by all VSS to record and follow the production process, from farm through to the processing, packaging and distribution stages, and ultimately to the stage where the product is sold to the consumer. Traceability is critical for managing sustainable value chains.

The most frequently used traceability systems are systems that involve 'identity preservation', which require the strict separation of certified products along the supply chain without mixing different

certified products. Another system involves 'segregation' which allows certified products from different facilities to be mixed, but not with non-certified products.

Making voluntary sustainability standards accessible to producers

This publication identifies and analyses factors that make VSS available and friendly to producers. It looks at how standards are designed and governed, and where they operate. This publication also investigates the role of various economic and institutional characteristics at the national level to better understand the link between a country's characteristics, the choice of standard and where a standard should operate, i.e. where certification possibilities should be offered.

Helping producers to become certified

Producers in developing countries often suffer from capacity limitations, for example, related to a lack of access to modern technologies, to gaps in their technical knowledge of standards, or to challenges in accessing finance. These limitations can present significant hurdles to producers wishing to obtain sustainability certifications and competing in global markets. Many standard setters offer producers different types of support and capacity-building services. Providing support to producers and sharing implementation and certification costs can greatly contribute to facilitating access to VSS by producers in developing countries.

Being more transparent is important

Not all VSS are equally transparent when it comes to providing information on different aspects of their systems, such as sustainability requirements, audit processes, standard setting and development. For producers, inadequate transparency means increased transaction costs in obtaining certification.

The analysis in this report shows that membership in the International Social and Environmental Accreditation and Labelling (ISEAL) Alliance[1] has a statistically significant positive effect on transparency in three areas: disclosure of information on standards development procedures and policies, the certification or verification decision, and complaints and dispute resolution policies. Additionally, the involvement of producers at the board level and in decision-making on VSS has a positive effect on transparency practices specifically related to disclosing information on assessment methodologies and standards development procedures.

Reducing costs, supporting producers

Implementing standards' requirements and conducting an audit always entail costs, which can be covered by producers or can be shared between producers and other players in the value chain. Few standards employ models for sharing the costs of certification between producers and other actors.

Cost-sharing among producers, standard setters and value chain players is more likely when the VSS is an 'ISEAL full member'; when the standard is headquartered in a member country of the Organisation for Economic Co-operation and Development (OECD); when the standard setter is a private enterprise (as opposed to a not-for-profit organization); and when buyers are involved in managing the standard. This evidence suggests that when lead firms set standards, they are more likely to help defray some of the compliance costs that would otherwise have been borne entirely by producers.

This report also highlights the factors affecting the probability of standard setters offering support to producers:

- The involvement of buyers in the governance and management of standards increases the probability of the standards offering technical assistance in meeting their requirements by 16%.

[1] ISEAL (www.isealalliance.org) is the global membership association of sustainability standards systems, which has a mandate to strengthen the effectiveness of sustainability standards for the benefit of people and the environment.

- The involvement of producers in VSS governance increases the likelihood of standards offering learning assistance by 23%.

- Membership in the ISEAL Alliance raises the probability of standards providing learning and financial assistance by 34% and 20%, respectively.

Increasing standards availability

Producers may opt in or out of voluntary certification, but before they can consider this opportunity they must have standards operating in their country. Access to standards, as measured by the number of standards with verified or certified operations (referred to as standards availability), is unequal across countries. The lowest number of standards is in the Middle East and North Africa region, followed by sub-Saharan Africa and Central Asia. This report analyses the determinants of standards availability. The report finds that standards availability is strongly associated with a country's GDP, logistics performance, quality of institutions and membership in the World Trade Organization (WTO).

Home market size is the strongest predictor of the spread of VSS in a country. One possible explanation is that because of the requisite VSS conformity assessment infrastructure it makes more economic sense to set up this infrastructure in larger countries where more producers can benefit and more products can be VSS-certified.

Conclusions and recommendations

This report provides ample evidence for informed decision-making. The conclusions are grouped into two sections: (1) Those related to the design and governance of standards and directed at standard setters; and (2) Those related to the availability of standards and directed at national policymakers.

Standard setters include industry associations, private enterprises, value chain players, non-governmental and not-for-profit organizations, and consortiums comprising some or all of these actors. The key finding for standard setters is that standards are less present in small countries, and in countries with weaker institutions and logistics.

Having less access to certification opportunities may further marginalize SMEs and small farmers in these countries. More active involvement of standard setters, however, can help bridge the institutional quality gap by forging trust and facilitating best practices. More specifically, standard setters can help producers by following these producer-friendly features:

- Sharing costs between producers and other value chain actors. This can significantly increase the spread of standards and their accessibility, as implementation and certification costs present major obstacles for producers trying to become certified.

- Support provided by standard setters to producers; and transparency in terms of sharing information on a standard's documents, standard-setting procedures, and certification and verification decisions. This support can significantly reduce producers' transaction costs while aiding the overall compliance process.

- Involving buyers and producers in standards at the board or management level, and adopting the ISEAL Alliance Credibility Principles. These features are associated with greater levels of transparency, support and cost sharing.

At the country level, this report finds a strong link between the presence of VSS operations in a country and the size of that country's economy, which suggests that regional integration can contribute to the spread of voluntary sustainability standards. Standards tend to operate more in countries with strong institutions, logistics and market access, which are factors generally associated with lower trade costs.

An important implication for policymakers is that while sustainable certification presents opportunities, it also requires quality institutions and governance, where policymakers can exert an influence.

Introduction

Voluntary sustainability standards (VSS)[2] have increasingly become the tool of choice in international value chains, covering products from crops to electronics and services. Major global brands have integrated their sustainable sourcing commitments into their corporate strategies. Mars Incorporated, for instance, aims to certify 100% of its cocoa as sustainably produced by 2020 (Mars, 2016); Unilever expects to source 100% of its agricultural raw materials sustainably by 2020 (Unilever, 2016); and IKEA intends to source 100% of its wood, paper and cardboard from more sustainable sources by August 2020 (IKEA, 2016).

More responsible and sustainable production practices are being encouraged by the public sector, particularly in developed countries. The Group of Seven (G7) Leaders' Declaration 2015 (G7, 2015) refers to 'voluntary due diligence plans or guides' to enhance responsible value chains. German Chancellor Angela Merkel emphasized at the Group of Twenty (G20) September 2016 summit in Hangzhou, China, the importance of combining sustainable growth with social responsibility (German Federal Government, 2016).

As a result of these trends, producers – including small and medium-sized enterprises (SMEs) and small farms in the upstream stages of production – are increasingly required to adopt standards to be able to continue to supply products to the brands and retailers in the downstream stages of production. Non-compliance with standards may lead to a producer's exclusion from international value chains. Inclusion in sustainable value chains, in addition to fostering better environmental and social practices, can improve financial outcomes for participating producers. (See literature review summarized by von Hagen and Alvarez, 2011.)

This report is driven by the striking differences observed in the number of standards operating in countries (referred to as availability of standards) and variations in their design, which impact their accessibility. These differences may play an important role for producers, especially SMEs and small farmers. To better understand these differences and their practical significance, this report maps the landscape of VSS and identifies key features that can make them more accessible and producer-friendly. The findings of the analysis form the basis of recommendations to standard setters and policymakers on how to facilitate standards adoption.

The findings and recommendations are grounded in a statistical and econometric evaluation of a large-scale database sourced from the ITC Standards Map. ITC Standards Map was developed in response to the lack of a credible, centralized and neutral repository for VSS information; confusion over the proliferation of standards applied in international value chains; and the need for more transparency and comparability between VSS and corporate codes of conduct and audit protocols.

This report is based on 181 standards initiatives,[3] or about half of all active VSS (COSA, 2013), which makes it possible for the first time to provide solid empirical evidence on the institutional design and availability of sustainability standards.

Chapter 1 provides insights into the history, product and geographical scope of VSS, as well as their requirements, institutional design and governance. Chapter 2 presents the results of econometric regressions that analyse cost sharing, the support provided to producers, and the transparency and availability of standards. Chapter 3 presents the report's conclusions and policy recommendations, and is followed by an appendix on the regression results.

[2] In this report the vast array of voluntary sustainability standards, audit protocols, codes of conduct and frameworks will be referred to as 'standards', 'voluntary standards' or 'voluntary sustainability standards' (VSS). The terms 'standard', 'VSS', 'standard's scheme' and 'standard's initiative' are used interchangeably. 'Standard setter' generally refers to the entity that has developed and manages a standard. VSS developed by companies are usually referred to as 'audit protocols' or 'codes of conduct'.

[3] The number of VSS in the Standards Map database is constantly increasingly. For the most updated information, see www.standardsmap.org.

Chapter 1: Understanding voluntary sustainability standards

1. Origins and scope

1.1. Trends

Voluntary sustainability standards (VSS) have emerged as a market instrument to tackle multiple sustainability issues that cannot be resolved through compliance with national legislation and mandatory market requirements. VSS can be set by non-governmental organizations (NGOs), private enterprises, consortiums of companies and NGOs.

As the topic is relatively new, there is no universal definition of what constitutes a voluntary standard. The United Nations Forum on Sustainability Standards (UNFSS)[4] provides the following definition:

> Voluntary sustainability standards are 'specifying requirements that producers, traders, manufacturers, retailers or service providers may be asked to meet, relating to a wide range of sustainability metrics, including respect for basic human rights, worker health and safety, the environmental impacts of production, community relations, land use planning and others' (UNFSS, 2013, p. 3). The International Social and Environmental Accreditation and Labelling (ISEAL) Alliance, an NGO whose mission is to strengthen sustainability standards systems by providing a set of principles and good practices for setting, assuring and assessing the standards' impacts, describes them as standards 'that address the social, environmental or economic practices of a defined entity or a combination of these' (ISEAL, 2014, p. 7).

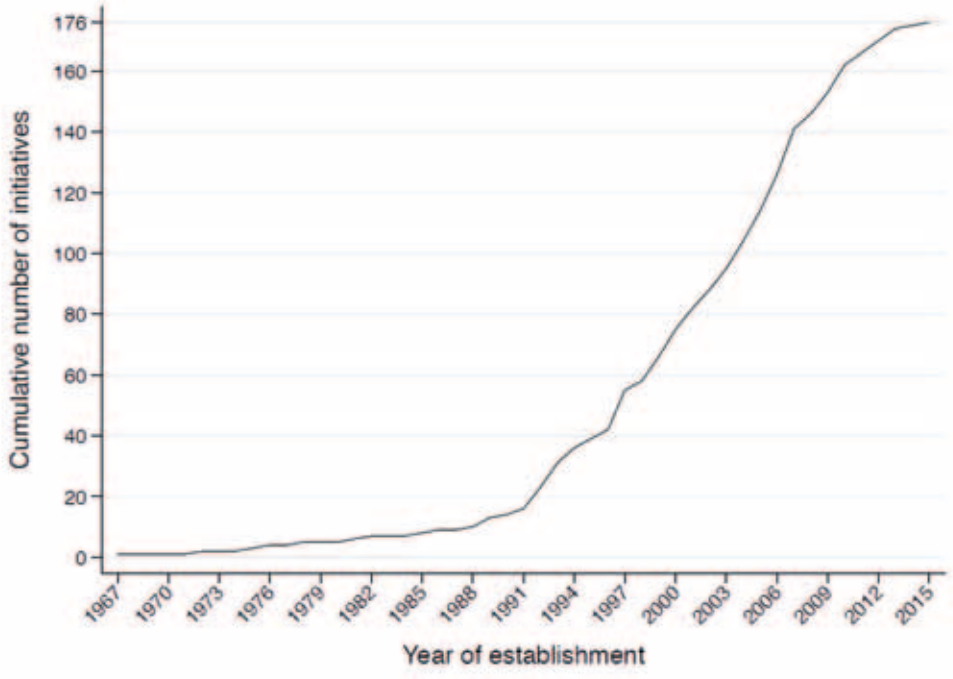
Standards originated in the developed world

Several studies have explored the emergence and diffusion of voluntary standards systems (Cashore, Auld and Newsrom, 2014). Drawing on these works and on an analysis of the data contained in the ITC Standards Map, different waves of voluntary standards have been identified. They suggest that the diffusion of standards is closely linked to key developments on the international environmental agenda. (The cumulative number of standards systems and their evolution over time are shown in Figure 1).

Clearly a critical juncture was the United Nations Conference on Environment and Development, held in Rio de Janeiro, 1992, also known as the Earth Summit. The Summit's endorsement of the concept of sustainable development triggered a wave of voluntary sustainability standards. Other high-profile events, such as the 1997 adoption of the Kyoto Protocol and the 1998 International Labour Organization (ILO) Declaration on Fundamental Principles and Rights at Work, correlate with increased diffusion rates of voluntary standards. One likely explanation is that growing awareness of environmental protection and social issues has increased the demand for new governance mechanisms.

[4] The United Nations Forum on Sustainability Standards (UNFSS) is a joint initiative of the Food and Agriculture Organization of the United Nations (FAO), the International Trade Centre (ITC), the United Nations Conference on Trade and Development (UNCTAD), the United Nations Environment Programme (UNEP) and the United Nations Industrial Development Organization (UNIDO). See https://unfss.org/ for further detail.

Figure 1. History of establishment of voluntary sustainability standards

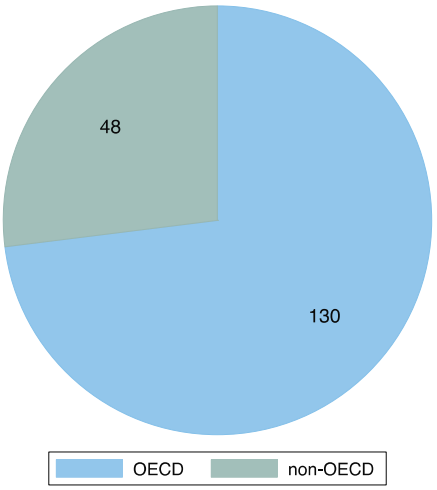


Note: The statistics are based on 176 standards.
Source: ITC and EUI calculations based on ITC Standards Map.

Developing countries are increasingly designing standards

Most of the voluntary standards now in use emerged in developed countries to deal with sustainability problems driven by production issues and to improve the quality of products sourced from different countries. The analysis of the VSS referenced in the Standards Map database shows that VSS mostly originate in OECD countries, judging by where their headquarters are located (Figure 2). However, there has been an increase in standards development in non-OECD countries, particularly in Brazil, India, Kenya and South Africa.

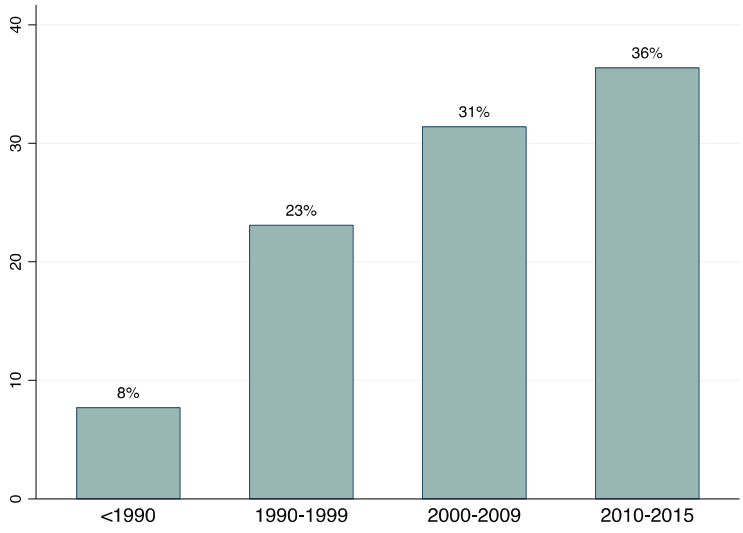
Figure 2. Distribution of standards' headquarters in OECD and non-OECD countries



Note: The statistics are based on 178 standards. The category 'OECD' means that the main headquarters (or all headquarters in case of multiple headquarters) are located in OECD countries only. Standards that have multiple headquarters in both OECD and non-OECD countries are included in the non-OECD category.
Source: ITC and EUI calculations based on ITC Standards Map.

Around 74% of the standards in the Standards Map database exist in OECD countries. However, more standards are emerging in non-OECD countries. This suggests that developing countries are experiencing increased market demand for products certified to VSS and are launching initiatives based in countries where producers are located. The trend for an increasing number of standards to be developed in non-OECD countries is demonstrated in Figure 3.

Figure 3. The trend of establishing voluntary standards in non-OECD countries



Note: The bars show the percentage share of standards initiatives with headquarters in non-OECD countries in the total number of new initiatives, by period. The statistics are based on 178 standards.
Source: ITC and EUI calculations based on ITC Standards Map.

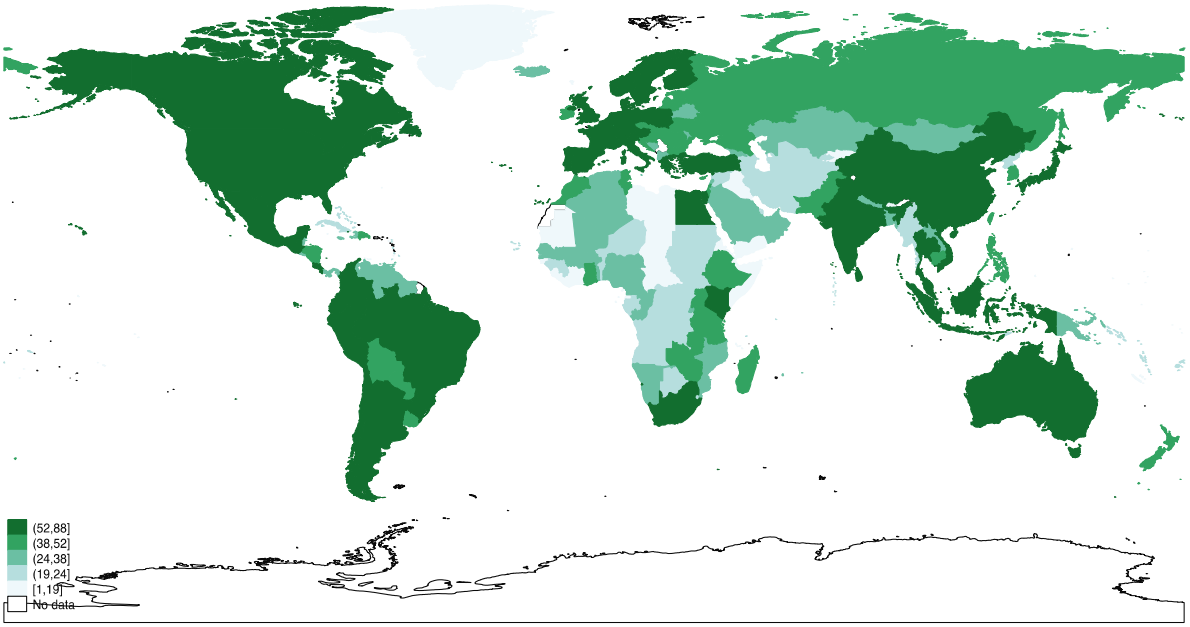
1.2. Geographic scope

Standards – a broad but unequal presence

Most VSS operate at an international level. However, several standards are national or regional in scope, such as Green Mark Taiwan, a voluntary eco-labelling programme in Chinese Taipei aimed at encouraging environmentally-friendly production and consumption. Another example is the East African Organic Products Standard (EAOPS), which sets requirements for organic production in the East African region. Many standards apply to all regions globally; some cover specific countries or areas. The standards set by Fairtrade International, for example, apply only to developing countries.

To appreciate the geographical scope of voluntary standards from the Standards Map database, this report uses an indicator on the current scope of certified/verified operations. The indicator lists the countries where standards have production operations, for example fields, farms and processing facilities. This includes operations that have received a compliance certificate as a result of a third-party audit, or that have been verified by a second or first (related) party and are considered compliant with the standard's requirements. The average number of standards that operate in each country is shown in Figure 4. The darkness of the colour indicates a greater number of standards initiatives.

Figure 4. Countries where voluntary standards operate and certify producers



Note: The relative darkness of the colour indicates a greater number of standards initiatives that operate in each economy; that is, it has at least one producer certified. The statistics are based on 181 standards.
Source: ITC and EUI calculations based on ITC Standards Map. The software that generated this map does not apply the United Nations definitions of national borders.

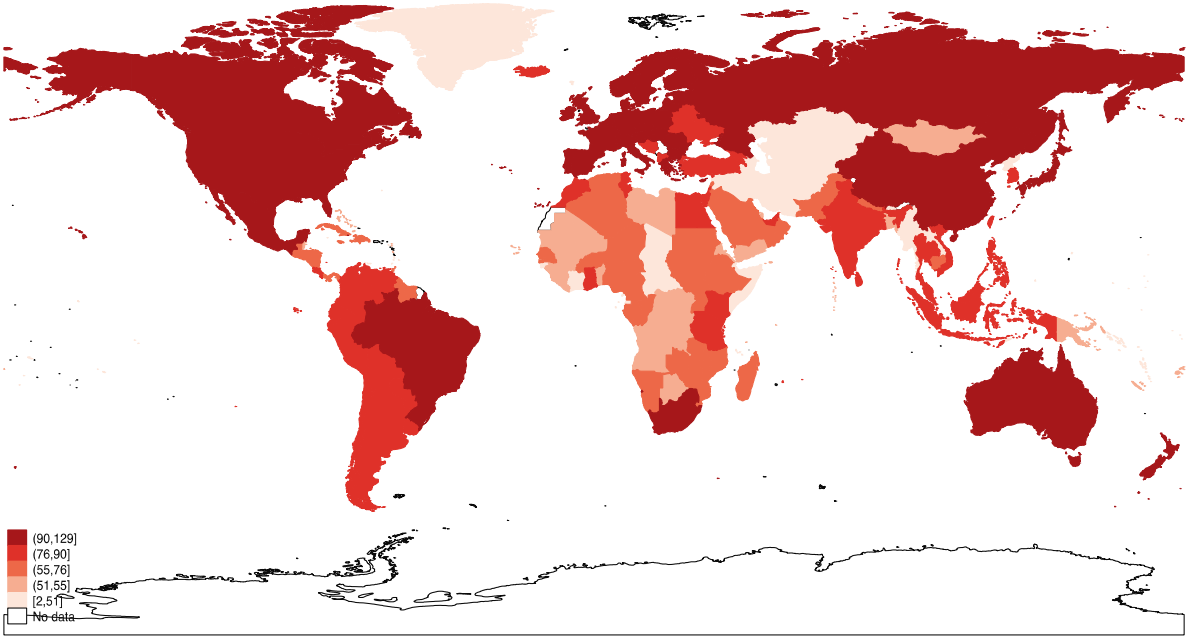
Each country has an average of 33 standards in operation. The opportunities for producers are unequal. Most of the certified/verified producers are located in developed and large developing countries, and there are few cases of VSS operating in least developed countries. The five countries with the highest standards coverage are the United States (84), The People's Republic of China (82), Mexico and Brazil (79 each) and the United Kingdom (76). The five economies with the lowest coverage are Equatorial Guinea, Somalia, Bhutan, Eritrea and São Tomé and Principe. The number of standards is systematically higher in OECD countries, where the average number is 60; in non-OECD countries it is 31.

Standards availability in a country depends in many cases on the presence of standard-setting organizations' local offices, which are easier for farmers and producers to access. Standards Map

data show that 75 of the 181 VSS analysed here have at least one local office in a country other than the one where the standard's headquarters is located.

To combine the supply and demand perspective, the geography of destination markets for products certified or verified to VSS has been analysed using an indicator on current and potential market outreach, which shows the countries where certified or verified products are recognized and bought. While at least some VSS are accepted in any given country, certified products are clearly more present in OECD countries (Figure 5). The pattern of market outreach, areas where certified products are sold, is similar to the scope of standards operations. These are areas where producers can become certified.

Figure 5. Economies where certified products are sold



Note: The relative darkness of the colour indicates a greater number of standards initiatives that have their certified products recognized and sold in a country. The statistics are based on 181 standards and include current (actual) and potential market outreach.
Source: ITC and EUI calculations based on ITC Standards Map. The software that generated this map does not apply the United Nations definitions of national borders.

1.3. Product and sectoral coverage

Extraction and primary production predominate

VSS covers a variety of products. Some cover specific products or sectors and some are applicable to multiple products and have general principles that can be adapted to specific product characteristics. Other standards are generic and are applicable to all products or services. The relevant set of social and ethical principles, such as human and labour rights, working conditions, and reporting and management processes are applied universally.

The value chain scope or coverage of standards may also vary. Standards can either cover several parts of the value chain, or they can focus on only one segment, such as primary production or processing. In the paper, 'The Impacts of Private Standards on Global Value Chains' (von Hagen and Alvarez, 2011, p. 1.), the authors claim that only a few standards include requirements that address

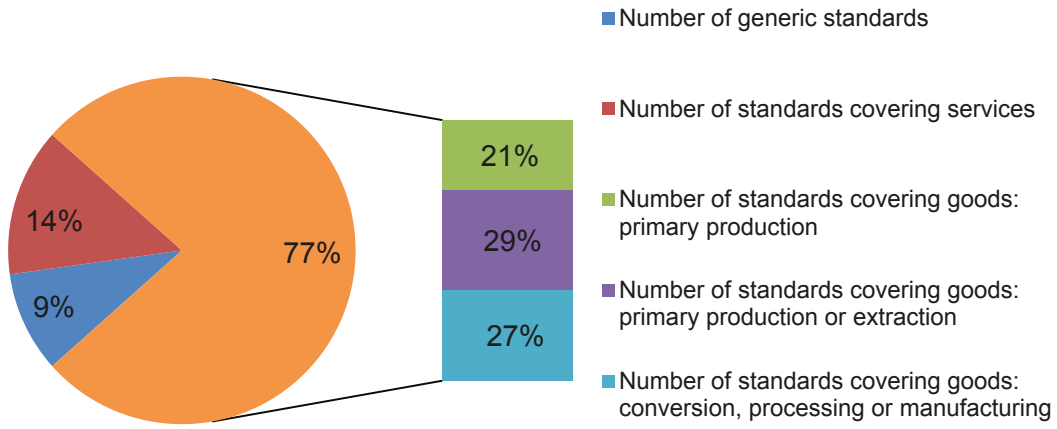
the entire value chain[5] and that most voluntary standards specify requirements and indicators that pertain to sustainable production at the producer/farm or factory level (Loconto and Dankers, 2014).

This report uses two indicators to analyse the product and value chain scope of the standards referenced in the ITC Standards Map database. The first is the product/industry scope of a standard that lists the products and services to which the standard pertains. The second is the scope of certification/verification, which indicates the part of the value chain targeted by the standard.

Regarding the value chain focus, 17 standards out of 181 cover all parts of the value chain; these are mainly generic standards that cover a set of universal social and ethical issues. Ninety-two standards cover inputs related to primary production, and 130 standards cover primary production or extraction, such as agriculture products, forestry and logging, mining products, seafood and aquaculture products.

The analysis also shows that 119 standards cover conversion, processing or manufacturing, such as processed and manufactured agriculture products, beverages, textiles and garments, toys, wood manufactured products, electronics, handicrafts and consumer products; 25 standards cover services, mainly tourism and financial services (Figure 6).

Figure 6. Coverage of voluntary sustainability standards along the value chains

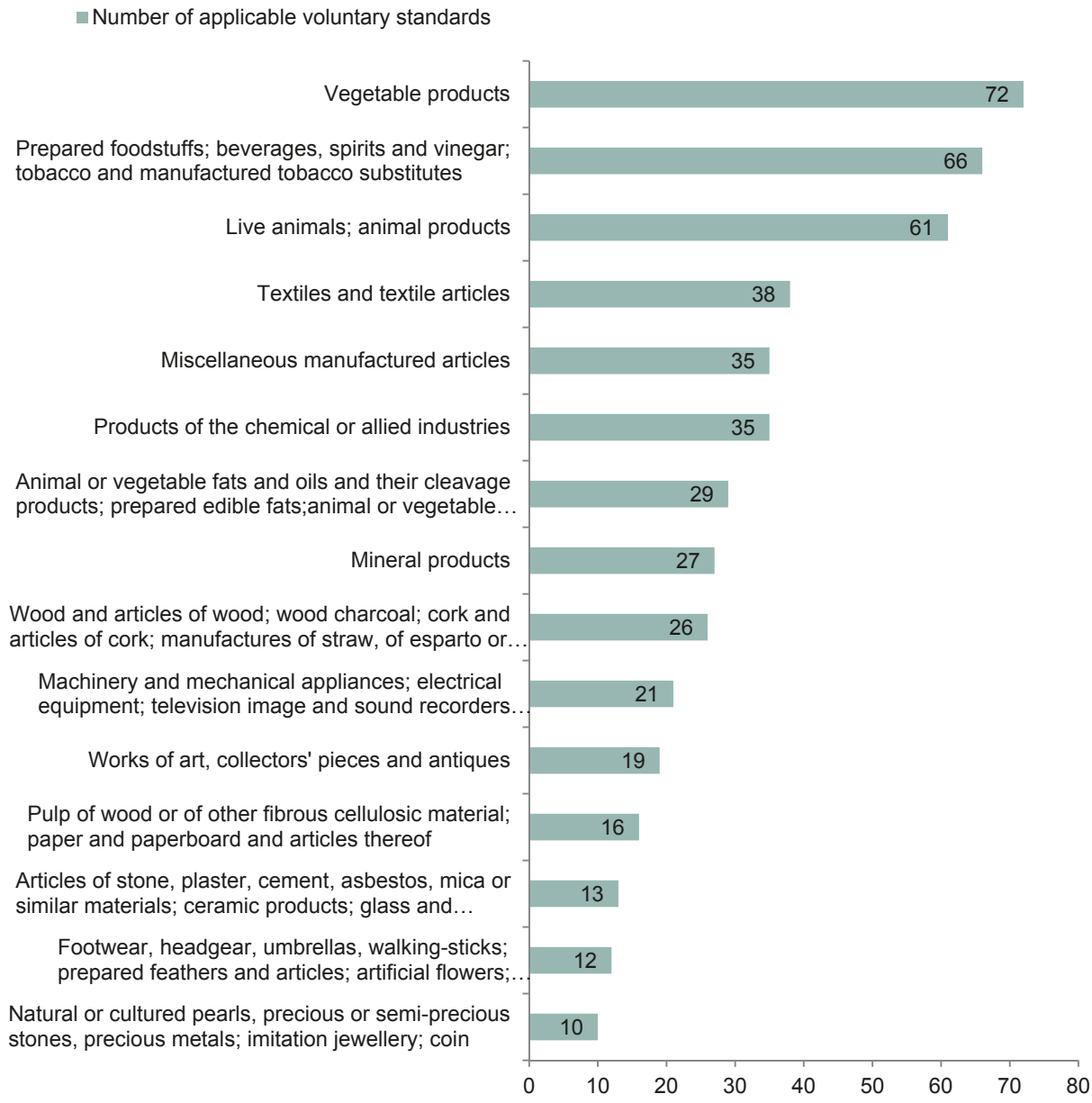


Note: Categories may overlap, with standards initiatives covering more than one area. The statistics are based on 181 standards.
Source: ITC and EUI calculations based on ITC Standards Map.

Looking at the top product groups covered by the largest number of standards, the most frequently covered products are agricultural. The top three product groups are vegetable products (72 standards), foodstuffs, beverages and tobacco (66 standards), and live animals and animal products (61). Voluntary standards are also frequently designed for textile and textile articles (36 standards), miscellaneous manufactures (35 standards), and chemical industries (35) (Figure 7).

[5] Note: The terms ‘supply chain’ and ‘value chain’ are used interchangeably throughout this report.

Figure 7. Products covered by voluntary standards



Note: Categories are based on the sections of the Harmonized System, showing the top 15 sections with the highest number of products covered by voluntary standards. The statistics are based on 181 standards.
Source: ITC and EUI calculations based on ITC Standards Map.

2. Standards – design and governance

Beyond establishing a set of sustainability requirements or indicators, VSS incorporate several other components or processes that together make up a 'standards system'. The Standards Map database includes criteria on the following major standards system processes: governance and stakeholder engagement, certification and audit processes, claims and labelling procedures, traceability, chain of custody system, and support and capacity building of producers.

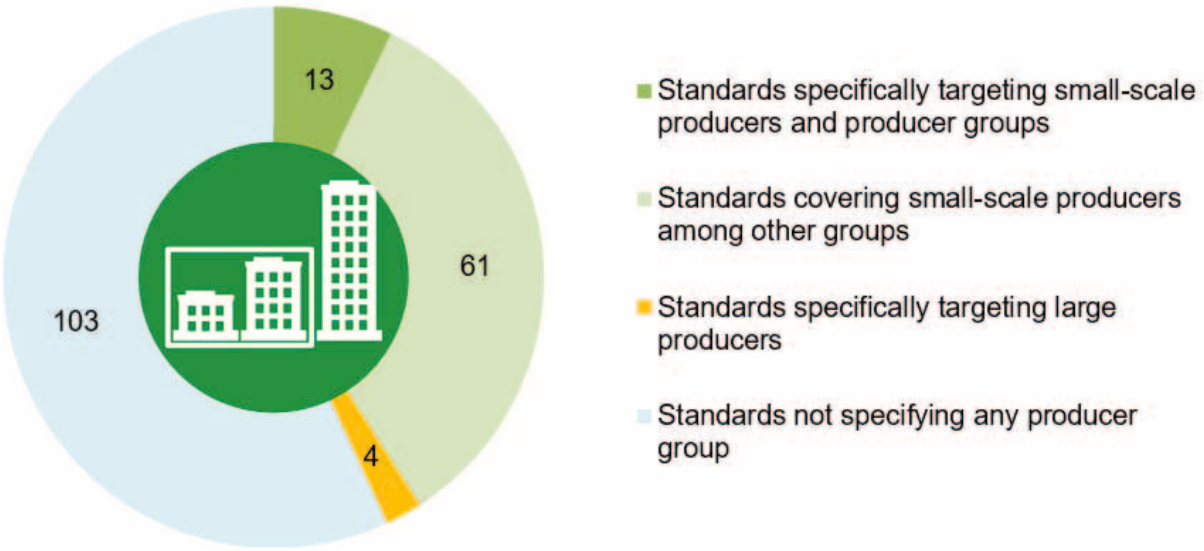
Standards can be set and governed in different ways; there is no uniform procedure or set of rules. Depending on the purpose and mandate of a standard setter, standards can be managed by different types of boards and committees, for example by general assembly, management board, stakeholders' forum or council. Specific committees may be assigned for standard setting and review, national standards' adaptation and dispute resolution.

2.1. Including small and medium-sized enterprises

SMEs and small farmers targeted

Given the importance of including SMEs and small farmers in value chains, some VSS specifically target these groups of producers. Examples include Fairtrade standards and the Small Producers Symbol. Out of 181 standards, 13 (7%) specifically address SMEs or small-scale producers and producer groups; and 61 standards (34%) cover small-scale producers, SMEs and large-scale enterprises equally. Four standards (2%) cover only large-scale enterprises. The rest of the standards analysed do not specify any groups (103 initiatives, or 57%) (Figure 8).

Figure 8. Standards targeting small-scale producers



Note: The statistics are based on 181 standards.
Source: ITC and EUI calculations based on ITC Standards Map.

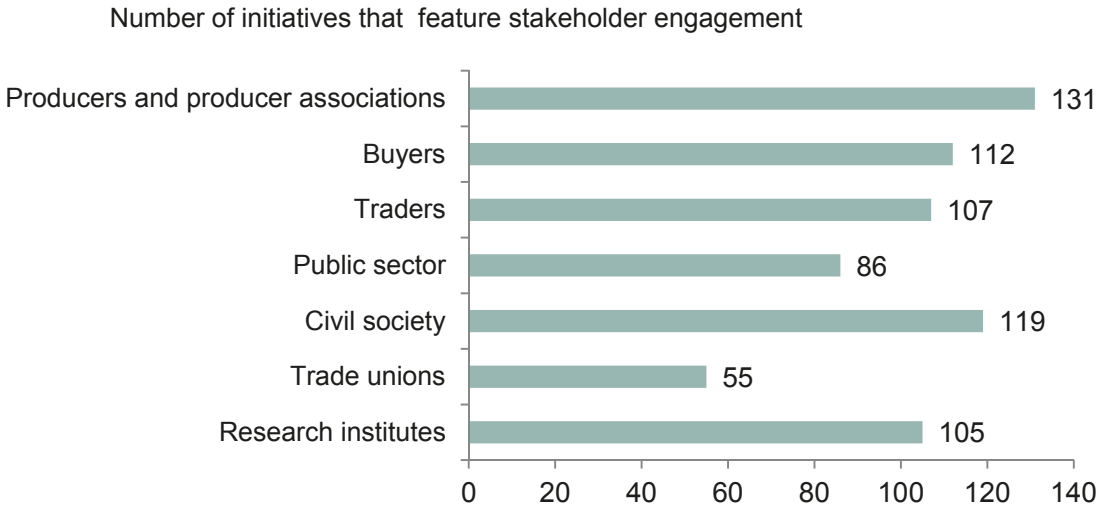
2.2. Stakeholder roles

Stakeholders' involvement is a crucial element in VSS governance. The range, types and roles of stakeholders vary per standard (Garmin, Darnall and Mil-Homens, 2003; Schouten, Glasbergen and Leroy, 2012). The Standards Map database contains detailed information on stakeholder engagement in different areas of activity, including management, dedicated stakeholder forum, standard-setting and review, dispute resolution, audit process, and assessment of certification bodies. The stakeholder groups for which this information is available are: civil society actors, trade unions, producers, traders, buyers, research institutes, and the public sector (Figure 9).

The main findings derived from the analyses in this report are as follows. First, levels of engagement vary across stakeholder groups. The stakeholder group with the highest level of engagement is producers, followed by civil society, buyers, traders, research institutions, and the public sector (in that order). Trade unions are the stakeholder group with the lowest level of engagement.

Second, levels of engagement vary across areas of activity. Stakeholder engagement is most frequently found in the area of standard setting and review, followed by management activities. Some standards involve stakeholders in a dedicated stakeholder council. The areas in which stakeholder engagement is least common are dispute resolution, the audit process and the assessment of certification bodies (Table 1).

Figure 9. Stakeholder engagement overview



Note: The statistics are based on 181 standards.
Source: ITC and EUI calculations based on ITC Standards Map.

Producers are engaged in standard setting and review

Information on the engagement of producers and their associations is available for 170 of the 181 standards analysed. Table 1 below shows that the vast majority of standards engage this stakeholder group in some capacity (131 standards), making producers the stakeholder group with the highest level of engagement.

As for the other groups of stakeholders, producer engagement was highest in the area of standard-setting and standard review. A total of 109 standards (64% of standards for which this information is available in the database) engage producers in this type of activity. Producers are also frequently involved in the management of standards (79 standards, or 46% of the sample of those who responded). Thirty-six standards (21%) involve producers in a dedicated stakeholder forum, but producer engagement was significantly lower in other types of activity: Only 20 standards (12%)

report engagement of producers in dispute resolution; 12 standards (7%), in the audit process; and only seven standards (4%) in the assessment of certification bodies (Table 1).

Table 1. Producers' engagement

Type of engagement	Number of standards that include this type of engagement	Number of standards that do not include this type of engagement	Number of standards that do not specify this information
Engagement of producers and producer associations	131	39	11
Engagement of producers in standard-setting and review	109	18	54
Engagement of producers in the board/management	70	55	56
Engagement of producers in dedicated stakeholder forum	36	80	65
Engagement of producers in dispute resolution	20	98	63
Engagement of producers in audit process	12	107	62
Engagement of producers in assessment of certification body	7	110	64

Source: ITC and EUI calculations based on ITC Standards Map.

2.3. Support for producers

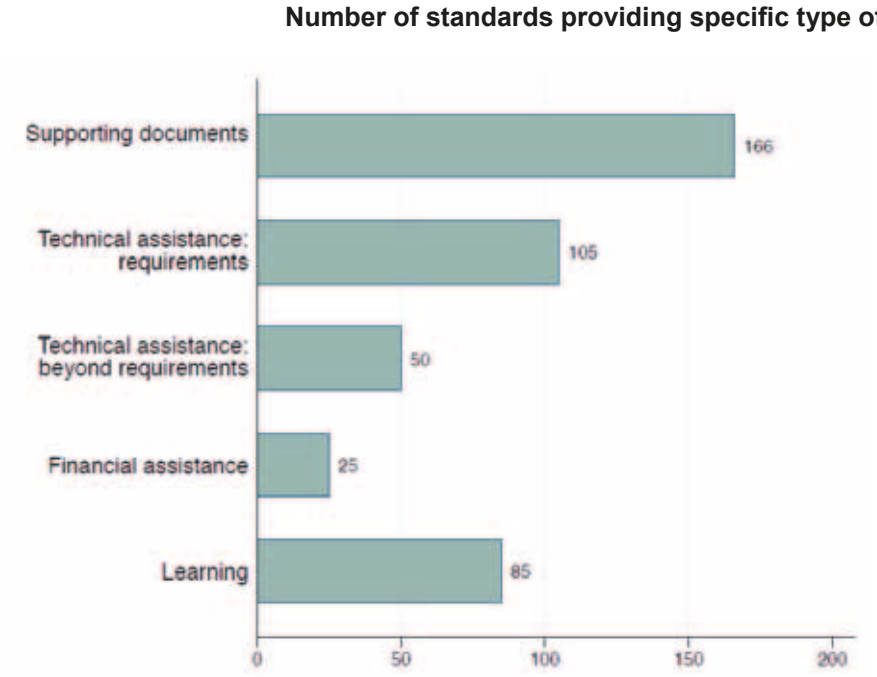
Producers in developing countries often suffer from capacity limitations that manifest themselves in various forms. For example, SMEs and smallholders often do not have access to modern technologies and may lack the resources or know-how to adopt innovative practices that could make their businesses more productive. Often they are poorly informed about sustainability issues and may not possess the technical knowledge necessary to implement VSS. These limitations can make it very difficult for them to obtain sustainability certification and compete in global markets.

To help producers overcome these hurdles, many standards systems offer support and provide capacity-building services. However, information about these activities is mostly anecdotal, and a more systematic and thorough analysis has been missing (Loconto and Dankers, 2014). This report uses the Standards Map data to fill the gap.

Documents, technical assistance for meeting requirements are main forms of support

The Standards Map database provides information on five key support areas: support through documents, technical assistance to meet standards' requirements, technical assistance that goes beyond meeting the standards' requirements (e.g. improving productivity and market access), financial assistance, and facilitation of learning (e.g. organization of learning forums, networking activities and conferences). The number of standards offering various types of support to certified producers is shown in Figure 10.

Figure 10. Support activities of sustainability standards



Note: The statistics are based on 181 standards.
Source: ITC and EUI calculations based on ITC Standards Map.

The level of support provided varies across areas of activity. The vast majority of standards provide support through guidance tools and other documents. In addition, many standards offer technical assistance to meet standard requirements. However, significantly fewer standards provide technical assistance to improve productivity, efficiency or market access. Many standards facilitate learning, however; only a few offer financial assistance.

Looking at the cost implications of these activities, the analysis found that guidance tools and support documents are mostly provided free of charge. However, technical assistance – in particular technical assistance that goes beyond meeting standards' requirements – is often not free. Of the 50 standards that do provide such support, only 15 do so as a free service to producers.

The analysis also showed that many standards systems offer their support activities in different languages. However, only a few adapt them to the local context, in terms of sector, firm size and level of development.

2.4. Transparency

'Which standard is best suited for my business? What do I have to do to apply for certification? How can I file a complaint if things go wrong?' These are all questions that producers are likely to ask when dealing with sustainability standards. Standards that are transparent about their application procedures, the certification process, and their dispute resolution procedures reduce search and information costs for producers and thereby facilitate access. For sustainability certification to be more producer-friendly, transparency is key.

Apart from a number of qualitative case studies, little is known about the disclosure practices of voluntary standards systems (Auld and Gulbrandsen, 2010). Are they transparent enough about their standards, procedures and methodologies to allow producers to make well-informed decisions?

Standards Map provides a rich empirical window into the disclosure practices of standards and presents a good opportunity to explore this question in a broader comparative perspective.

Information disclosure is crucial, but lacking in several areas

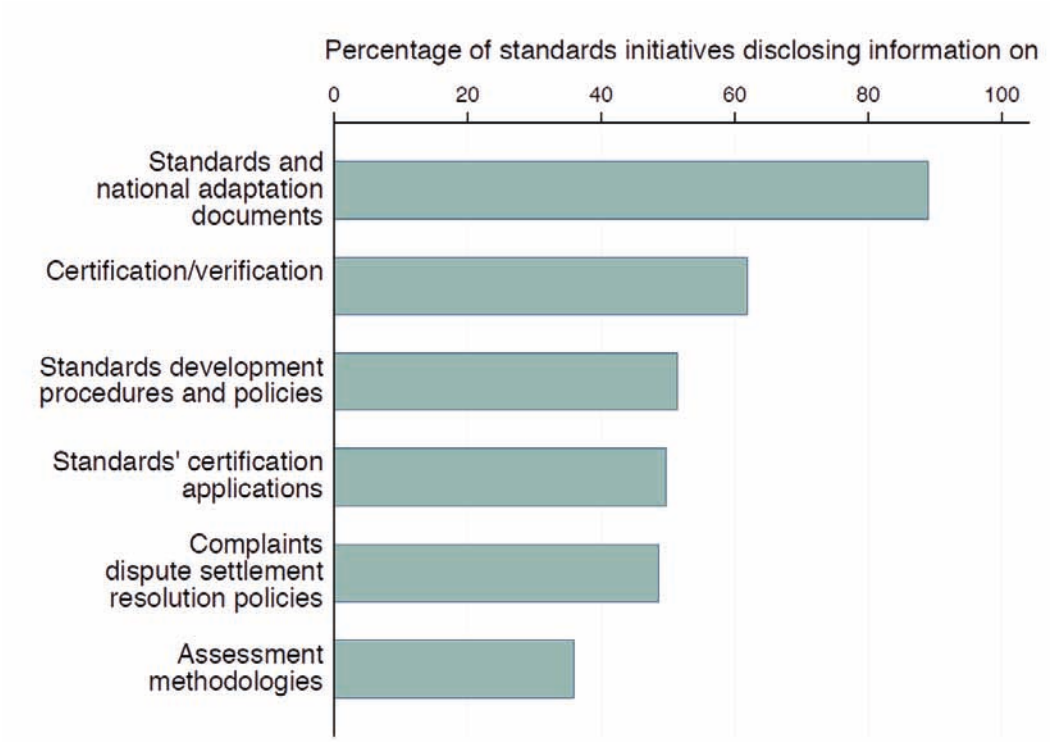
Standards Map offers detailed data about the information disclosure practices of VSS. For the purpose of this report, six areas that are most relevant to developing-country producers have been identified:

- Free and unrestricted access to information on standards and national adaptation documents;
- Assessment methodologies;
- The application process for obtaining certification;
- Standards development procedures and policies;
- The certification and verification process;
- Complaints and dispute resolution policies.

Access to information in these areas is important for producers to enable them to make well-informed decisions about sustainability standards. As discussed above, standards that do not provide this information increases transactions costs for producers.

The analysis conducted in this section of the report focuses on transparency in the areas of most importance to producers that seek to obtain certification. It finds that transparency levels vary significantly between standards and areas of activity. As illustrated in Figure 11, almost all standards make freely available information about their documents, and about half of the standards listed in Standards Map provide information about the certification/verification process and their application and standards development procedures. Significantly fewer standards, however, are as transparent about their assessment methodologies.

Figure 11. Transparency of voluntary sustainability standards



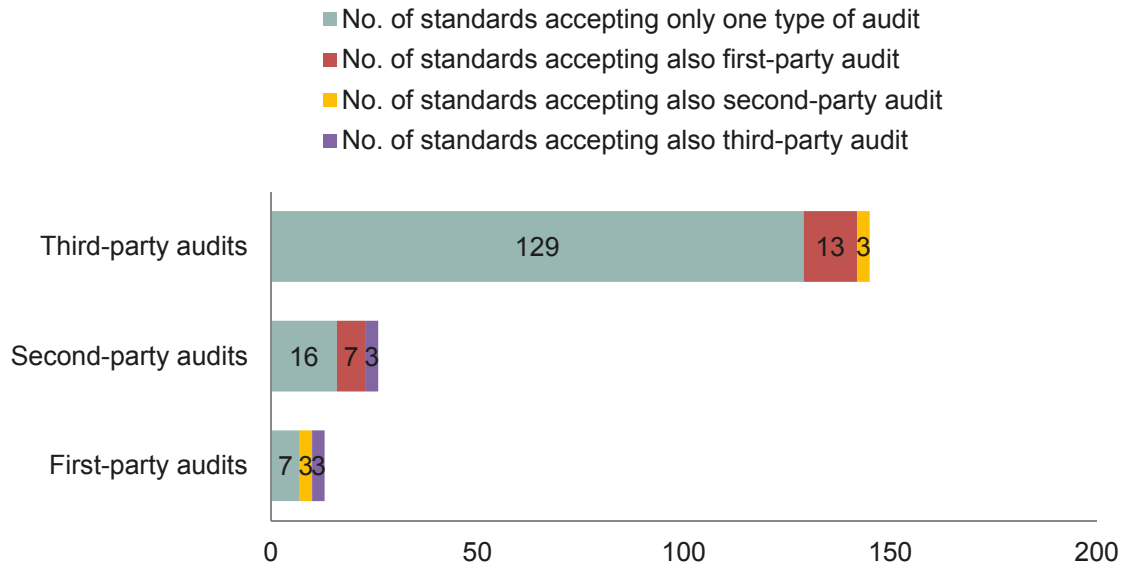
Note: The statistics are based on 181 standards.
Source: ITC and EUI calculations based on ITC Standards Map.

2.5. Conformity assessment

Conformity assessment is the process of verifying whether a producer complies with the requirements or indicators of a standard. It can include on-site visits and inspections, interviews with workers, document control and product testing. Conformity assessment can be done in three ways: first-party assessment, second-party assessment and third-party assessment. First-party assessments, sometimes called internal audits, are conducted by the organization itself, or on its behalf, for management review and other internal purposes (ISO, 2011). Second-party assessments are conducted by parties that are related to an enterprise. They are frequently used in food processing and retailing. First- and second-party audits are also called verifications. Third-party assessments are conducted by independent entities (certification bodies) not related to an enterprise and are a relatively robust form of assessment. Third-party audits are also referred to as certifications and can result in a producer being issued with a certificate, which is a document proving that a standard has been met.

The Standards Map database provides information on the types of audits required by a standard. The analysis indicates that 129 standards (71%) are based only on third-party audits, whereas 16 standards (9%) require second-party audits and 13 standards accept both first- and third-party audits (7%). Seven standards are based on first- and second-party audits; another seven accept only first-party audits; and three accept all types of audits (4%, 4% and 2%, respectively) (Figure 12).

Figure 12. Types of audit



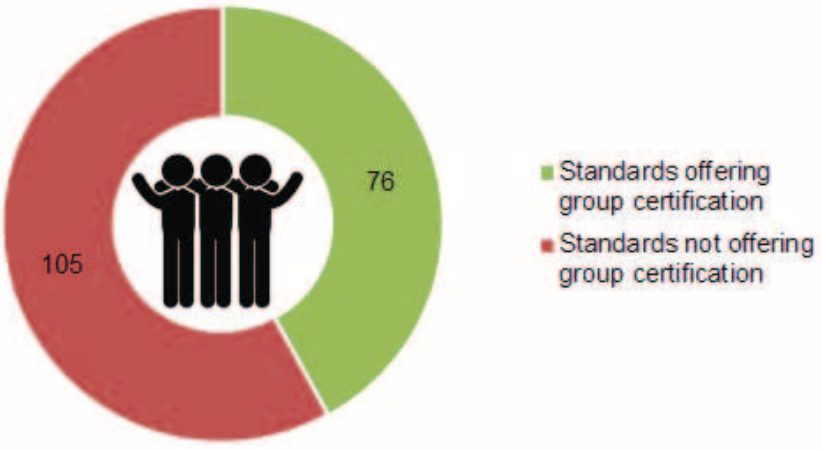
Note: The statistics are based on 181 standards.
Source: ITC and EUI calculations based on ITC Standards Map.

Group certification popular with farmers

To make the conformity assessment process easier and less costly, many standards allow farmers to undergo group certification, which is an assessment of a group of small producers organized into farmer organizations or cooperatives. Normally, group certification is based on an internal control system in which a group leader, sometimes called an internal inspector, performs the assessment of group members. The robustness of internal control systems can then be verified or certified by an independent third party.

The Standards Map database contains information on standards using group certification of producers. There are 76 standards that do so (Figure 13); they cover agricultural products and generally certify or verify large quantities of products, such as coffee, soy and tea.

Figure 13. Standards offering group certification



Note: The statistics are based on 181 standards.
Source: ITC and EUI calculations based on ITC Standards Map.

Group certification is beneficial to farmers in several ways. First, it allows for the sharing of certification costs. Second, it encourages collaboration between group members through integrated audits and training. Third, it improves management systems of group members because sustainability standards often set management requirements at the farmer group level.

Compliance with the VSS requirements is inevitably associated with costs. The Standards Map data provide some insights on these costs. Implementation costs are related to specific sustainable production and management methods. These costs depend on the producer's level of preparedness to employ particular certain criteria in production. For example, the more advanced the producer is, the less time and financial resources are needed to meet certain requirements. Conformity assessment and audit costs, when the auditor's on-site inspections and document control have to be compensated, are the second most common cost for operators.

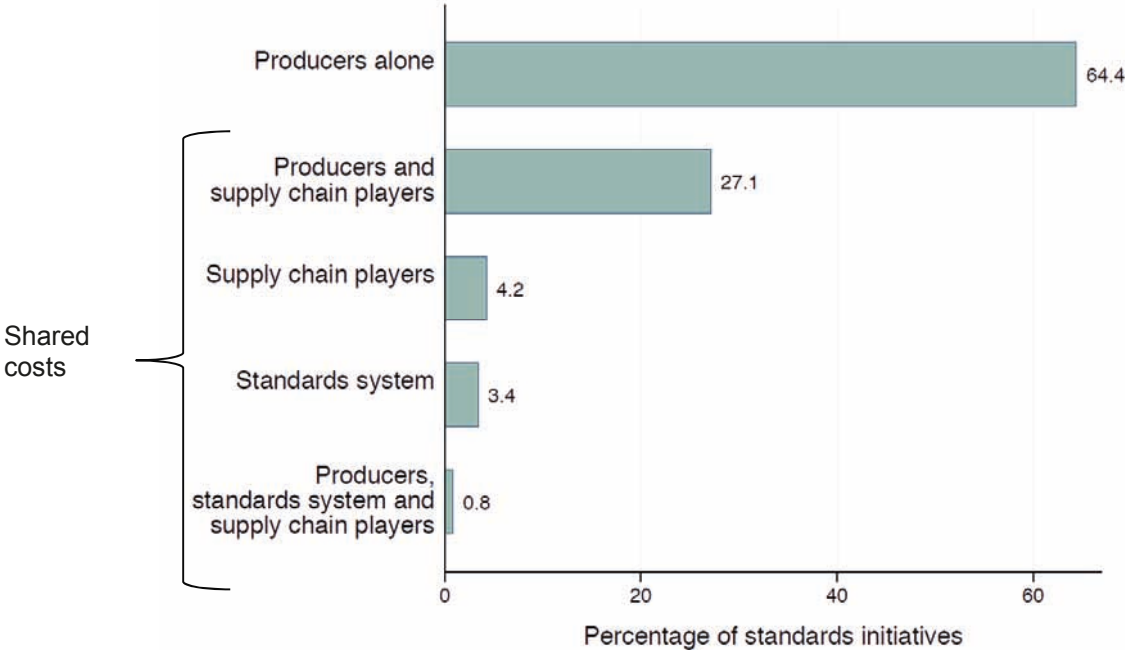
2.6. Implementation and certification costs

The question of who bears the implementation and certification costs is important, especially for producers in developing countries. As highlighted throughout this report, demonstrating compliance with VSS is becoming increasingly important for gaining access to international value chains and consumer markets. Obtaining certification and implementing standards involves investment. In the long run, these costs might be offset through better market access and/or productivity gains (ISEAL Alliance, 2015a). However, in the short term, certification and the implementation of sustainability standards creates costs for producers.

Costs borne mainly by producers

The Standards Map database includes information on the cost-sharing models used by VSS systems. In 64.4% of the standards for which this information was available, producers are solely responsible for paying the implementation costs. The analysis indicates that 27.1% of the standards reviewed use a model in which these costs are shared more equally among producers and other supply chain actors. In contrast, in only a very small proportion of cases are implementation costs borne by the standards system (3.4%) or other supply chain actors (4.2%) without any contribution from producers (Figure 14).

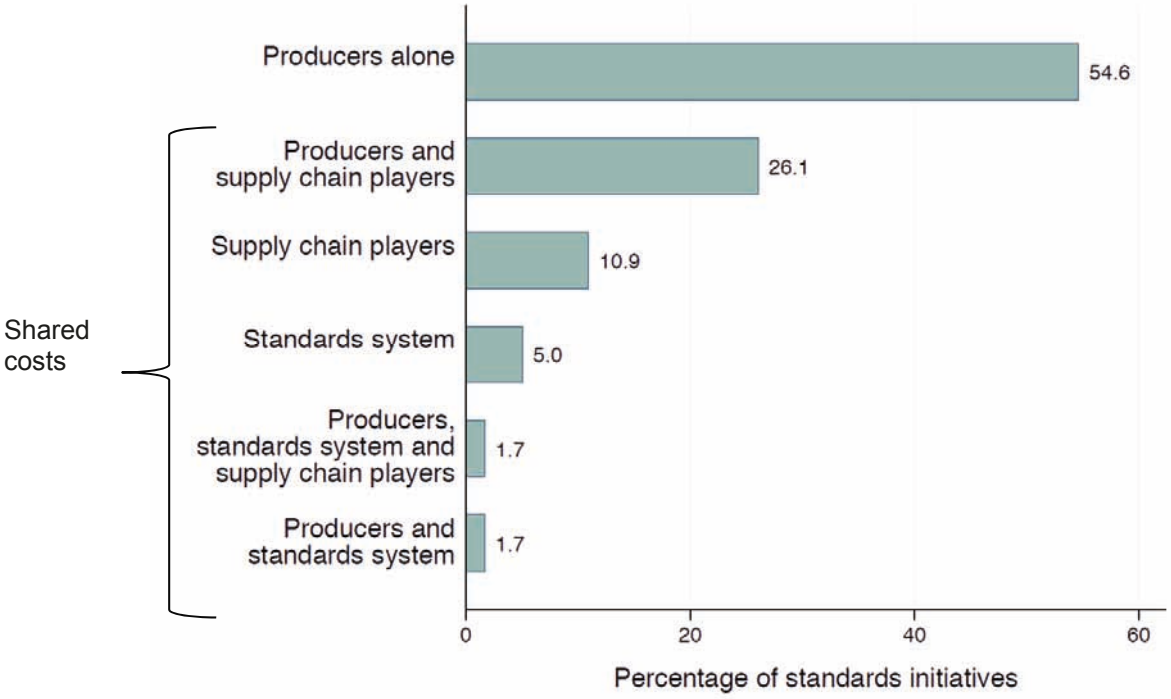
Figure 14. Implementation costs



Note: The statistics are based on 109 standards.
Source: ITC and EUI calculations based on ITC Standards Map.

The situation is much the same for certification costs; the distribution is shown in Figure 15. In the majority of cases (58 standards, or 54.6%) these costs are borne by producers alone; standards that distribute the costs more equally between producers and other stakeholders are in the minority. For example, only 26.1% of standards use a model in which certification costs are borne jointly by producers and other supply chain actors such as buyers, processing companies and traders). Even rarer are instances in which producers do not have to pay any of the certification costs. This was the case for only 15.9% of the standards for which information on certification costs was available.

Figure 15. Certification costs



Note: The statistics are based on 110 standards.
Source: ITC and EUI calculations based on ITC Standards Map.

2.7. Sustainability labels

Standards systems use labels and traceability. Many standards use policies for labels and claims that could be used either directly on product packaging or indirectly, off-product, to demonstrate a producer's participation in a sustainability standard. Several research papers differentiate between standards and labels used for business-to-business (B2B) and business-to-consumer (B2C) transactions.

The analysis indicates that 137 of the 181 standards in the database have policies for product labelling. The use of claims or labels is associated with certain fees, for example licensing fees, which must be paid to the standard setter that has created a particular label.

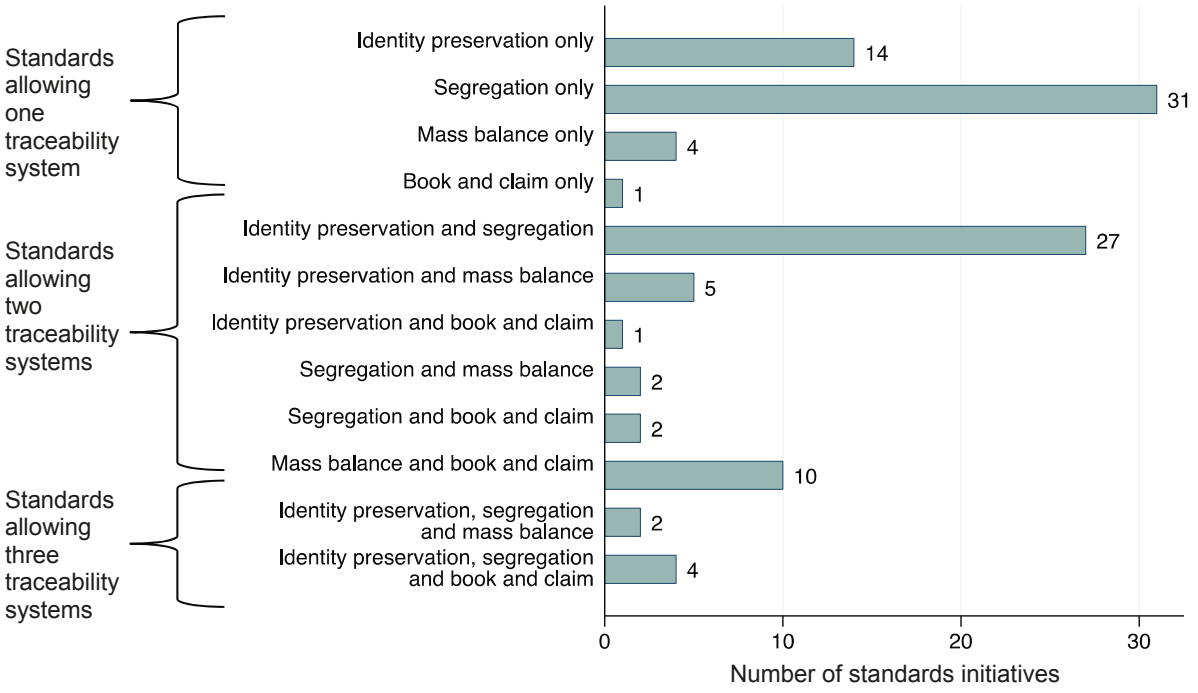
2.8. Traceability

Voluntary sustainability standards often apply traceability systems for certified or verified products. The ISEAL Alliance defines traceability systems as 'the methods and tools employed to record and follow the trail as products, parts, and materials come from suppliers and are processes and ultimately distributed as end products. May be electronic, but does not have to be' (ISEAL Alliance, 2015b). In general, traceability systems are used to ensure sustainable contents or parts in an end product.

There are several types of traceability systems. The first type, identity preservation, is a system that requires the strict separation of certified products along the supply chain without mixing different certified products. The second is segregation. This allows certified products from different facilities to be mixed, but not with conventional or non-certified products. The third type, mass balance, permits the mixing of certified and non-certified products or ingredients and results in claims showing the percentage (or any other share) of certified product and non-certified contents. The fourth type, book and claim, also permits the mixing of certified and conventional products or ingredients and includes the trading of certificates.

The Standards Map database provides information on the types of traceability systems used by standards. The analysis indicates that 62 standards use identity preservation, 76 use segregation, 27 use mass balance and only 10 use book and claim. While 50 standards use only one traceability system, other standards allow the use of several types: 47 standards use two systems, for example, and six standards use three.

Figure 16. Traceability systems



Note: The statistics are based on 181 standards.
Source: ITC and EUI calculations based on ITC Standards Map.

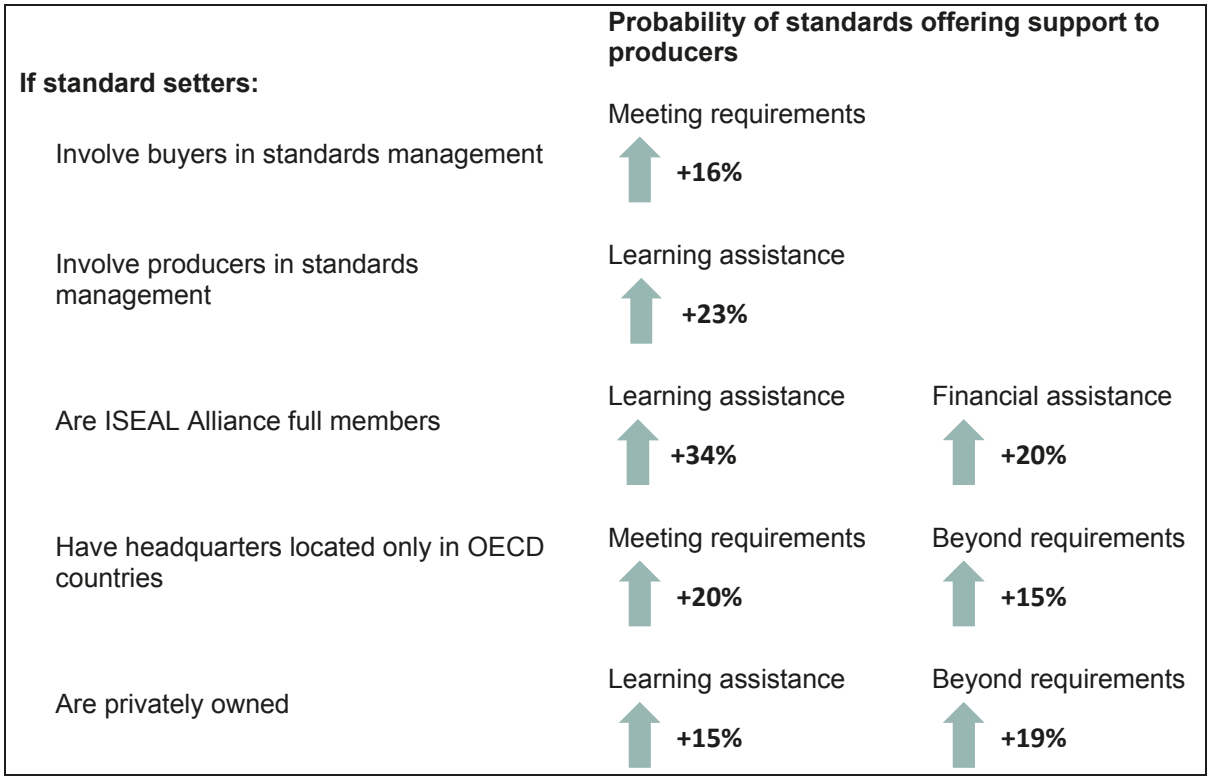
Chapter 2: Making voluntary sustainability standards accessible to producers

1. Supporting producers to become certified

The approach applied by standard setters to support activities varies greatly. All standards provide documents, and many help with learning forums and networking activities. Some standards offer technical assistance for meeting standards' requirements. A few go the extra mile, helping producers improve productivity and market access. This analysis aims to identify the patterns of support as a function of the institutional design of the VSS, pinpointing which types of VSS are more likely to provide support and which types of support they would offer.

ISEAL membership emerged as a strong predictor of standards' support activities. As can be seen in Figure 17, ISEAL membership is positively correlated with a higher likelihood of standards offering support activities in two main areas, learning assistance and financial support, which are particularly important for developing-country producers. Another statistically significant finding is that standards systems in rich countries offer higher levels of support than those in poor countries. One possible interpretation is that these standard setters may have more resources at their disposal than those located in the developing world. In addition, there is a positive correlation between producer and buyer engagement and higher levels of support.

Figure 17. What type of standards offer support to producers



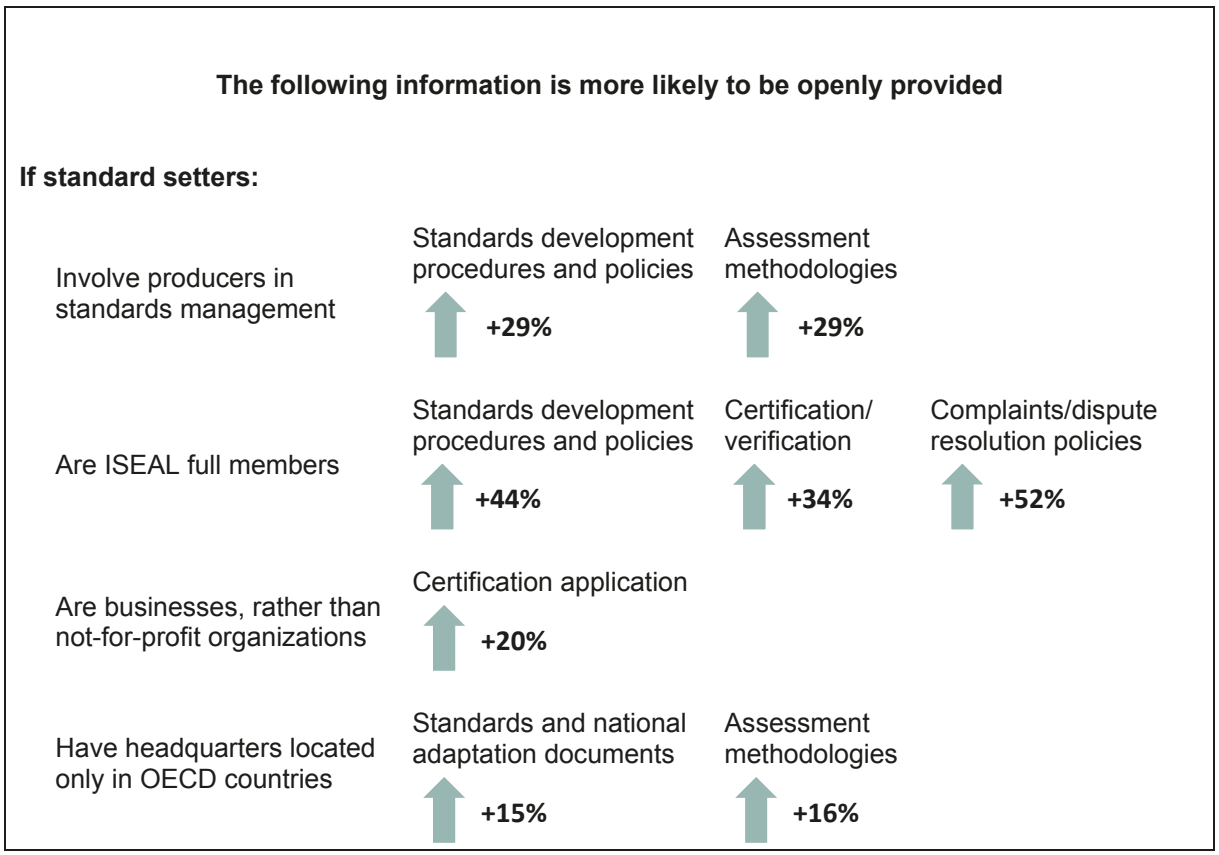
Note: Numbers correspond to a change in the probability of standards offering support as a function of a change in the standards' design, based on a probit regression model (see Table 5 for details).
Source: ITC and EUI estimates based on ITC Standards Map.

2. Being more transparent

Transparency is an important feature of user-friendly design. This section of the report will look at how disclosure practices, what information is provided to whom, are related to the key characteristics of VSS. The objective is to identify relationships between the institutional design of standards and their level of transparency.

The analysis shows that ISEAL membership has a statistically significant effect on transparency in three key areas: disclosure of information on standards development procedures and policies, the certification/verification process, and complaints and dispute resolution policies. The engagement of producers in VSS at the board level and in decision-making also has a positive effect on transparency practices. Standards that engage producers in this way are more likely to disclose information on their assessment methodologies and their standards development procedures and policies (Figure 18).

Figure 18. Understanding the patterns of transparency across sustainability standards



Note: Numbers correspond to a change in the probability of providing information as a function of a change in the standards' design, based on a probit regression model (see Table 8 for details).
Source: ITC and EUI estimates based on ITC Standards Map.

3. Reducing costs

In this section, regression analysis is used to explore the determinants of certification and implementation costs – that is, the factors that are positively and negatively correlated with different cost-sharing models. The objective is to detect relationships between key features of the standards systems and the distribution of costs.

For the purpose of the analysis, the cost variables (detailed in Figure 14 and Figure 15) have been aggregated to identify two main distribution models for both certification and implementation costs:

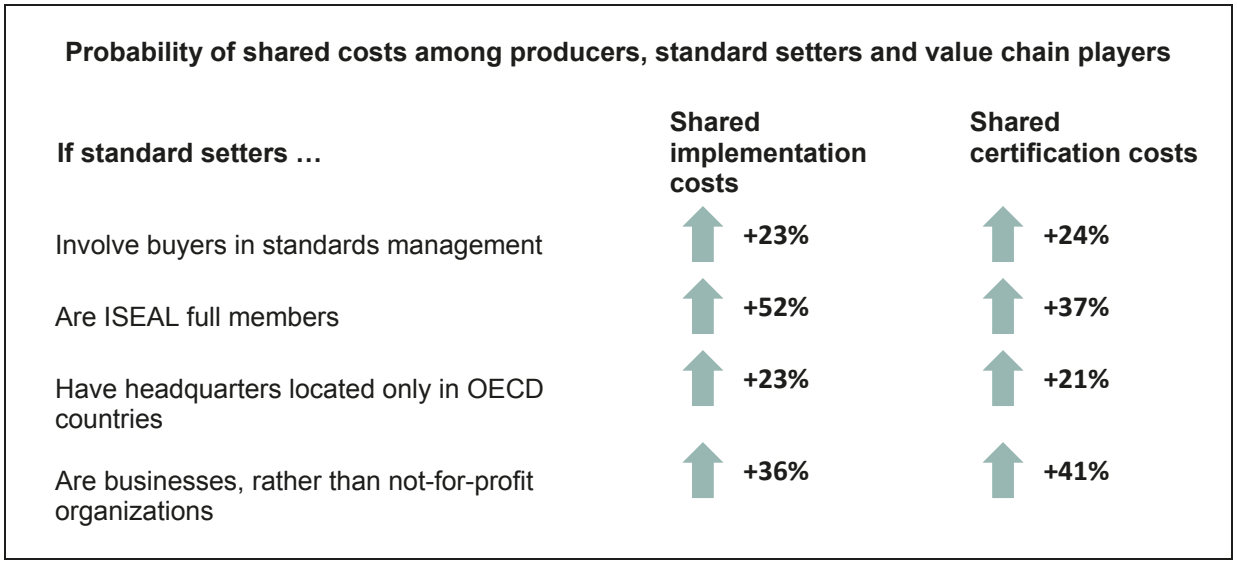
- Producers alone: producers bear the cost of certification or implementation alone;
- Shared costs: producers bear the cost together with other value chain actors and/or the standards system.[6]

To explore variation in the use of these cost-sharing models, general aspects of the standards' institutional designs have been included in the regression analysis. The factors that have a statistically significant influence on the probability of cost sharing are involvement of buyers in the management of standards, ISEAL membership, location of headquarters in an OECD country and for-profit orientation where standard setters are businesses, rather than not-for-profit organizations.

The quantification of the regression results (marginal effects of a binomial probit model) is presented in Figure 19. One factor that stands out is membership in the ISEAL Alliance. Standards that are ISEAL full members are 52% more likely than the average standard in this sample to have a design in which the implementation costs are shared, and 37% more likely to have certification costs shared. What this means is that when it comes to costs, ISEAL membership improves the situation for producers.

Another statistically significant finding is that the engagement of buyers at the board or management level also increases the likelihood of cost sharing. Standard setters that are businesses, as opposed to NGOs, are also more likely to use a cost-sharing model, probably because they have fewer financial constraints than NGOs.

Figure 19. Governance and design of standards affect producer costs



Note: Numbers correspond to a change in the probability of costs being shared as a function of a change in the standards' design, based on a binomial probit regression model (see Table 11 for details).
Source: ITC and EUI estimates based on ITC Standards Map.

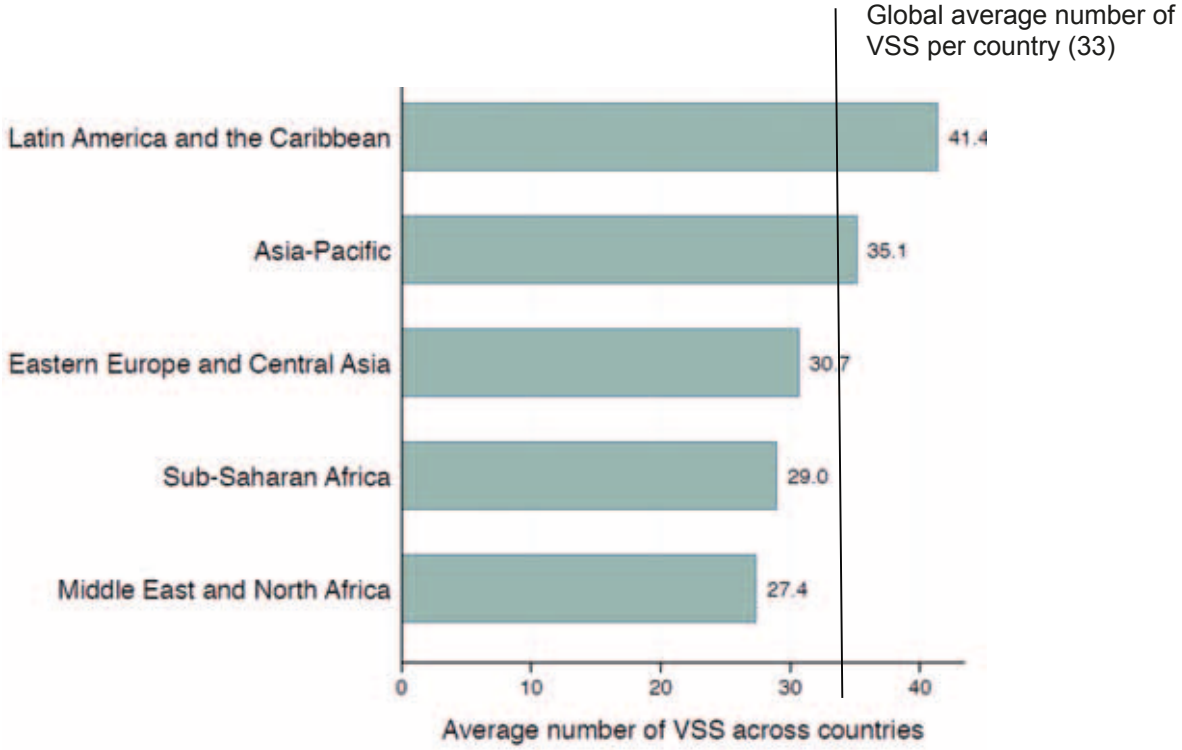
[6] Note that this category includes rare cases where producers do not pay certification/implementation costs.

4. Increasing standards availability at country level

The design of standards and their governance structure will only matter if standards are available in the country where producers are located. Even if there is at least one sustainability standard operation in each country, the geographical scope of standards' operations varies considerably. This suggests that some countries have a higher number of standards available, which means that these countries' producers have more opportunities for sustainability certification and access to sustainable value chains.

Countries in the Middle East and North Africa, sub-Saharan Africa and Central Asia have access to a lower number of standards than the global average of 33 per country. There are, for example, 29 standards operating in sub-Saharan African countries. The situation is inverted in Latin America and the Caribbean and the Asia-Pacific region (if one focuses on developing countries), where the number of standards per country exceeds the global average: 35 standards on average operate in Asia-Pacific and 41 in Latin America and the Caribbean (Figure 20).[7]

Figure 20. Sustainability standards in developing regions



Source: ITC and EUI calculations based on ITC Standards Map.

Home market size matters for standards availability

Given that standards availability is an absolute prerequisite for standards' uptake by producers, this section of the report evaluates the relationship between the number of standards and country characteristics, namely, GDP, GDP per capita, logistics performance, institutional quality and WTO membership.

GDP is a key measure of the size of an economy and is expected to be a strong predictor of standards availability. GDP and standards availability, which is the number of standards operating in a country, are related in several ways. First, the size of the economy makes certification economically appealing for conformity assessment bodies. Second, for purely statistical reasons, larger, more diversified economies have a higher probability of producing/exporting products and services that are

[7] The regional aggregates reflect the ITC regional classification system and include only developing countries.

likely to be of interest to sustainability standards. The likelihood that some producers are interested in and capable of fulfilling VSS requirements is also greater in larger countries.

GDP per capita may be used as a proxy for the level of a country's development or income.[8] The relationship between GDP per capita and standards availability is ambiguous. Sustainability standards' requirements are stricter and broader than compulsory government regulations, which means producers in developed countries may be more capable of fulfilling them. This would lead to a positive coefficient. At the same time, the number of standards in developing countries is growing at a higher rate, suggesting a negative coefficient.

The results show that the size of an economy is important for standards availability while the level of per capita income does not matter much. The size of an economy is the strongest individual predictor of the number of standards operating in the country, which has the greatest impact of all explanatory variables (country-level indicators correlated with standards availability). A one-standard deviation increase in GDP is associated with 12.5 additional standards (Figure 21). The average income in an economy, as measured by GDP per capita, is not statistically significant once the size of the economy is controlled for by including total GDP in the regressions.

Figure 21. Standards availability and country characteristics

Explanatory variable	Standard deviation	Regression coefficients	Increase in the number of available standards
Log of GDP	2.2	5.7	12.5
Logistics Performance Index	0.5	10.1	5.1
Institutional quality	1	4.2	4.2
WTO membership	0.5	8.1	4.1

Note: The length of the bars corresponds to an increase in the number of available standards associated with a comparable increase in explanatory variables. (See Table 14 for details.)
Source: ITC and EUI calculations based on ITC Standards Map.

The next hypothesis is related to the role logistics performance and institutional quality plays in standards availability. A negative correlation between these two variables and standards availability would signal that sustainability standards compensate for institutional gaps by being more present in countries with weaker institutions and logistics. A negative correlation would also signal less trust between buyers (consumers and value chain players) and producers in developing countries. A positive correlation would signal that standards and conformity assessment bodies tend to be more present in countries with stronger institutions. Both hypotheses find some support in the related literature on the patterns of standards adoption (Marx and Cuypers, 2010; Berliner and Prakash, 2014).

To provide an empirically grounded explanation for the correlation between these variables and standards availability, logistics performance has been measured by the Logistics Performance Index of the World Bank (Box 1). Institutional quality has been estimated using principal factor analysis (

[8] In the case of Small Island Developing States the GDP per capita may not fully reflect the developmental level due to challenges related to their vulnerability.

Table 13) combining the Worldwide Governance Indicators, also developed by the World Bank (Box 2). WTO membership was included as a proxy for good trade policy and trade institutions.

Box 1. Logistics Performance Index

A multidimensional assessment of logistics performance, the Logistics Performance Index (LPI) compares the trade logistics profiles of 160 countries and rates them on a scale of 1 (worst) to 5 (best). The ratings are based on 6,000 individual country assessments by nearly 1,000 international freight forwarders who rated the eight foreign countries their company serves most frequently.

The LPI's six components are: (1) Customs: the efficiency of the clearance process (speed, simplicity and predictability of formalities) by border control agencies, including customs; (2) Infrastructure: the quality of trade- and transport-related infrastructure (ports, railroads, roads, information technology); (3) International shipments: the ease of arranging competitively priced shipments; (4) Logistics competence: the competence and quality of logistics services (transport operators, customs brokers); (5) Tracking and tracing: the ability to track and trace consignments; and (6) Timeliness: the frequency with which shipments reach the consignee within the scheduled or expected delivery time.

Source: World Bank and Turku School of Economics, Logistics Performance Index (2007-2014), http://lpi.worldbank.org/.

Box 2. The Worldwide Governance Indicators

To measure institutional quality, this report employs four dimensions of governance based on the latest available data from the Worldwide Governance Indicators developed by the World Bank:

- Political stability and absence of violence
- Regulatory quality
- Rule of law
- Control of corruption

These aggregate indicators combine the views of a large number of enterprise, citizen and expert survey respondents in industrialized and developing countries. They are based on over 30 individual data sources produced by a variety of survey institutes, think tanks, NGOs, international organizations and private sector firms.

Source: World Bank, www.governance.org .

The analysis reveals that logistics performance, institutional quality and WTO membership all have a strong positive association with standards availability. The direction of the relationship is similar to that of GDP, albeit smaller in magnitude of the effect. A one standard-deviation increase in the value of the Logistics Performance Index is associated with 5.1 additional standards, while higher levels of institutional quality is associated with 4.2 additional standards. WTO members on average have 4.1 standards more than non-WTO members (Figure 21). These results corroborate the findings of case studies summarized in Marx et al. (2015). For example, the adoption of the Forest Stewardship Council standard is higher in countries with better governance.

To sum up, countries with larger markets, stronger institutions and better logistics have higher numbers of standards operating in their territories. This potentially increases the certification opportunities available to producers. Once the size of the economy is taken into account, the level of development as reflected in per capita income is not important for standards availability.

Chapter 3: Conclusions and recommendations

Mapping the landscape of sustainability standards

This report has studied the vast landscape of voluntary sustainability standards. The analysis is based on 181 standards initiatives sourced from the ITC Standards Map database. It explores the differences in standards design and in characteristics of the countries where standards operate. The underlying statistics and econometric analyses identify features that make standards producer-friendly, and country characteristics that are associated with higher numbers of standards in operation.

VSS originated in the industrialized world, but the trend is changing. The share of new standards headquartered in non-OECD countries is continuously growing. Nonetheless, the number of standards available to producers is very unequal, ranging from just one standard initiative in some countries to 106 standards operating in the European Union. The lowest number of standards is in sub-Saharan Africa (with an average of 29 standards per country) and the Middle East and North Africa (27 standards), compared to a global average of 33 standards per country.

As with geographical coverage, value chain coverage and the sectoral focus of standards vary widely. Standards can cover the entire value chain or just parts of it. More than half of the standards studied in this report are operating in the upstream end of value chains – extraction and primary production. Standards can be applied to goods, services or processes. Most standards in the analysed sample target goods, which are most frequently agricultural. Vegetable products, such as fruits, nuts, coffee, tea, cereals and flowers, can be certified by 40% of the analysed standards (72 of the 181 standards).

Improving factors to increase standards availability

The findings indicate that the size of the economy is the most important factor behind the number of standards operating in a country, while its per capita income does not matter much. This trend may disadvantage smaller countries that wish to promote exports through sustainable value chains. However, there are other factors strongly associated with increased standards availability. These factors are under the control of policymakers, such as strong institutions, efficient logistics and good trade policy and trade institutions.

Designing standards to be producer friendly

Sharing costs

Compliance can facilitate access to consumers and value chains, but is associated with implementation and certification costs. The costs related to standards can be shared among producers, standard setters and value chain players, but this is rare. Producers alone are responsible for implementation costs in 64% of standards initiatives, and certification costs in 55% of initiatives. This can disadvantage the adoption of standards by SMEs and small farmers. The findings indicate that costs are shared more frequently when the standards are set by the private sector and when buyers are involved at the board/management level. Group certification can be beneficial to smallholders but is offered by less than half (76) of the 181 standards analysed in this report. First-party assessments (by the producer itself) and second-party assessments (by a party related to the producer) can be less costly, but the vast majority of standards (71%) require third-party conformity assessments by an independent entity.

Providing support

To facilitate standards adoption, standard setters can provide capacity-building and financial assistance to producers. Almost all standard setters provide supporting documents. More than half of all standard setters offer technical assistance for meeting requirements (105 of the 181 standards); few go beyond meeting requirements, for example by helping producers to improve productivity, efficiency or market access. Looking at the cost implications of these activities, the analysis finds that the guidance tools and support documents are provided mostly free of charge. However, technical assistance – in particular technical assistance that goes beyond meeting the standards' requirements

– is often not free. Of the 50 standards that provide such support, only 15 offer this as a free service to producers. In addition, many standards systems offer their support activities in different languages, but only a few adapt them to the local context in terms of sector, firm size and level of technical development. Twenty-five standards provide financial assistance.

The findings identify types of standard setters that are associated with stronger support to producers. Learning assistance, such as participation in forums, conferences and networking events, is higher when producers are involved in standards' management; when the standard setters are privately owned; and when the standards are ISEAL full members. Technical assistance for meeting requirements is more likely to be provided by standard setters that are headquartered in an OECD country and that involve buyers in the standards' management. Standard setters from the private sector are more likely to provide assistance that goes beyond meetings the standards' requirements.

Ensuring transparency

Standards' transparency practices are important for producers as they can facilitate trust and informed decision-making. Most standards make information about standard's document available. About one-third of the analysed standards also release information about their certification and verification processes.

In contrast, significantly fewer standards are as transparent about their assessment methodologies and dispute resolution processes. This trend can be reversed. The findings indicate that transparency can be improved when producers are involved in standards management; when standard setters are private; and when the standards' headquarters are located in an OECD country. Standard setters that are ISEAL full members are likely to be more transparent about standards development procedures, certification and verification, as well as complaints and dispute resolution.

To sum up, the report shows that the producer-friendly design of standards is linked to the engagement of producers and buyers in standards' management, standards' being created by the private sector, and standards' full membership in the ISEAL Alliance. The specific features of producer-friendly design, such as cost sharing, technical assistance and transparency, can increase the adoption of sustainability standards by small producers and facilitate their integration into sustainable value chains.

Areas for future research

Important policy implications are related to the economics of standard setters and conformity assessment bodies, especially how their markets operate and how they are regulated. For example:

- Should Aid for Trade, public subsidies or end consumers cover some of the compliance costs?
- Will a direct transfer to farmers be more optimal than VSS with a minimum wage requirement or a price floor for certified products?
- How much market power do certifiers have?
- What is the optimal level of quality disclosure by certifiers?
- To what extent should governments regulate certifiers or provide certification services?

These questions and the overarching question of whether the same effect (welfare outcome) can be achieved by more efficient means are out of the scope of this report, but are a fruitful avenue for discussion and further research.

Appendix: Technical notes and regression results

1. Standards Map data collection, management and interpretation

The data for this report are sourced from the Standards Map database (www.standardsmap.org) developed, maintained and continuously updated by ITC. The database contained 181 standards at the time that work on this report commenced. The number of standards in the database is constantly increasing.

The database has been developed in collaboration with multiple partner organizations in the sustainability field. ITC collects information on standards and conducts quality control in cooperation with standard-setting organizations and independent experts. Each organization or its designated experts updates the information annually. ITC ensures continuous improvement and referencing in the database.

The database translates the standards information into more than 1,000 data fields split into two main categories: requirements and processes. The requirements category contains information on sustainability requirements falling under one of the sustainability hotspots in Standards Map: environment, social, management, quality and ethics. Each hotspot has a list of indicators, covering a certain sustainability issue that can be addressed by VSS. The processes category contains standards system elements of VSS that are different from requirements, such as product coverage, geographical scope, value chain focus, governance, transparency, support provided to certified producers, audits and traceability.

The empirical analyses have been carried out in four steps. In the first step, the raw data have been re-structured into a unified, research-oriented database in order to allow for systematic empirical analysis. In the second step, key concepts relevant to the economic analysis and policy formulation have been identified. In the third step, those concepts have been matched to the relevant data fields of the Standards Map database. The results of this mapping are presented in Table 2.

The fourth, analytical, step is about relationships, suggesting which concepts might be outcome variables and which concepts might be explanatory variables. It also suggests how they interact among themselves and with other relevant variables. The selection was made on the basis of existing literature and field experience. The smallest unit of the analysis is VSS initiative (or VSS, voluntary standard, or standard, which are used interchangeably in this report). The regressions have been performed at the VSS initiative level and at country level.

One caveat on using Standards Map data is the potential sampling bias. VSS initiatives need to satisfy all of the following requirements to be included in the database. First, they must have requirements that cover at least one sustainability area among five categories, including environment, social, management, quality and ethics. Second, the requirements of the initiative need to be publicly available. Third, the initiative must have robust audit and conformity assessment procedures and has to be operational. Finally, Standards Map started data collection with larger initiatives and initiatives related to agriculture. These preferences no longer apply. The variables used for the analysis in the current report exhibit large variability and are not correlated with the variables affecting the data collection process. Hence, the sampling approach of Standards Map is not expected to influence the results.

Table 2. Areas of interest, corresponding indicators and definitions

Area of interest	Indicator	Definition
Standards availability	Current scope of verified/certified operations (services and production; countries where producers can become certified).	Indicates the countries in which the standards system is currently implemented and/or where products covered by the standards system have been verified/certified as of the latest update of the information in this database; that is the indicator includes only current (actual) scope.
Market outreach	Current and potential market outreach for certified/verified goods and services (countries where	Indicates the countries where the standard has market outreach, that is where products or services compliant with the standard can be found on the market. The indicator

	consumers can buy certified products).	includes both current (actual) and potential scope of outreach as defined by the standard setters.
Scope	Product scope.	Indicates a list of products/services/sectors that fall within the scope of operations of the standards system.
	Target group.	Indicates whether a sustainability initiative focuses on specific target constituents and groups.
	Requirements scope.	Type of requirements and their degree of obligation, i.e. how compulsory they are.
Support to producers	Technical support.	Standards system directly provides technical assistance to help applicants be verified/certified through workshops, training, and provision of equipment.
	Technical assistance that goes beyond the standards' requirements – productivity, efficiency, access to markets.	The question is relevant for schemes using a capacity-building approach. Technical assistance that goes beyond helping with compliance includes such actions as providing resources, coordinating conferences, and other peer learning activities.
	Financial assistance.	Advance payments to facilitate the purchase of produce from farmers, the existence of a support fund, or the payment of verification/certification fees via purchasing companies.
	Learning assistance.	Organizing learning forums, networking activities and conferences.
Transparency	Transparency.	Refers to public disclosure of information on the standards system; providing information free of charge and restrictions.
	Standards and national adaptation documents	The standards system provides public access to its documents.
	Certification/verification operations, for example names, sizes and locations of all certified units, including expiry dates.	Information on certified operations is made accessible to stakeholders.
	Certification/verification decisions, for example pass/fail/corrective action plans.	Information on certification/verification decisions is made publicly accessible.
	Complaints and dispute resolution policies	Complaints and dispute resolution policies on, for example, certification/verification decisions and work of auditors are made publicly accessible.
	Standards' assessment methodologies	Is there a publicly available assurance methodology?
	Standards development procedures and policies	Policies for standard setting and standards' review procedures are documented.
	Standards' certification application instructions and forms	Certification instructions and forms are made publicly available.
Costs sharing	Certification costs sharing	Indication on the incidence of certification costs and the availability of cost sharing options.
	Implementation costs sharing	Indication on the incidence of certification costs and the availability of cost sharing options.
Governance structure and inclusiveness	Producers' involvement in standards' board/management	The extent to which the standard setter gives decision-making power to producers, how extensive those powers are, and what facets of the governance process they get access to.
	Buyers' involvement in standards' board/management	The extent to which the standard setter gives decision-making power to buyers, how extensive those powers are, and what facets of the governance process they get access to.
Meta standards	ISEAL full membership	ISEAL full members embrace the ISEAL Credibility Principles and comply with ISEAL's Standard-Setting Code.

2. Regression results and summary statistics

Table 3. Support and institutional design: summary statistics

Variable	N	mean	p50	sd	min	max
Technical assistance for meeting requirements	161	0.565	1	0.497	0	1
Technical assistance beyond meeting requirements	161	0.255	0	0.437	0	1
Financial assistance	161	0.143	0	0.351	0	1
Learning forums	161	0.484	0	0.501	0	1
Private (=1)/public	161	0.857	1	0.351	0	1
Not-for-profit (=1)/for-profit	161	0.907	1	0.292	0	1
ISEAL full member	161	0.106	0	0.308	0	1
Producers' engagement in decision-making	161	0.379	0	0.487	0	1
Buyers' engagement in board/ management	161	0.317	0	0.467	0	1
Headquarters located only in OECD countries	161	0.745	1	0.437	0	1

Table 4. Support and institutional design: baseline regressions

Dependent variable:	Technical assistance requirements	Technical assistance beyond requirements	Financial assistance	Learning forums
	(1)	(2)	(3)	(4)
Status of organization: public or private (private=1)	0.327 (0.295)	0.672* (0.392)	-0.555 (0.348)	0.479 (0.316)
Status of organization: for-profit or not-for-profit (not-for-profit=1)	0.234 (0.356)	-0.215 (0.388)	-0.148 (0.456)	-0.454 (0.367)
ISEAL full member	0.292 (0.360)	0.571* (0.346)	0.767** (0.346)	0.873** (0.356)
Influence of producers in board/ management of scheme: decision-making	-0.0366 (0.260)	-0.114 (0.259)	0.391 (0.271)	0.601** (0.251)
Engagement of buyers in board/ management of scheme	0.440 (0.271)	-0.127 (0.272)	-0.225 (0.296)	0.438 (0.269)
Headquarters located only in OECD countries	0.505** (0.248)	0.506* (0.293)	0.286 (0.340)	0.313 (0.259)
Constant	-0.850* (0.451)	-1.461*** (0.560)	-0.892* (0.531)	-0.734 (0.487)
Observations	161	161	161	161
Pseudo R-squared	0.061	0.071	0.071	0.133

Note: Robust standard errors reported between brackets. * p<0.1, ** p<0.05, *** p<0.01
The regressions are based on a probit model taking support dummies as dependent variables.

For greater ease of interpretation, the marginal effects computed at the median value of covariates (private, not-for-profit, not ISEAL member, no engagement of producers in decision-making, no engagement of buyers on board) are reported in Table 5. The interpretation of the marginal effects is the variation in the probability of observing support when the relevant covariate is increased by one unit – or, if the relevant covariate is a dummy, when it goes from 0 to 1 – while keeping all the other explanatory variables fixed at their median level. Take, for instance, the estimated coefficient of status public/private in model 2 (0.188). It means that when considering the median system, the probability of observing technical assistance beyond meeting the requirements increases by approximately 19% if the system goes from public to private.

Table 5. Support and institutional design: marginal effects

Dependent variable:	Technical assistance requirements	Technical assistance beyond requirements	Financial assistance	Learning forums
	(1)	(2)	(3)	(4)
Status of organization: public or private (private=1)	0.130 (0.117)	0.188** (0.0877)	-0.130 (0.102)	0.155* (0.0919)
Status of organization: for-profit or not-for-profit (not-for-profit=1)	0.0927 (0.142)	-0.0795 (0.147)	-0.0276 (0.0904)	-0.177 (0.144)
ISEAL full member	0.109 (0.128)	0.220 (0.135)	0.199* (0.108)	0.337*** (0.128)
Influence of producers in board/ management of scheme: decision-making	-0.0143 (0.102)	-0.0390 (0.0872)	0.0841 (0.0661)	0.235** (0.0971)
Engagement of buyers in board/ management of scheme	0.159* (0.0910)	-0.0434 (0.0905)	-0.0328 (0.0409)	0.171 (0.106)
Headquarters located only in an OECD country	0.199** (0.0955)	0.152* (0.0805)	0.0399 (0.0438)	0.107 (0.0843)

Note: Robust standard errors reported between brackets. * p<0.1, ** p<0.05, *** p<0.01.

Table 6. Standards transparency: summary statistics

Variable	N	mean	p50	sd	min	max
Information on standards and national adaptation documents	178	0.904	1	0.295	0	1
Information is made accessible on assessment methodologies	137	0.474	0	0.501	0	1
Information on standards' certification applications	135	0.667	1	0.473	0	1
Information on standards' development procedures and policies	178	0.522	1	0.501	0	1
Information on verification/certification	178	0.629	1	0.484	0	1
Information on complaints/dispute resolution policies	178	0.494	0	0.501	0	1

Table 7. Standards transparency: probit regression

	Information on standards and national adaptation documents	Info is made accessible on assessment methodologies	Info on standards' certification applications	Info on standards' development procedures and policies	Info on verification/ certification	Info on complaints/ dispute resolution policies
	(1)	(2)	(3)	(4)	(5)	(6)
Status of organization: public or private (=1)	0.0122 (0.384)	-0.323 (0.395)	-0.247 (0.426)	-0.235 (0.317)	0.0617 (0.323)	0.206 (0.304)
Status of organization: for-profit or not-for-profit (=1)	0.701 (0.466)	0.353 (0.439)	0.982** (0.426)	0.0861 (0.377)	0.507 (0.366)	0.0529 (0.363)
ISEAL full member	0 (.)	-0.115 (0.339)	0.112 (0.374)	1.219*** (0.419)	1.232** (0.503)	1.713*** (0.499)
Influence of producers in board/ management of scheme: decision-making	0.465 (0.549)	0.748** (0.291)	-0.153 (0.283)	0.758*** (0.260)	0.211 (0.265)	0.234 (0.252)
Engagement of buyers in board/ management of scheme	0.141 (0.552)	-0.0755 (0.320)	-0.264 (0.309)	0.0913 (0.269)	0.325 (0.279)	-0.0168 (0.262)
Headquarters located only in OECD countries	0.734** (0.319)	0.446 (0.285)	0.108 (0.286)	-0.00261 (0.242)	-0.0110 (0.249)	-0.0878 (0.243)
Constant	0.111 (0.576)	-0.639 (0.592)	-0.173 (0.590)	-0.143 (0.471)	-0.349 (0.464)	-0.397 (0.469)
Observations	144	125	124	161	161	161
Pseudo R-squared	0.115	0.073	0.048	0.108	0.079	0.090

Note: Robust standard errors reported between brackets. * p<0.1, ** p<0.05, *** p<0.01.

Table 8. Standards transparency: marginal effects

	Information on standards and national adaptation documents	Info is made accessible on assessment methodologies	Info on standard's certification applications	Info on standard development procedures and policies	Info on verification/ certification	Info on complaints/ dispute resolution policies
	(1)	(2)	(3)	(4)	(5)	(6)
Status of organization: public or private (=1)	0.00146	-0.128	-0.0720	-0.0920	0.0242	0.0776
	(0.0462)	(0.156)	(0.113)	(0.126)	(0.127)	(0.112)
Status of organization: for-profit or not-for-profit (=1)	0.136	0.132	0.371**	0.0324	0.200	0.0204
	(0.114)	(0.157)	(0.158)	(0.140)	(0.140)	(0.140)
ISEAL full member		-0.0447	0.0344	0.438***	0.343***	0.521***
		(0.131)	(0.112)	(0.116)	(0.0892)	(0.0843)
Influence of producers in board/management of scheme: decision-making	0.0381	0.286***	-0.0512	0.294***	0.0799	0.0927
	(0.0318)	(0.101)	(0.0967)	(0.0947)	(0.0980)	(0.100)
Engagement of buyers in board/management of scheme	0.0149	-0.0295	-0.0911	0.0353	0.121	-0.00651
	(0.0537)	(0.124)	(0.112)	(0.105)	(0.0988)	(0.101)
Headquarters located only in OECD countries	0.145*	0.164*	0.0357	-0.001	-0.00430	-0.0344
	(0.0831)	(0.0994)	(0.0963)	(.)	(0.0969)	(0.0955)
Observations	144	125	124	161	161	161

Note: Robust standard errors reported between brackets. * p<0.1, ** p<0.05, *** p<0.01.

The following tables (Table 9 and Table 10) pertain to reducing costs. For this exercise the cost variables have been recoded to take only two values: ‘0’ when producers do not bear the cost alone because supply chain (SC) players or the standards systems (SS) itself are bearing the cost, or at least part of it; and ‘1’ when only producers bear the cost. The data are then used to estimate a probit model.

Table 9. Certification costs: summary statistics

Variable	N	mean	p50	sd	min	max
Producers alone bearing certification costs	110	0.536	1	0.501	0	1
Private (=1)/public	110	0.882	1	0.324	0	1
Not-for-profit (=1)/for-profit	110	0.927	1	0.261	0	1
ISEAL full member	110	0.136	0	0.345	0	1
Producers' engagement in decision-making	110	0.455	0	0.5	0	1
Buyers' engagement in board/ management	110	0.318	0	0.468	0	1
Headquarters located only in OECD countries	110	0.773	1	0.421	0	1

Table 10. Implementation costs: summary statistics

Variable	N	mean	p50	sd	min	max
Producers alone bearing implementation costs	109	0.624	1	0.487	0	1
Private (=1)/public	109	0.881	1	0.326	0	1
Not-for-profit (=1)/for-profit	109	0.936	1	0.246	0	1
ISEAL full member	109	0.128	0	0.336	0	1
Producers' engagement in decision-making	109	0.459	0	0.501	0	1
Buyers' engagement in board/ management	109	0.321	0	0.469	0	1
Headquarters located only in OECD countries	109	0.771	1	0.422	0	1

Table 11. Costs and institutional design: marginal effects

	Producers alone bearing certification costs	Producers alone bearing implementation costs
	(1)	(2)
Status of organization: public or private (=1)	0.228 (0.163)	0.326* (0.170)
Status of organization: for-profit or not-for-profit (=1)	0.411*** (0.141)	0.360* (0.184)
ISEAL full member	-0.367*** (0.126)	-0.523*** (0.118)
Influence of producers in board/management of scheme: decision-making	0.165 (0.106)	0.122 (0.0942)
Engagement of buyers in board/management of scheme	-0.243** (0.119)	-0.228* (0.127)
Headquarters located only in OECD countries	-0.212* (0.110)	-0.231*** (0.0805)
Observations	110	109

Note*:* Robust standard errors reported between brackets. * p<0.1, ** p<0.05, *** p<0.01.

Table 12. Country-level variables: correlation

	Standards availability	Log of GDP	Log of GDP per capita	WTO membership	Logistics Performance Index	Institutional quality
Standards availability	1.0000					
Log of GDP	0.7097	1.0000				
Log of GDP per capita	0.4156	0.5940	1.0000			
WTO membership (1=Yes)	0.3325	0.1711	0.0906	1.0000		
Logistics Performance Index	0.6249	0.6569	0.7794	0.2600	1.0000	
Institutional quality	0.4687	0.3982	0.7775	0.2516	0.8065	1.0000

Table 13. Scoring coefficients for institutional quality: principal factor analysis

Variable	Factor1
Regulatory quality	0.029
Rule of law	0.724
Political stability	0.009
Control of corruption	0.239

The results of the linear regression model at country level are presented in Table 14. The strongest individual predictor of standards availability is GDP (R^2=0.53); it has been used as a control variable in all regressions. Furthermore, quantile regressions have been performed to check the stability of the results. All coefficients remained statistically significant with the same order of magnitude.

GDP per capita has been excluded from regressions with logistics performance and institutional quality for two reasons. First, it is not a strong predictor of standards availability (R^2=0.11) and its coefficient is not statistically significant if GDP has been controlled for. Second, it is strongly correlated with institutional quality and logistics performance (Table 12). To control indirectly for GDP per capita, a dummy variable for high-income countries and a dummy variable for low-income countries (based on the World Bank definitions) have been included in the regressions. The results (not reported due to space limitations) remain statistically and economically similar to the baseline results reported in Table 14.

Table 14. Macroeconomic variables and standards availability: regression results

	Standards availability	Standards availability	Standards availability	Standards availability	Standards availability
	(1)	(2)	(3)	(4)	(5)
Log GDP	5.821***	5.677***	5.497***	4.971***	5.460***
	(0.444)	(0.487)	(0.468)	(0.771)	(0.449)
Log GDP per capita		0.555			
		(0.697)			
WTO membership			8.055***		
			(2.657)		
Logistics Performance Index				10.09***	
				(2.701)	
Institutional quality					4.153***
					(1.022)
Constant	17.77***	13.56**	11.91***	-8.115	19.06***
	(1.294)	(5.431)	(2.695)	(5.898)	(1.258)
Observations	169	169	169	147	168
R-squared	0.528	0.529	0.551	0.551	0.573

Note: Robust standard errors reported between brackets. * p<0.1, ** p<0.05, *** p<0.01.

Bibliography

Auld, G., & Gulbrandsen, L. (2010). Transparency in Nonstate Certification: Consequences for. *Global Environmental Politics, 10*(3), 97–119.

Berliner, D., & Prakash, A. (2014). Public Authority and Private Rules: How Domestic Regulatory Institutions Shape the Adoption of Global Private Regimes. *International Studies Quarterly, 58*(4), 793–803.

Carmin, J., Darnall, N., & Mil-Homens, J. (2013). Stakeholder Involvement in the Design of U.S. Voluntary Environmental Programs: Does Sponsorship Matter? *Policy Studies Journal: the Journal of the Policy Studies Organization, 31*(4), 527–543.

Cashore, B., Auld, G., & Newsom, D. (2004). *Governing through Markets: Forest Certification and the*. New Haven, CT: Yale University Press.

COSA (The Committee on Sustainability Assessment). (2013). *The COSA Measuring Sustainability Report: Coffee and Cocoa in 12 Countries.* Retrieved from http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2403284.

Delmas, M., & Montiel, I. (2008). The Diffusion of Voluntary International Management Standards: Responsible Care, ISO 9000, and ISO 14001 in the Chemical Industry. *Policy Studies Journal: the Journal of the Policy Studies Organization, 36*(1), 65–93.

G7. (2015). Leaders' Declaration. Schloss Elmau.

German Federal Government (2016). *Sustainable growth and social responsibility*. Berlin. Retrieved from https://www.bundesregierung.de/Content/EN/Reiseberichte/2016/2016-09-02-g20-gipfel-china_en.html?nn=393164

von Hagen, O., & Alvarez, G. (2011). *The Impacts of Private Standards on Producers in Developing Countries.* Retrieved from http://www.intracen.org/The-Impacts-of-Private-Standards-on-Producers-in-Developing-Countries/.

Hofstetter J.S., Mueller M. (2013) Achievement Study: 10 Years of the BSCI the Business Social Compliance Initiative, Brussels, Belgium. Retrieved from http://www.fta-intl.org/sites/default/files/bsciachievementstudy_master_final.pdf

IKEA. (2016). *IKEA Group Sustainability Strategy for 2020*. Retrieved from http://www.ikea.com/ms/de_CH/pdf/reports-downloads/sustainability-strategy-people-and-planet-positive.pdf.

ISEAL Alliance. (2014). *Code of Good Practice for Setting Social and Environmental Standards, Version 6.0.* Retrieved from http://www.isealalliance.org/our-work/defining-credibility/codes-of-good-practice/standard-setting-code.

ISEAL Alliance. (2015a). *What is the Business Case for Certification in 2015*. Retrieved from http://www.isealalliance.org/online-community/blogs/what-is-the-business-case-for-certification-in-2015.

ISEAL Alliance. (2015b). *ISEAL Glossary of Terms, Version*. Retrieved from https://www.isealalliance.org/sites/default/files/ISEAL%20Glossary%20of%20Terms%20v1%20-%2016%20Jan%202015.pdf.

ISO. (2011). *ISO 19011:2011(en) Guidelines for auditing management systems*. Retrieved from https://www.iso.org/obp/ui/#iso:std:iso:19011:ed-2:v1:en.

ITC. (2016). *The State of Sustainable Markets: Statistics and Emerging Trends 2015*. Retrieved from http://www.intracen.org/publication/The-State-of-Sustainable-Markets/.

Loconto, A., & Dankers, C. (2014). *Impact of International Voluntary Standards on Smallholder Market Participation in Developing Countries: A Review of the Literature*. Food and Agricultural Organization of the United Nations.

Mars. (2016). *Our Brands – Delivering quality and value, around the world*. Retrieved from http://www.mars.com/global/brands/cocoa-sustainability/cocoa-sustainability-approach/certification.aspx.

Marx, A. (2014). Legitimacy, Institutional Design, and Dispute Settlement: The Case of Eco-Certification Systems. *Globalizations, 11*(3), 401–416.

Marx, A., & Cuypers, D. (2010). Forest Certification as a Global Environmental Governance Tool. What is the Macro-Impact of the Forest Stewardship Council? *Regulation & Governance, 4*(4), 408–434.

Marx, A. (2015). *Voluntary Sustainability Standards: An Overview*. Leuven: Leuven Centre for Global Governance Studies, University of Leuven.

Schouten, G., Glasbergen, P., & Leroy, P. (2012). On the Deliberative Capacity of Private Multi-stakeholder Governance: The Roundtables on Responsible Soy and Sustainable Palm Oil. *Ecological Economics, 83*, 42–50.

UNFSS. (2013). *Voluntary Sustainability Standards.*

Unilever. (2016). *The Unilever Sustainable Living Plan*. Retrieved from https://www.unilever.com/sustainable-living/the-sustainable-living-plan/reducing-environmental-impact/sustainable-sourcing/.

Printed by ITC Digital Printing Service on FSC paper, which is environmentally-friendly paper (without chlorine) using vegetable-based inks. The printed matter is recyclable.

A free pdf is available on ITC's website at:
www.intracen.org/publications

Street address
International Trade Centre
54-56 Rue de Montbrillant
1202 Geneva, Switzerland

P: +41 22 730 0111
F: +41 22 733 4439
E: itcreg@intracen.org
www.intracen.org

Postal address
International Trade Centre
Palais des Nations
1211 Geneva 10, Switzerland