Building a roadmap to sustainability in agro-commodity production

---

Commissioned by:

Steering Committee:
IFC (International Finance Corporation)
IDH (Sustainable Trade Initiative)
DGIS (Dutch Ministry of Foreign Affairs)
SECO (Swiss State Secretariat of Economic Affairs)

October 2013

Consortium:
Jan Willem Molenaar (team leader, Aidenvironment); Jan Joost Kessler (Aidenvironment); Marai El Fassi (Aidenvironment); Jonas Dallinger (Aidenvironment); Emma Blackmore (iied); Bill Vorley (iied); Joost Gorter (NewForesight); Lucas Simons (NewForesight); Sophie Buchel (NewForesight); Bart Vollaard (NewForesight); Laure Heilbron (NewForesight)

Contents

List of Figures

List of Tables

List of Abbreviations and Acronyms

ASC	Aquaculture Stewardship Council
B2B	Business-to-Business
B2C	Business-to-Consumer
BCI	Better Cotton Initiative
BSCI	Business Social Compliance Initiative
4C	Common Code for the Coffee Community
CAA	Cocoa Abrabopa Association
CAR	Rural Environmental Registry (*Cadastro Ambiental Rural*)
CDCs	Cocoa Development Centers
CEN	the European Committee for Standardization
CMC	Cocoa Marketing Company
CMiA	Cotton Made in Africa
CNCA	the Certification and Accreditation Administration
CNAS	Service for Conformity Assessment
CoC	Chain of Custody
COCOBOD	the Cocoa Marketing Board in Ghana
DFID	Department for International Development (UK)
ECX	Ethiopia Commodity Exchange
EIA	Environmental Impact Assessment
EPs	Equator Principles
ESMS	Environmental and Social Management System
ETP	Ethical Tea Partnership
EU	European Union
EUTR	EU Timber Regulation
FAO	Food and Agricultural Organization
FIs	Financial Institutions
FLEGT	Forest Law Enforcement, Governance and Trade
FLO	Fairtrade Labeling Organizations International
FNC	Columbian Coffee Growers Federation
FSC	Forest Stewardship Council
FTA	Free Trade Agreement
GAPs	Good Agricultural Practices
GFSI	Global Food Safety Initiative
GIS	Geographic Information System
GSCP	Global Social Compliance Program
GSSI	Global Sustainable Seafood Initiative
GTS	Soybean Working Group
HACCP	Hazard Analysis and Critical Control Points (standard system)
HCV(A)	High Conservation Value (Area)
ICS	Internal Control System
IDH	Sustainable Trade Initiative (*Initiatief Duurzame Handel*)
IFC	International Finance Corporation
IFOAM	International Federation of Organic Agriculture Movements
IIED	International Institute for Environment and Development
ISCC	International Sustainability and Carbon Certification
ISEAL	International Social and Environmental Accreditation and Labeling
ISO	International Organization for Standardization
ISPO	Indonesian Sustainable Palm Oil

ITC	International Trade Center
KKFU	Kuapa Kokoo Farmer Union
KTDA	Kenya Tea Development Agency
LBC	Licensed buying company
LCA	Life cycle assessment
MICC	Malaysian Timber Certification Council
MSC	Marine Stewardship Council
MSPO	Malaysian Sustainable Palm Oil
NGO	Non-governmental Organization
PBC	Produce Buying Company
PEFC	Program for the Endorsement of Forest Certification
PES	Payment for Ecosystem Services
PS	Performance Standards
QCC	Quality Control Company
RED	Renewable Energy Directive
REDD	Reducing Emissions from Deforestation and Degradation
RA-SAN	Rainforest Alliance - Sustainable Agriculture Network
SRP	Sustainable Rice Platform
RSB	Roundtable on Sustainable Biomaterials
RSPO	Roundtable on Sustainable Palm Oil
RTRS	Roundtable for Responsible Soy
VPA	Voluntary Partnership Agreement
VSS	Voluntary Sustainability Standards

Executive Summary

Agriculture has performed well over the last 50 years, not only keeping pace with rapid population growth, but also delivering food at progressively lower prices. Unfortunately this growth has led to overuse of natural resources and the release of greenhouse gases and other pollutants. In social terms, moreover, many agricultural producers continue to live at or below the poverty line, and agricultural workers may be subject to unacceptable working conditions. Achieving sustainability in the production of agricultural commodities is necessary to ensure food security, a healthy natural resource base and human wellbeing. To meet the challenge of these sustainability issues, voluntary sustainability standards (VSS) have been established. However, it appears that VSS initiatives have now encountered limits in terms of uptake and impact. The central question of this research project is: how can these efforts be scaled up?

IFC has been challenged by its key stakeholders to play a leadership role in promoting the adoption of these standards in the financial sector. Before stepping up to such a task, IFC wanted to understand whether voluntary standards systems (VSS) are creating the expected and desirable environmental and social benefits and impacts. Ultimately, IFC and its partners require guidance to develop a roadmap for sustainability, which defines strategies to promote the large-scale implementation of sustainable agro-commodity production through means of intensification in a sustainable (social and environmental benign) and inclusive (of smallholders) way. This report – Phase I of the project – presents initial findings and proposes a roadmap towards greater sustainability impacts within various agro-commodity sectors. In Phase II, this roadmap will be developed further and concrete applications will be explored through a series of dialogues that aim to re-shape sectors and structure innovative ways of market cooperation. These steps can be initiated after delivery of Phase II.

For the first phase of this research, six case studies were carried out with various combinations of selected agro-commodity sectors, countries and VSS systems:

1. coffee in Brazil and Vietnam with a VSS focus on UTZ Certified and 4C Code of Conduct;
2. cocoa in Ivory Coast and Ghana with a VSS focus on Fairtrade;
3. tea in Kenya and Indonesia with a VSS focus on Rainforest Alliance;
4. cotton in India and West Africa with a VSS focus on the Better Cotton Initiative (BCI)
5. palm oil in Indonesia and Thailand with a VSS focus on the Roundtable on Sustainable Palm Oil (RSPO);
6. soy in Brazil and India with a VSS focus on the Roundtable on Responsible Soy (RTRS).

For each case study, the research team analyzed the current levels of uptake, sustainability impact, drivers, barriers, success factors to upscaling VSS, and identified the sector characteristics that shape the approach needed to achieve sustainability. Furthermore, the research team looked at the relationship between the selected VSS and other instruments and investigated to what extent these can be complementary. Data for the analysis were derived from available documentation and interviews with experts from the selected VSS initiatives and commodity sectors.

Chapter 1 presents an analytical framework for understanding the transition of agro-commodity sectors towards sustainability. This framework can be used as a basis for designing support strategies for sustainable market transformation. First, the S-curve of sustainable market transformation is presented. Based on empirical evidence, this model identifies four different

stages in a market transformation process towards sustainability. It explores the role of VSS and other instruments at each stage of the S-curve (see Figure 1).

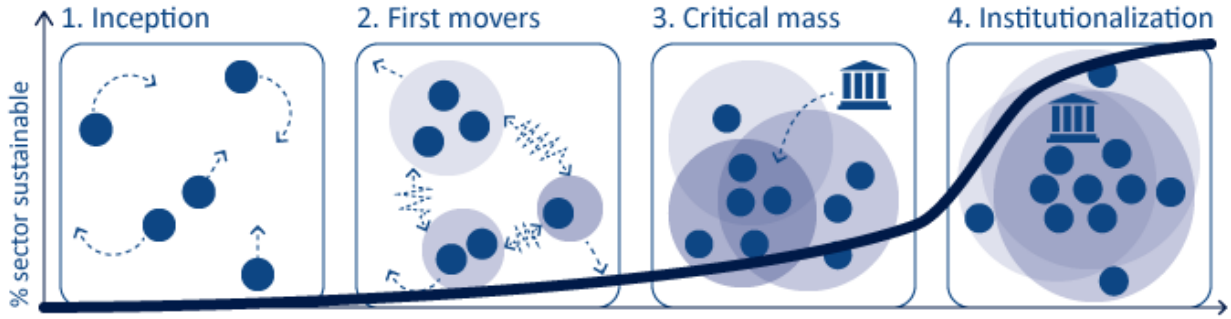


Figure 1. The sustainable transformation curve (S-curve) for agricultural commodity sectors

While some sectors generate the demand or commitment necessary for rapid progress towards sustainability, other sectors remain stagnant or lag behind. This can be explained by the role that the context of a sector plays in shaping sustainability. Therefore, we developed another framework to characterize the sectors, which describes four sector "shapes" (see Figure 2). The shapes vary according to the degree of organization and the level of professionalism, along with productivity, efficiency, market access and bargaining power.

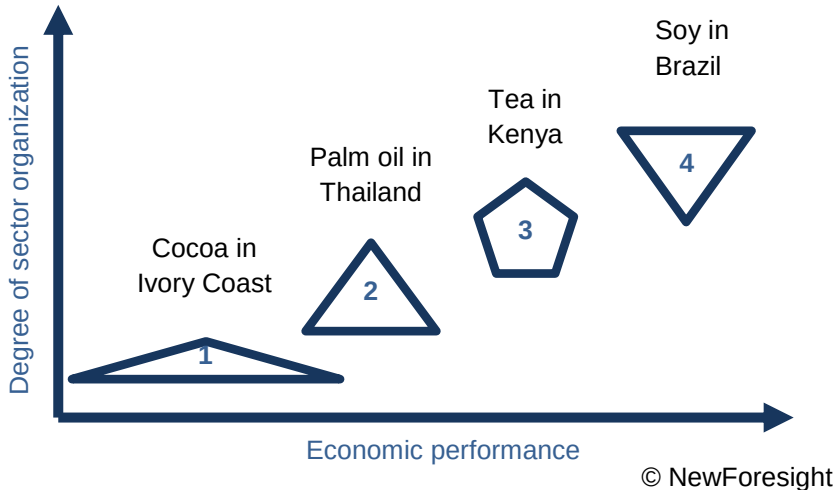


Figure 2. Sector-country shapes in agriculture as a function of sector organization and economic performance

We found that the interplay between a series of forces determines the shape of an agricultural sector within a specific country. These forces include production and market characteristics, the enabling environment and alternative livelihoods (see Figure 3). Adopting a context-specific approach is crucial to be able to tailor instruments so that they are effective in enhancing sustainability in a specific sector; the efficacy of instruments depends to a certain extent on a combination of forces and shapes.

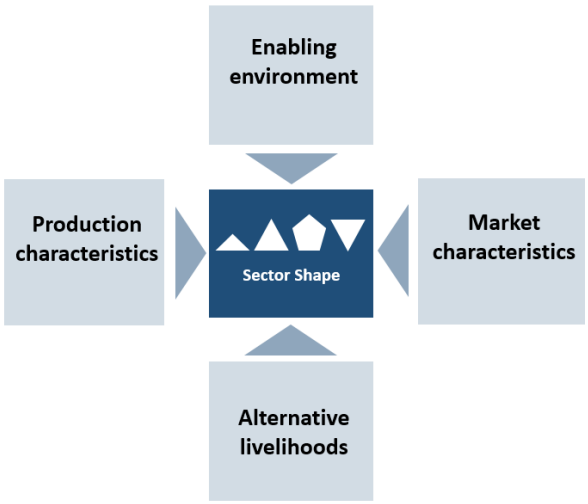


Figure 3. The forces shaping agricultural sectors

Chapter 2 presents the results of the analysis of VSS in furthering sustainable production. It describes the emergence of standards as an instrument for transforming markets towards sustainability. It then presents the theory of change behind VSS. This theory is based on the assumption that compliance with a standard mitigates negative social, environmental and/or economic impacts and creates benefits – although sector growth relies on market demand. A series of value propositions, which underpin this overall theory of change, are described and validated. We found that most of these have been largely or partly realized.

Current market shares of VSS-compliant commodities range between 2% (soy) and 29% (coffee) of global production, but market uptake by buyers is generally considerably lower (see Figure 4). Some VSS-compliant commodities have shown spectacular growth in recent years, while others have stagnated. In most sectors there is a bias towards certification of larger and better-organized smallholders. However, in several sectors (coffee, cocoa, cotton, to some extent tea) earlier VSS experiences focused almost entirely on smallholders, with an important sub-objective of poverty reduction (and funding obtained from ODA budgets).

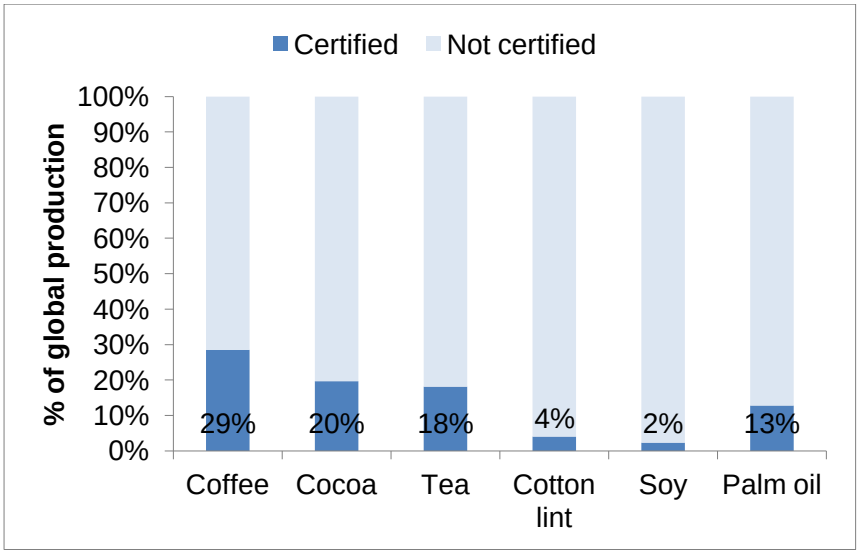


Figure 4. Volumes of verified or certified production as share of global production (2012)[1]

Few rigorous studies are available from which it is possible to draw firm conclusions on the impact of VSS. Moreover, these studies are biased because they looked at the earlier VSS (like Fairtrade and Organic) and smallholder producers, with a focus at income aspects at the household level. From a combination of firm evidence and plausible insights (based on available reports and interviews), the following picture emerges:

- Evidence points to increased farmer productivity, market access and moderate improvements in net incomes from involvement in VSS. However, these improvements do not easily and necessarily lead to poverty reduction of smallholders.
- Evidence indicates that certification leads to adoption of more environmentally benign practices. It is plausible that these practices will lead to improved ecosystem quality and biodiversity, but the evidence on this point is inadequate, and the relative contribution of these measures is uncertain.
- Some evidence points to improvements in working and living conditions, but the impacts are highly specific to farming systems and locations, making generalizations difficult.
- The impact of VSS involvement on livelihoods tends to be positive, through factors such as food supply, land security, health and education.
- No systematic studies are available on whether VSS are successful in “keeping worst practices off the market” and it appears doubtful that VSS have an impact on the worst performers. Moreover, no studies are available that allow conclusions to be drawn on the wider impacts (regional, landscape level).

In conclusion, despite an increasing number of impact studies, the available evidence on the economic, environmental and social impacts of VSS shows mixed results. While there is evidence of positive impacts, there is certainly room for improvement for remaining gaps in realizing convincing impacts. However, evidence also points to indirect impacts of VSS initiatives, especially policy effects relevant to sustainability issues, spill-over effects (non-certified producers adopting aspects of standards), learning and working in partnerships or coalitions and the stimulation of other sustainability initiatives (e.g. local standards). VSS have also generated value by providing a platform for dialogue and governance, defining and operationalizing sustainability, and by creating support, incentive assurance and traceability mechanisms. In certain cases, marketing and communication efforts by VSS led to enhanced brand and market value. These impacts may lead to system changes in sectors, which can have significant long-term impacts.

Despite considerable growth of certified volumes in some sectors, no agricultural sector has yet achieved levels of certification or verification that have led to a “tipping point” by which an entire sector will soon reach full sustainability. Assuming that VSS make an important contribution to realizing full sector sustainability, there is a need to develop strategies for scaling up. To do so, it is necessary to understand the most important drivers and barriers for VSS uptake by producers and buyers and the critical success factors for uptake. The study found that the key driver for producer uptake is market demand, while key drivers for buyers are reputation management, brand value and security of supply. The main barriers to uptake are the lack of capacity and organization among producers, the lack of a business case on VSS uptake for producers and buyers, and unbalanced demand and supply. Critical success factors for uptake are linked to a sense of urgency at destination markets, the level of sector organization and the ability of VSS to make their systems applicable to local contexts. VSS will continue to grow, but their full market potential is unclear. To further enhance their role in sustainable market transformation, three key challenges must be overcome:

1. Safeguard the credibility of claims about compliance with standards and the impact of VSS to ensure long-term buy-in
2. Increase uptake by promoting demand and supply and improving systems to link demand and supply
3. Develop effective and cost-efficient systems with a business model that enables innovation and scaling

In the study we found clear indications that full market transformation to sustainability requires systemic change within a sector and its enabling context. To achieve this, VSS scaling up should be supported by complementary instruments that create the prerequisites for producers to achieve certification. Other instruments can complement VSS on issues where VSS appear to be less suitable (e.g. environmental landscape issues) or less feasible (e.g. lack of business case for certification/verification approaches). Consequently, Chapter 3 looks at other instruments that are available to support transitions towards sector sustainability. It explores the use, strengths and weaknesses of alternative supply chain instruments that can improve the efficiency of certification and those that can complement the objectives and use of VSS (e.g. norms and regulations, sector improvements and finance).

Policy and regulation is one set of instruments that can complement or replace VSS if uptake is lacking or if the requirements of standards are not strict enough. These instruments can encourage or even enforce VSS adoption directly, or promote uptake more indirectly through building a beneficial regulatory environment. Sector improvement services are another set of instruments that focus on getting the sector properly organized, capacitated and equipped, which can enhance the relevance and effectiveness of VSS. Finally, financing is a set of instruments that responds to the need for resources to support interventions. Various types of financial instruments and various types of financers are required. The insights and lessons from these instruments offer inputs to the the roadmap for scaling up sustainability in agro-commodities.

Chapter 4 concludes the report by looking at growth strategies to increase the uptake of sustainable practices (scaling up) and to improve the degree to which sustainability issues are effectively addressed (stepping up) (see Figure 5).

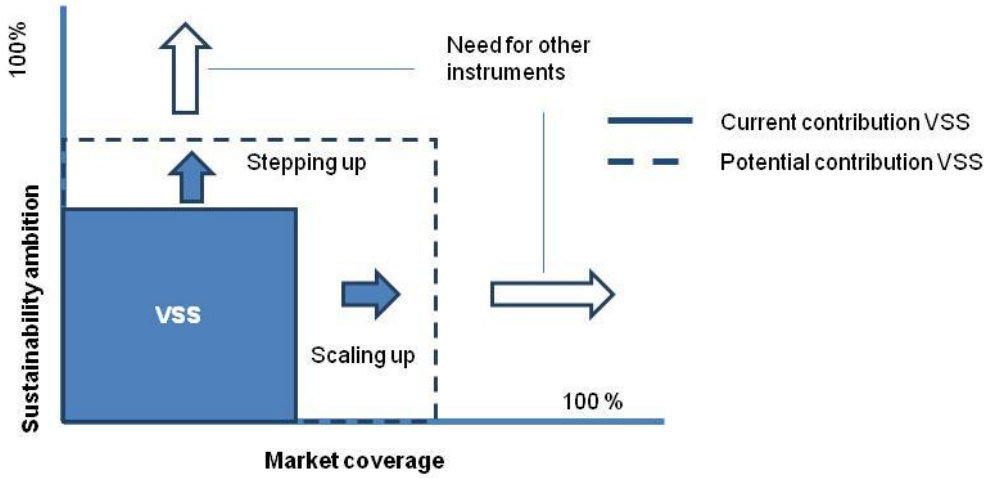


Figure 5. Potential for improved sustainability impact of VSS

First, we discuss how VSS can realize these objectives. To do so VSS have to meet the key challenges identified above. With respect to the challenge to ensure credibility in claims and impact of VSS, the main strategies are: increase the capacity of certification bodies in the

auditing of compliance with standards, reduce the risks of double-counting in supply chains that have multiple certifications and harmonize impact assessment methods in order to create a consistent view of the sustainability impacts of VSS. Potential strategies to reduce assurance costs without necessarily affecting credibility include joint assurance processes, incorporating other verification methods, and improved data management systems. With respect to the challenge of increasing uptake by promoting demand and supply and improving systems to link supply and demand, the main strategies are: encourage key Northern market players to set sustainable import targets, promote demand in Southern markets, improve the applicability of standards to different contexts in sourcing countries, introduce stepping-stone mechanisms which offer a low barrier for entry and incentives for continuous improvement, and increase capacity building efforts for smallholders. VSS may also need to review the business case of producer and buyer uptake. In absence of consumer demand, the challenge is to move beyond the price-premium driven model. Such a business case could be based upon enabling improvements in productivity, quality, profitability and efficiency. This is particularly relevant in sectors with a potential for improvement on these aspects (notably Shapes 1 and 2) and in sectors where there is substantial pressure on price premiums (Stages 3 and 4 in the S-curve). Many of these strategies require improved collaboration between VSS initiatives or delegation of tasks to other agencies in order to improve efficiency. Key elements will be national embedding, collaboration and mutual recognition of standards and the creation of new kinds of partnerships with the private, public and financial sectors. This will require an open and collaborative attitude by VSS as well as the allocation of sufficient internal resources to start such improvement processes.

Next we discuss how other instruments (identified in Chapter 3) can complement VSS in realizing the required growth strategies. To guide the selection of a mix of instruments, we present a set of building blocks for sustainable market transformation. The acquired insights into the sector shape and forces that shape the sectors, as well as the current phase in sustainable market transformation and the role of VSS and other instruments, allow us to design the contours of a roadmap for sustainable market transformation. This roadmap can be applied to any sector-country combination and consists of a context-specific mix of instruments (VSS, policy and regulations, sector improvement services and finance) to bring about sector-wide high sustainability performance. For example, in flat pyramid shaped sectors, the focus on sector improvement services would have a higher priority than the promotion of VSS, as increased smallholder capacities and sector organization can be considered prerequisites for the adoption of sustainable practices and certification.

In conclusion, we can say that the process of sustainable market transformation has two impact pathways: a systemic pathway (shifting the shape) and an issue-specific pathway (shifting within the shape). The issue-specific pathway relates to instruments that – through impacting one or more of the forces that shape the sectors – affect the state of sustainability directly or indirectly. An example is the implementation of VSS. By creating a market demand for sustainably produced goods, as formulated around several specific issues, greater adoption of such practices may take place. This could lead directly to a movement on the S-Curve towards greater sustainability, but the “force field” is not necessarily impacted in a systemic way. As a result, the sector could ultimately remain stuck in an unsustainable state (for example in a flat pyramid).

The systemic pathway implies that the forces are impacted in a way that fundamentally changes the force field and leads to a different structuring (shape) of the sector. This is unlikely to be the result of a single instrument, but a combination of many instruments involving institutional reform and changes in the market environment. Distinguishing between issue-specific and systemic impact pathways provides insight. In Shapes 3 and 4, it is not the sector that is likely to be

reshaped. Instead, instruments focused on specific issues could make the sector more sustainable. In Shapes 1 and 2 it is unlikely that the sector will become structurally sustainable without first changing shape, as the capacity and business case to adopt sustainable practices at a mainstream level does not exist.

Figure 6 (below) presents an overview of the models and the relationship between them: the instruments discussed in Chapters 2 and 3 influence the forces we identified in Chapter 1, which in turn impact the shape of a sector and/or its position on the S-Curve.

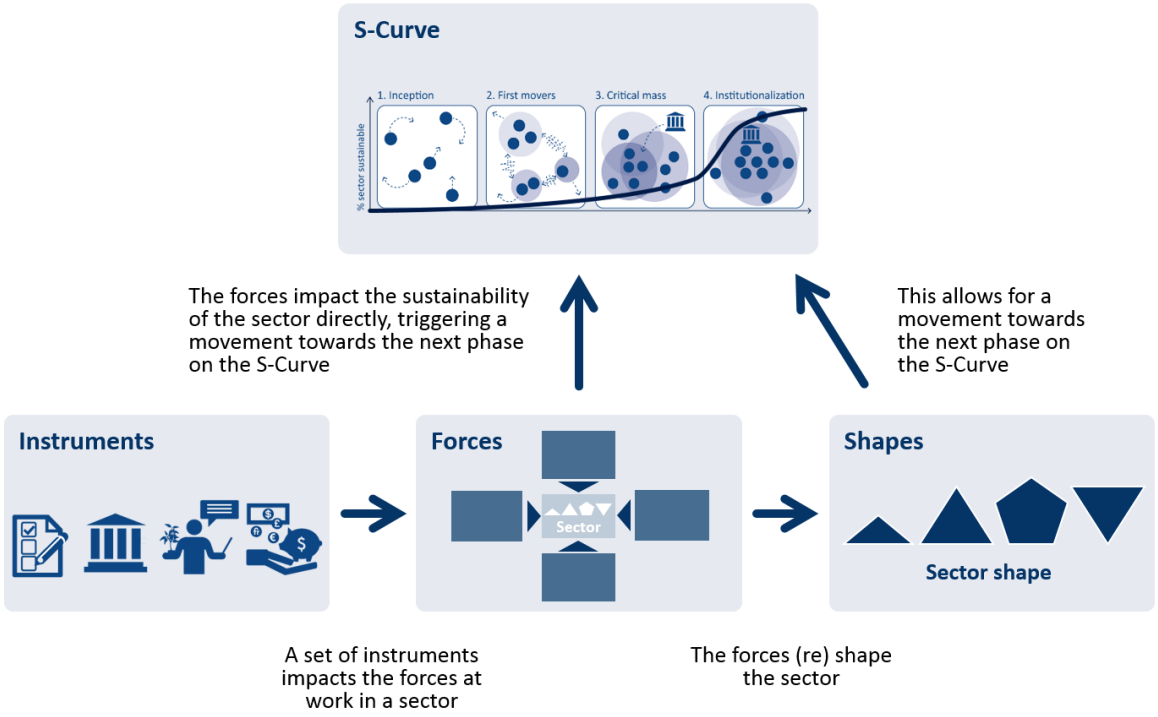


Figure 6. Overview of the relationships between the models presented in this report.

Introduction

What is the scale of the challenge?

Agriculture has performed well over the last 50 years, not only keeping pace with rapid population growth, but also delivering food at progressively lower prices. Unfortunately this growth has led to overuse of natural resources and the release of greenhouse gases and other pollutants.[2] In social terms, moreover, many agricultural producers, particularly in the developing world, continue to live at or below the poverty line and have limited incentives and opportunities to invest in sustainable practices. Also, many agricultural workers are subjected to unacceptable working conditions. Climate change presents new challenges for agriculture, as does the need to feed the 9 billion people who will live on the planet in 2050. Achieving sustainability in the production of agricultural commodities is absolutely necessary to ensure food security, a healthy natural resource base and poverty alleviation.

Box 1: Defining sustainability in agro-commodity production

This is defined as commodity production through intensification in a sustainable (socially and environmentally benign) and inclusive (also benefitting smallholders) way. Thus, sustainability in agro-commodity production not only relates to compliance with legal standards of sustainability (i.e. a safeguard approach), but also contributes to sustainability benefits (inclusive growth).

Why was this study initiated?

IFC has been challenged by its key stakeholders to play a leadership role in promoting the benefits of standards adoption to the financial sector. Before stepping up to such a task, IFC wanted to understand whether voluntary standards systems (VSS) are creating the environmental and social benefits and impacts desired. IFC wants to understand how standards can deliver positive sustainability impacts, in particular the corresponding conditions and contexts. What are the prerequisites/enabling environments for successful engagement with standards? What other instruments might be needed to complement these standards or might be better suited to driving sustainability? While IFC acknowledges that standards have played an important role to date in moving markets towards sustainability, it also understands that they do not, and cannot, work in isolation.

Ultimately, IFC and its partners desire guidance to develop a roadmap to define strategies that promote the large-scale implementation of sustainable agro-commodity production through intensification in a sustainable (social and environmental friendly) and inclusive (of smallholders) way. Aidenvironment, IIED and New Foresight took on the challenge of answering these questions and developing the building blocks of a roadmap for sustainability in agro-commodities. This report – resulting from Phase I of the project – offers initial findings with which to develop a roadmap towards sustainability in Phase II. Phase II will involve a series of dialogues that seek to shape a sector as the study progresses and structure innovative ways of market cooperation that can be picked up after delivery of Phase II.

Research scope

This study focused on specific agro-commodity 'sectors' (cocoa, cotton, soy, tea, palm oil and coffee) and specific countries for each commodity sector; the research team recognized that a one-size fits all approach does not work for sustainability approaches, as the challenges and opportunities in different countries and sectors vary significantly. It focused on the production of

commodities, with a value chain perspective.[1] The aim of study was to answer the following questions:

1. What are the current levels of sustainability in specific agro-commodity sectors in particular countries? What are the drivers and barriers to sustainability in those sectors and countries? What are the particular characteristics of sectors in specific countries and how does this influence the approach needed to achieve sustainability?

2. To what extent are voluntary sustainability standards being used and with what impact? What opportunities exist for enhancing their impact?

3. What other instruments (the enabling environment) are needed to create the necessary preconditions for the success of voluntary sustainability standards, to complement them, or that might be better suited to the task of achieving sustainability?

4. Using the evidence obtained by answering the questions above, what are the building blocks for a sustainability roadmap for agro-commodities?

Approach and methodology

Analyzing specific sector-country contexts offers lessons on what approaches work best in specific circumstances. There is a need to balance the breadth of analysis with depth. A limit in the choice of sectors also allows for greater depth of analysis of the sustainability challenges and opportunities and the particular sustainability dynamics in specific sector-country combinations. The focus sector-countries are diverse (e.g. in terms of levels of organization of the sector, the dominant destination markets for commodities and requirements for quality/safety and the types of skills needed to grow a particular crop.) but many of their aspects also resemble conditions in other countries and sectors. This allows for possible generalization of conclusions and recommendations so that the lessons might be applied to most agro-commodities, and not just to the sectors and countries included in the study. For practical reasons, we selected sectors that had already reached a certain stage in the transformation to sustainability ('first mover' or 'critical mass' as referred to in Chapter 1) to ensure a sufficient knowledge base for performing the analysis. Within each of these agro-commodity sectors we analyzed the dominant standards (in terms of market coverage) based on the assumption that this would offer the most opportunities for learning about the conditions under which standards are most likely to deliver positive sustainability impacts (i.e. the enabling environment) and their interaction with other instruments that can drive sustainability.

These considerations led to the following selection of sector-countries and focus VSS:

- **Coffee:** Long history in VSS, proliferation of standards, including baseline codes, company codes and platforms emerging for supporting sustainable sourcing.

  Focus countries: Brazil and Vietnam; focus VSS: UTZ Certified and 4C Association

- **Cocoa**: This sector is currently affected by an urgency for collective, precompetitive action on a sustainability agenda, and offers the potential to study and shape this agenda in the process.

  Focus countries: Ivory Coast and Ghana; focus VSS: Fairtrade.

[1] The research team recognizes that to define strategies in obtaining full sustainability, a product life-cycle approach can be a useful and complementary approach. It was, however, beyond the scope of this study to include such an approach.

- **Tea**: Significant diversity in sector and producer organization across different countries and in approaches to sustainability. Importance of south-south trade and domestic markets and the growing development of national standards. Significant coverage of Rainforest Alliance for Western markets. Dominance of a few market players.

  Focus countries: Kenya and Indonesia; focus VSS: Rainforest Alliance

- **Cotton**: Complex and opaque supply chain. Mix of large and smallholder farming systems. Specific sustainability issues on input use (water and chemicals). VSS are relatively new, seeking rapid scale up and mainstreaming. Dominance of retailer in BCI.

  Focus countries: India and West Africa; focus VSS: Better Cotton Initiative (BCI).

- **Palm Oil**: Large-scale players (with leverage over smallholders) in a sector that is growing very rapidly, with interesting national standard development.

  Focus countries: Indonesia and Thailand; focus VSS: Roundtable on Sustainable Palm Oil (RSPO).

- **Soy**: Many different standards and local initiatives. VSS have issues with creating buyer and producer uptake. Interesting dynamic case to explore barriers and drivers to sustainable certification.

  Focus countries: Brazil and India; focus VSS: Roundtable on Responsible Soy (RTRS).

For a more in-depth explanation of the arguments used to select countries and carry out the analysis, see the analytical framework presented in Appendix I. The methodology used to carry out this study included extensive desk research, the analytical framework (Appendix I) and telephone interviews. Interviews were carried out with 57 sector and country experts, including representatives from the private sector, donors, NGOs, and producers (see Appendix II).

Box 2: Defining voluntary sustainability standards (VSS)

Voluntary sustainability standards have been developed to assure consumers, processors, retailers, investors and other supply chain players that particular products have been grown, produced, traded, and processed in a particular way, thereby reducing harmful impacts/enhancing positive impacts on sustainable development. Certification is the process by which compliance with the requirements of the standards are confirmed and guaranteed. Certification may involve the use of a label and/or a brand name, for example in the case of business-to-consumer (B2C) standards, like Fairtrade, where consumers can see the label and thus look for Fairtrade products in the marketplace. In business-to-business (B2B) standards (for example in the case of 4C for coffee), other businesses (manufacturers and processors, for example) in the supply chain are assured that a product has been produced in a particular way and that its source is known.

This study focused on multi-stakeholder driven voluntary sustainability standards (VSS), i.e. not those that are government or industry-led (though government and business may be involved in their creation and implementation) or are primarily focused at food safety. We concentrated especially on standards that are linked to the focus sectors defined and explained above: coffee, cocoa, tea, cotton, soy and palm oil.

The study addressed the following working hypothesis. We recognize that VSS have played, and still play, an important role in the process of sustainable market transformation. We also recognize that the role of VSS in this process can be further enhanced if certain challenges are met.

However, when used as an instrument VSS, by themselves or in ideal collaboration between them, face barriers to upscaling and will not be able to realize the ultimate goal of overall sector transformation towards full sustainability (i.e. positive sustainability outcomes in the sector at a national scale). For full market transformation, systemic change is needed within a sector or even within the wider (national, regional and/or international) enabling context. Part of the required systemic change is the use of a combination of VSS and other instruments, eventually being institutionalized. Once systemic change has been realized, sustainability becomes the norm, and upscaling will occur by itself. The potential for the use of VSS and other instruments depends upon sector characteristics, determined by a set of market-specific and country-specific forces as well as upon the dynamics of the process of sector transformation towards sustainability. Understanding the dynamics of sector transformation and the key forces driving sector change will enable the recommendation of specific sets of instruments needed to bring about systemic changes that lead to upscaling towards full sector sustainability.

Based on the working hypothesis, the report is structured as follows:

Chapter 1 presents the analytical framework for understanding the process of sector transformation towards sustainability. It explains where the focus sectors are in terms of their progression towards sustainability, and how the current shape of a sector in a particular country offers opportunities and challenges for sustainability, driven by market and other contextual forces. It focuses on the role of VSS at particular stages in the progression towards sustainability, but also demonstrates that the enabling environment – and therefore other instruments – are very significant in realizing full, sector-wide sustainability.

Chapter 2 presents the role and performance of VSS to date in attaining progress towards sustainability, as well as the key drivers for and barriers to VSS in moving sectors towards sustainability.

Chapter 3 builds on Chapter 2: VSS have an important role in achieving sustainability, but other instruments are needed – either for VSS to scale up, or instead of VSS. It provides an overview of various instruments and lessons to date on their use and impact.

Chapter 4 concludes the report by offering lessons and recommendations on the approaches and the choice of instruments (or combinations thereof) needed to bring about systemic changes and overcome barriers to sector-wide sustainability.

1. Understanding the transition to sustainability

As outlined in the Introduction, the production of agro-commodities faces a number of sustainability challenges. Market signals and incentives must be established to mobilize businesses and other stakeholders to support sustainable growth — i.e. to move markets towards sustainability. Market-based instruments alone may not push markets towards sustainability, and policy contexts play an important role. Markets, when left unmanaged, can fail and produce unsustainable outcomes. Market-based and non-market based instruments are needed to achieve sustainability.

This chapter presents an analytical framework for understanding the transition of particular agro-commodity sectors towards sustainability. It describes the various stages that a particular market will go through as it progresses towards sustainability, and the dynamics of including the role of voluntary sustainability standards and other instruments. It also highlights the relevance of the enabling environment needed to create a suitable context within which standards can operate and have a positive impact on sustainability, or the complementary/alternative instruments that are needed to achieve sustainability. Furthermore, this chapter offers a framework for understanding the characteristics of particular sectors in specific countries, in relation to producer and sector organization. It helps to explain the specific challenges and opportunities faced in relation to sustainability in various sectors and how that will determine the particular approaches and instruments needed to progress towards sustainability. The analytical framework presented in this chapter can be used as a basis for designing support strategies for sustainable market transformation.

1.1 The evolution of sustainability in four phases

Experience obtained in the last few decades has generated insights into the transition patterns of commodity markets towards more sustainable production systems – making these patterns easier to predict and offering ideas for intervention to accelerate the transitions. The transition of markets towards sustainability in individual countries can be seen to follow the sustainable transformation curve (S-curve, see Figure 7). As a sector moves through the various phases, the number of stakeholders who adopt sustainable practices in the sector increases (and the sustainability impact thus increases), until sustainability becomes a requirement for market entry.

There are four distinct phases in the transition towards sustainability. Each phase marks a new level of understanding of what sustainability means within a sector and its prioritization, as well as what is required to achieve sustainability. Each phase sees the adoption of different approaches to sustainability – with sustainability increasingly entering the mainstream as the S-curve advances. Below, each of these phases is described.

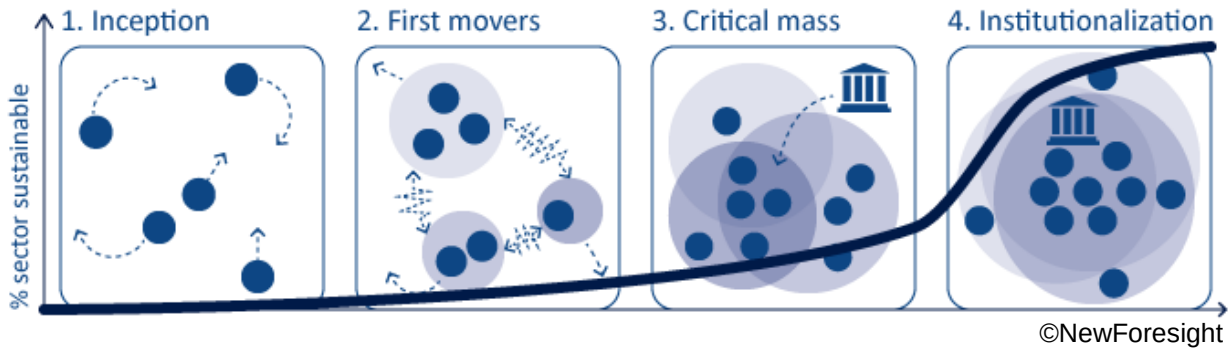


Figure 7. The sustainable transformation curve (S-curve) for agricultural commodity sectors

Inception

In this phase, awareness of the problems in a sector is growing, often instigated by civil society organizations, but awareness is still relatively limited across stakeholder groups. There is no comprehensive, concerted approach to sustainability within the market, nor a vision that could lead to joint stakeholder action. Market demand for sustainable products remains niche, and a price premium is paid for such products. This premium incentivizes market participants to establish isolated supply chains (based on these products) with relatively small project-based interventions in producing countries. These interventions take place at the production level (e.g. community capacity building or product quality enhancement). Governments, NGOs and other donor organizations may have their own sustainability interventions to compensate for market failures. All stakeholders set up their projects in isolation. VSS may exist, but do not have an impact beyond niche products. The range of sustainability projects undertaken in this phase does serve an important purpose, as they explore and test solutions to the various sustainability challenges.

First movers

Market demand for more sustainably produced raw materials leads to the emergence of sustainability initiatives, standards and certification models that extend beyond niche markets. More stakeholders are involved in these initiatives, more capital is deployed and more systemic interventions are created. The emergence of these initiatives leads in turn to more market demand: first movers are looking for first mover advantages to capitalize on their leadership and differentiate themselves from their competitors. The power of their market demand is an important driver for farmers to implement better practices. Competition between these first movers leads to a dynamic in the market whereby various sustainability standards and labels emerge, or are taken up. As NGOs, donors and media shift their attention to other sectors, the momentum eventually slows down. Competition between the VSS leads not only to innovation in their business models, but also to inefficiencies as they compete for well-organized farmers rather than reach out to unorganized farmers effectively. Impacts of the various initiatives are generally not well assessed, so it is not very clear to what extent the VSS are complementary in terms of outreach and sustainability impact.

Critical mass

In this phase sustainable practices can reach up to 20-25% of the market, but this is not a given. First it should be recognized that market demand for different standards, premiums and NGO support alone is not sufficient to complete market transformation and does not lead to inclusive and structural change. That change takes place if sector stakeholders move on to harmonize the pre-competitive elements of standards and the certification models, involve local governments in institutionalizing and coordinating the agenda locally, and expand the drivers of change (e.g. link

sustainability to environmental foot-printing, carbon and water markets and access to finance). This is where sustainability moves “beyond certification”, as the scope of sustainability broadens to include local priorities in producing countries and industry priorities that may not relate to standards such as productivity and other sustainability benefits.

At this stage inclusivity becomes a key driver for sustainability in agricultural sectors with a significant smallholder market share. Without linking sustainability to a business case for sustainable practices that is beneficial to producers, their adoption of sustainable practices will not reach the mainstream. To address sustainability in an inclusive way, a shift towards building up the enabling environment is required. This can be addressed through public-private cooperation, for example in the delivery of training. It is also important to understand the complementarity between various instruments (VSS and other types), consolidating and collaborating between those that appear to be most effective.

Institutionalization

In the final stage of the S-curve, the sector has effectively put an end to those practices that are illegal, environmentally damaging or socially undesirable. In this phase sustainability becomes mainstreamed and institutionalized. Market demand and governments (local and national) join forces to work together through a coordinated agenda, removing the final barriers to sustainability. Various instruments start becoming integrated with the previous phase (critical mass), but in this phase models are developed that include the various sustainability instruments in a complementary and effective way, to realize systemic change. This leads to a tipping point in the markets, where sustainability is now a market qualifier and has become de facto norm for the sector as a whole.

1.2 Sustainability in relation to the shape of a sector

As sectors move through the phases of the S-curve they encounter bottlenecks where the sector transformation slows down or stalls. Some sectors cannot generate the demand or commitment necessary to reach critical mass, and other sectors do not seem to be able to set a common agenda to unite forces within the sector. These challenges on the path towards sustainability vary by sector and by country. They can be better understood by looking at how a sector is shaped in the producing country: for example whether farmers are large or small, organized, or unorganized. This chapter provides a framework to understand how certain sectors are shaped and the determinants of the shape of a sector.

As an example of a sector shape, consider a pyramid-shaped sector with various types of farmer organizations (

Figure 8). The palm oil sector in Ghana is shaped in this way. The width represents the number (or percentage) of farmers in that segment – in a pyramid there is a large number of smallholder farmers who produce at low intensities. There is a small number of large farms or professional producer organizations. The scale of the farm (production volume, land area, number of employees) or level of (producer) organization increases from the bottom to the top of the pyramid. Besides scale and/or organization, each level in this figure, again from bottom to top, also represents an increase in the level of professionalism, along with productivity, efficiency, market access and bargaining power.

It should be noted that this model frames a sector by the way in which it is organized. A pyramid shape does not necessarily represent an increase in farm size. It can also refer to the presence of horizontal organizations (e.g. cooperatives, producer associations, communal land groups) or

supply chain based organizations in which actors have strong leverage over producers (e.g. outgrower schemes or trader networks). It could also refer to service provider networks (e.g. input supplier network or NGO networks).[3] In some sectors the top of the pyramid is composed largely of estates, in others well-organized producer organizations could dominate. The top (and middle) of the pyramid could comprise a relatively small number of large producer organizations or many well-organized smaller ones.

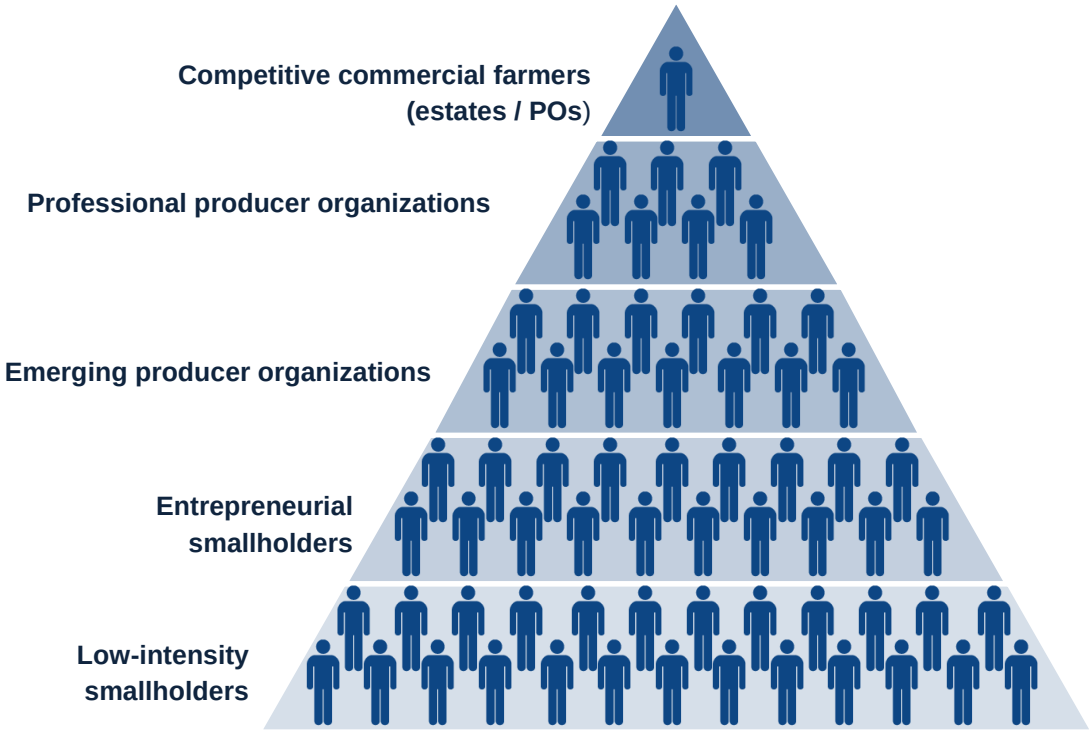


Figure 8. Sector-country shape (pyramid) with various levels of producer organization and scale; width is determined by the number of farmers.

1.2.1 Four shapes of agro-commodity sectors

The balance between the levels of maturity and efficiency in producer organizations differ per sector and per country or per region within countries. There are examples of sectors in certain countries that are shaped like the pyramid above (

Figure 8). In other countries and/or for other products, however, the shape of a sector will be different. Four distinct sector shapes can be identified (

Figure 9). These sector shapes are depicted below, with examples from the sector case studies for each sector shape.

The flat pyramid (*Shape 1*) represents a sector in which the large majority of farmers are “at the bottom” of the pyramid with a very low level of formal organization. This type of sector consists of an overwhelming majority of unorganized smallholder farmers. The middle of the pyramid represents a much smaller proportion of smallholder farmers who are organized in cooperatives of varying size and level of professionalism. At the top of the pyramid are a small number of estate farms or large, well-organized cooperatives, which generally operate on large plots of land with a more efficient production process and higher crop yield (but not necessarily with a more

sustainable production process). An example of this type of sector is the cocoa sector in Ivory Coast. Roughly 90% of the farmers in this sector are smallholders with a small plot of land, and only an estimated 20% of these smallholders are united in cooperatives with limited levels of organizational sophistication.

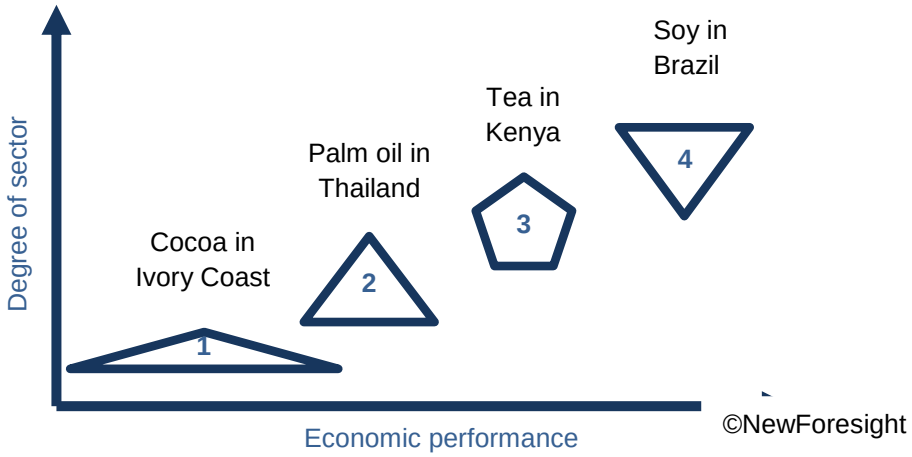


Figure 9. Sector-country shapes in agriculture as a function of sector organization and economic performance

Shape 2 is also pyramid shaped, but less flat than the first. This means the level of organization is slightly higher in the sector and more farmers are organized in producer organizations or larger scale farms. A sector like this is operated by a majority of smallholder farmers with a low level of organization, but also has a significant group of medium to large farms and estates with a higher yield. An example of this type of sector is the palm oil sector in Thailand, which has a majority of smallholders, but 30% of its production comes from large estates.

In *Shape 3*, most farmers have a higher level of organization, but do not own large, single-farm estates. The sector has similar number of unorganized smallholders and large estates. The tea sector in Kenya is a good example of this type of sector. Roughly 62% of farmers are smallholders, and almost all of them are relatively well organized via the Kenyan Tea Development Agency. The tea sector in Kenya is a good example of how a sector can organize farmers in different ways to reach efficient production. In this type of sector, farms do not have to grow in size to become efficient production entities.

Shape 4 is dominated by large-scale estates and highly organized smaller farms. Few unorganized smallholders operate in this type of sector, because they cannot compete with the highly organized estate farms or organized smallholders. A good example of this sector type is soy in Brazil, where large monoculture soy estates dominate the market.

Some sectors have a hybrid shape, such as the Indonesian palm oil sector. It has a large percentage of smallholders, combined with a large number of estates, but no middle-level to speak of. The percentage of smallholders and large estates is increasingly in balance.

1.2.2 Sustainability issues in the various sector shapes

Each of these sector shapes has certain sustainability issues that often arise from this type of sector organization. Of course, these issues vary between sectors and the countries in which these sectors are present. The above descriptions are generalizations, but each sector shape is characterized by certain trends.

The flat pyramid has a large base of unorganized smallholders. This type of sector is usually characterized by very low incomes for these smallholders, who in turn cannot invest in their farms or have no access to quality extension services to increase their productivity and crop quality. Due to this “poverty trap”, farm productivity and crop quality are low, market access is limited, and social issues arise, like child labor and limited access to health care and good nutrition. Environmental issues are not generally the most pressing in this type of sector. The regular pyramid shaped sector is characterized by the same problems, only less aggravated since the number of farmers in poverty is smaller or the severity of the poverty is lower. Other issues may arise due to increased investment in the sector, such as pollution due to increased or irresponsible input use and land conversion.

At the other end of the scale, the inverse pyramid shaped sector faces very different issues. Economic problems are generally less severe because of the high efficiency and profitability of this type of sector. Because of this profitability and the large scale that often comes with these sectors, deforestation and land tenure issues are common problems. This deforestation and the large monocultures threaten or harm biodiversity and habitats, and cause soil erosion. Overuse of inputs can cause soil and water pollution. Where this sector encompasses large estates, exploitation of workers often occurs, alongside hazardous working conditions and inadequate workers’ rights.

The diamond-shaped sector generally includes more organized smallholders, which decreases both the issues with poverty traps and those of large-scale estates. These are the sectors that are most easily reached by capacity building instruments and VSS, so if the above-mentioned issues appear they can be more easily addressed. However, sustainability issues continue to exist depending on the nature of the sector and product, but mostly on the landscape level. The abuse of natural resources that can be difficult to address at the farm level cannot easily be encompassed by any sustainability initiative, and might continue to exist. For instance, when operations expand nearby water resources might be depleted, or natural landscapes like forests and wetlands might be jeopardized.

1.3 The forces determining sector shape

What determines the shape of a sector? What causes a sector to be shaped like a pyramid, diamond or inverse pyramid? What are the forces that drive increasing scale in farming or drive or inhibit improvements in efficiency and the level of organization in a country or sector? The model presented below helps to answer the above-mentioned questions. The interplay between a series of forces determines the shape of an agricultural sector within a specific country. These forces can be categorized into four areas or domains: 1) Production characteristics, 2) Market characteristics, 3) Enabling environment, and 4) Alternative livelihoods. The domains are briefly discussed below.

Production characteristics

What does it take to be a farmer of a certain crop? Crop requirements have a very direct influence on the on-farm operations and level of farmer professionalism required. Fewer skills are required to be a farmer of generic cocoa for example. There are low barriers to entering the market for production, and unskilled labor is able to dominate this sector. Good Agricultural Practices (GAPs)[4] are not as necessary. On the other hand, growing high quality Arabica coffee requires a more advanced set of GAPs.

Similarly, the more perishable a crop, the higher the minimum of required GAPs for production, harvesting and post-harvest handling will be. In general, this means that perishable crops, such as

flowers, demand a higher level of producer professionalism. These sectors therefore tend to be better organized than sectors of less perishable crops.

Sector organization and the possible degree of mechanization in crop production are also correlated. For example, soy production allows for high levels of mechanization, which partly explains the domination of large-scale monoculture plantations in the sector, whereas the opposite holds true for cocoa.

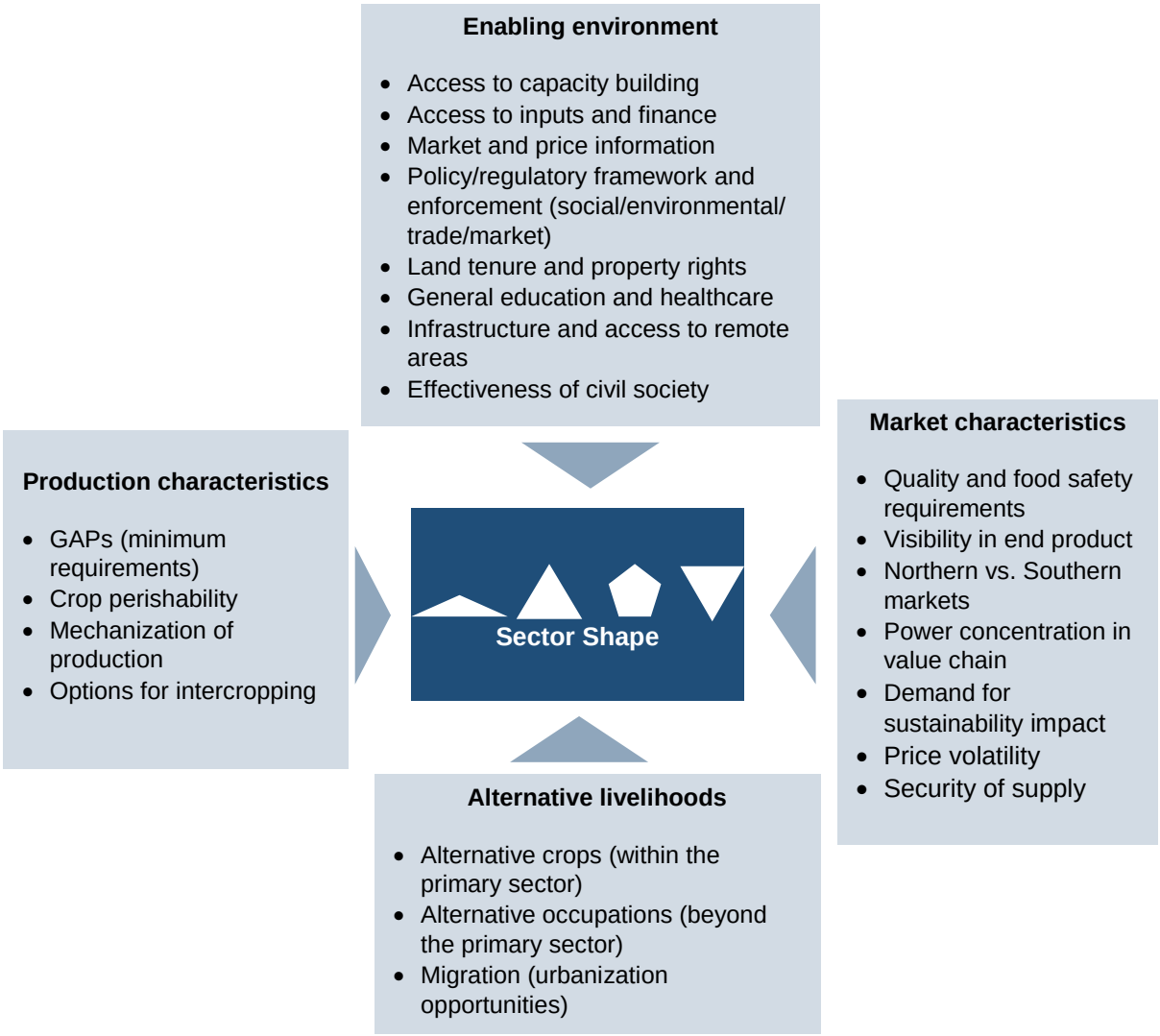


Figure 10. The forces shaping agricultural sectors

Market characteristics

The characteristics and demands of a specific agro-commodity market are another important force that determines the shape of a sector. Key questions here are the following. What are the food safety requirements? Does the market demand or reward certain qualities and/or certain sustainability criteria (environmental, social, animal welfare)? Demand for high quality and a high visibility of the commodity in the end product generally have a positive influence on the level of professionalism in the sector. Alternatively, the product could be a pure commodity and consequently the market could be focused merely on the lowest price (e.g. palm oil).

Criteria on quality and sustainability are largely determined by the market for which they are produced. Northern markets tend to demand higher levels of food safety, quality and other product aspects than the majority of the domestic and Southern markets of tropical commodities. The balance between production for Southern or Northern markets and domestic or export markets can be an important factor in determining the way a crop is grown in a particular country. Other key determinants in the market domain are the dynamics of demand (whether demand for a product is growing overall or declining) and perceived threats to security of supply.

Enabling environment

The enabling environment is the combination of institutions, policies, laws, regulations and infrastructure influencing value chain actors. This environment is built by governments, civil society organizations, financial institutions and other actors.

Access to capacity building, markets, inputs and finance is crucial for an agricultural sector to professionalize, organize, grow and invest in both productivity and sustainability. The level of access to capacity building is one factor determining whether a dynamic towards sector organization can be set in motion. The provision of market information and measures to protect farmers against price volatility can also promote this dynamic. Agricultural, environmental and social legislation and policies (including land tenure and property rights), combined with their actual enforcement, have a strong impact on the shape of agricultural production in a country. Furthermore, a minimum level of general education and infrastructural development is a prerequisite for producer's professionalism, business skills and ability to access markets.

Finally, environmental and social policies and regulations are key. Stricter legislation on aspects such as labor and environmental protection demands a higher level of producer organization. Note that government regulation can compensate for lack of demand for such social and environmental requirements from the market and can correct market failures.

In this report, we stress the vital importance of the enabling environment in both determining the effectiveness of VSS and in offering complementary or alternative instruments that are needed to move a sector towards sustainability. This is discussed in more depth in Chapters 2 and 3.

Alternative livelihoods

The profitability of producing a specific crop varies over time and from country to country. If crop earnings fail for too long, a famer might decide to start cultivating another type of crop. Another option is to start another profession, either in a rural or urban environment. Economically under-performing sectors of Shape 1 and 2 are, for example, suffering from a "drain" of young and entrepreneurial farmers who prefer a life in the city. This leads to aging farmer communities in specific sector-country contexts, which eventually threatens the entire performance of the sector. If alternative livelihoods are absent or out of reach, farmers are "trapped" in their profession and forced to compete on the basis of low prices, which often leads to incomes at or below the poverty line. This can also lead to an oversupply of low-cost products and overall declines in the terms of trade through oversupply.

Connecting forces and sector shape

The direction of the forces described above, together with the interplay between the forces, determine the eventual shape of an agricultural sector. The cumulative effect of the forces on the agricultural sector shape is explained below.

For example, a flat pyramid shape is commonly the result of low requirements for crop production, low demand for quality by the market, a poorly functioning enabling environment and the absence of alternative livelihoods. The pyramid-shaped sectors (Shape 2) mainly differ from the flat pyramid-shaped sectors (Shape 1) by the fact that their markets reward higher product quality and the enabling environment is more stimulating in certain aspects. When production skills demand higher professionalization and niche markets of substantial volume exist, the sector tends to be diamond-shaped (Shape 3). Finally, where production allows for large-scale mechanization, markets focus on the lowest price, and underperforming farmers opt for alternative professions, the sector takes the shape of an inverse pyramid (Shape 4).

1.4 Connecting sector shapes and the S-Curve

This study focuses on six agro-commodity sectors in the context of specific countries. In this section, the shape of these sectors and the forces affecting this shape are described, using the analytical framework introduced in the previous sections. This provides an explanation of the current state of sustainability in each of the sector-country combinations. This is crucial in order to understand the impact of sustainability interventions (i.e. VSS) so far and to tailor effective future actions to further mainstream sustainability within a sector.

When placing the six agro-commodity sectors on the S-Curve of sustainable market transformation, it becomes obvious that all sectors are stalled between the First Mover and Critical Mass phase. To gain a better understanding of which challenges are faced by each of the focus sectors in progressing to the next level of sustainable market transformation, the sector shape and dominant forces of each commodity are described in the context of two different countries. For a complete overview of descriptions of the organization and forces at play in each of the twelve sector-country combinations, refer to Appendix III. The resulting twelve sector-country combinations described below were selected in such a way that they cover the wide spectrum of sector shapes and forces as they actually occur, as explained in the introduction.

1.4.1 Coffee

The two largest coffee producing countries provide two completely different pictures of what the coffee sector looks like. The sector in Brazil is characterized by large-scale coffee farming, including industrial-scale, mechanized harvesting. There is quality differentiation in the market, but the great majority of production is a generic commodity. The cooperative structures in Brazil are very powerful, and Brazilian smallholder farms are larger than big farms in Vietnam. This structure and the strong enabling environment have created an environment in which VSS certification could proliferate.

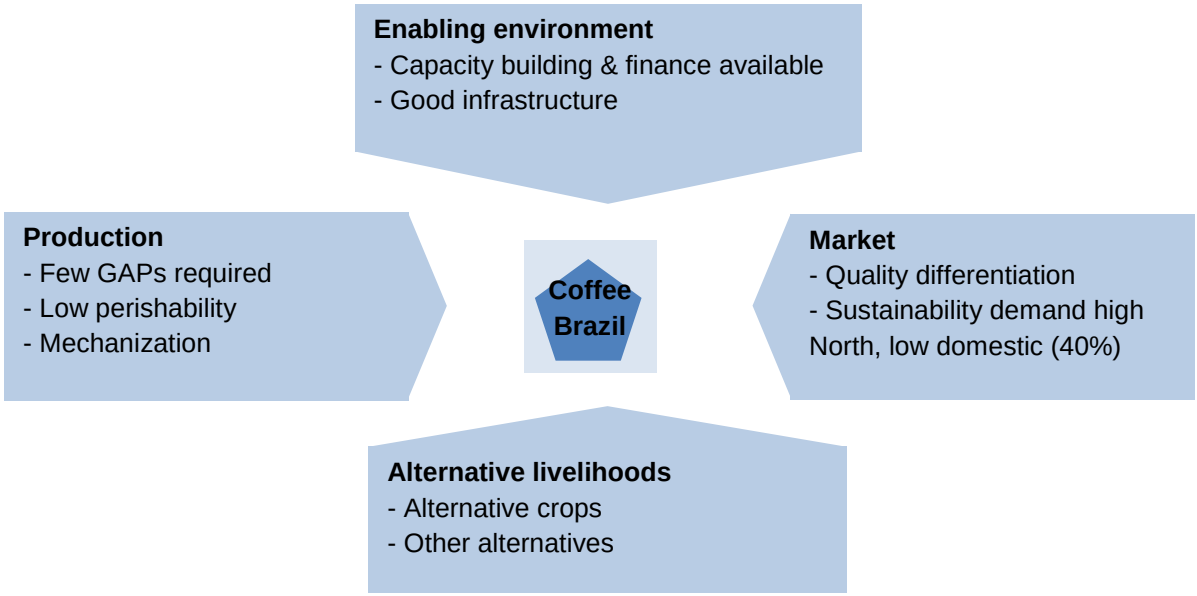


Figure 11. The key forces acting on the coffee sector shape in Brazil

The sector in Vietnam consists of a wide base of smallholders with little land; they lack organization. Market requirements for Vietnamese coffee are very low and the enabling environment is weaker than in some other agricultural sectors in the country. But coffee has become a topic of interest in recent years, and through a coalition of government and the private sector the country is engaging in fundamental sector reform and large-scale capacity building to move firmly towards Shape 2.

Both countries are being pushed by industry and trade to produce more sustainable coffee (certified or verified), as the leading companies have large sustainability commitments to fill. There is now momentum in the sector, as it aims to achieve 25% sustainable coffee sales in 2015. Whether or not this target is met depends on the success of these companies to engage two entirely different countries in a tailored approach.

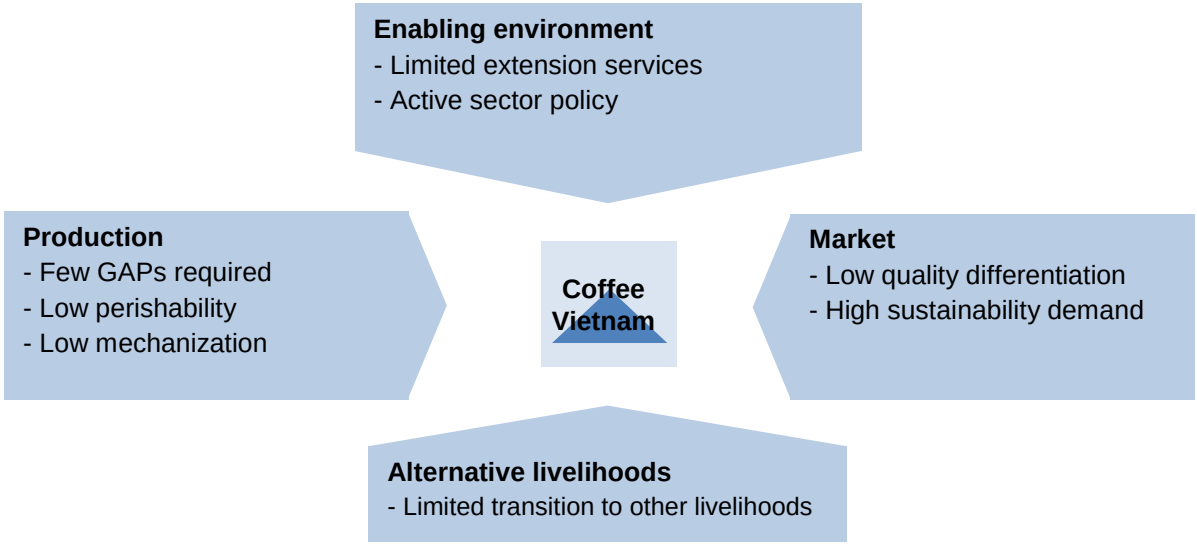


Figure 12. The key forces acting on the coffee sector shape in Vietnam

1.4.2 Cocoa

Cocoa is a good example of what happens when there is demand for a sustainable product on the market side but a critical percentage of supply needs to come from two countries that are not ready to deliver this product. Ghana and Ivory Coast both lack an enabling environment to work with the large number of unorganized smallholder farmers to support a transition to sustainable production. These farmers produce cocoa because it is an easy crop to grow with limited inputs, and they lack alternatives (young farmers do escape the sector). Farmers also lack the resources to capitalize and upgrade their production. Thus they are only able to produce at very low prices while living at or below the poverty level.

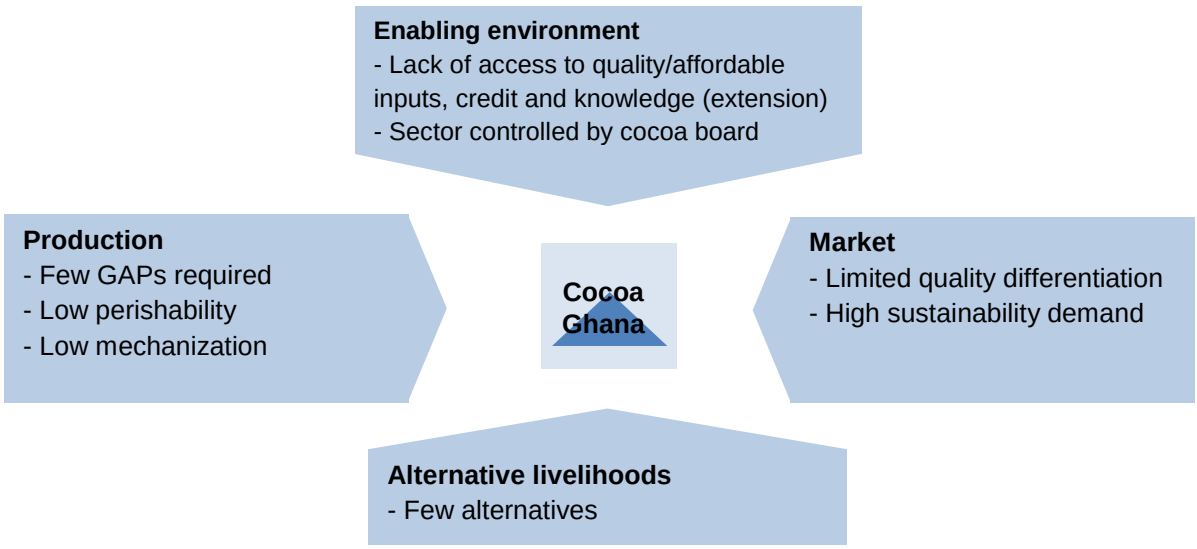


Figure 13. The key forces acting on the cocoa sector shape in Ghana

The level of professionalism of cooperatives is also low, due to high illiteracy rates, limited knowledge of good agricultural and management practices among farmers, and problems with political instability and corruption in Ivory Coast. Finally, small landholdings and insecure land tenure mean that the economics of investing in “upgrading” do not make sense.

However, Western cocoa markets require increased productivity and sustainability, and companies are trying to implement standards. The sector is stalled in Phase 2 of the S-curve, because standards require a certain level or organization and capacity that is absent, indicating the need for other instruments (e.g. finance, systemic approaches).

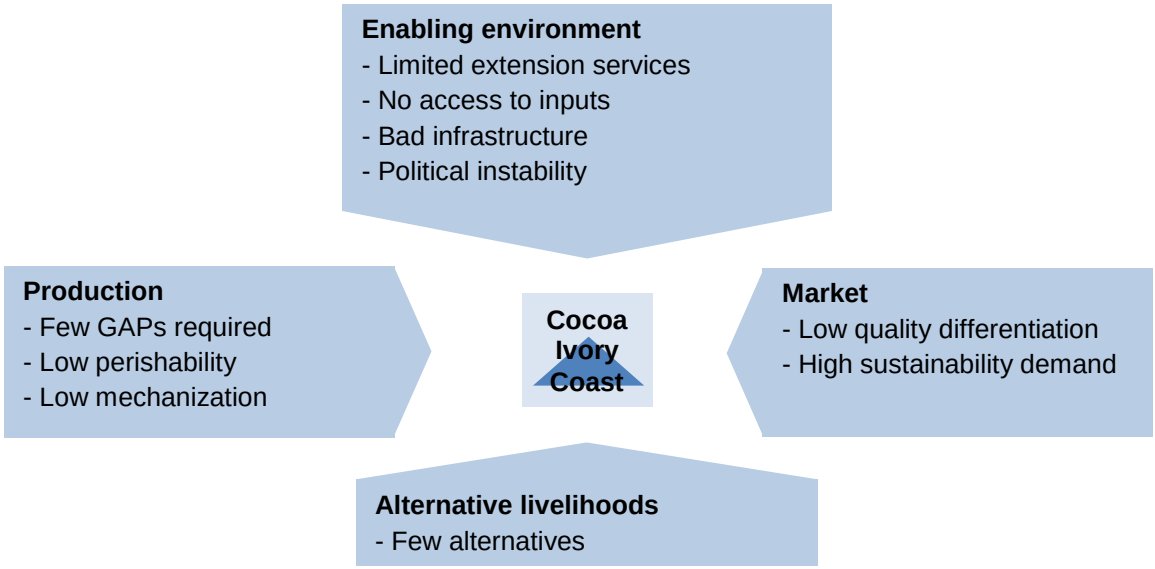


Figure 14. The key forces acting on the cocoa sector shape in Ivory Coast

1.4.3 Tea

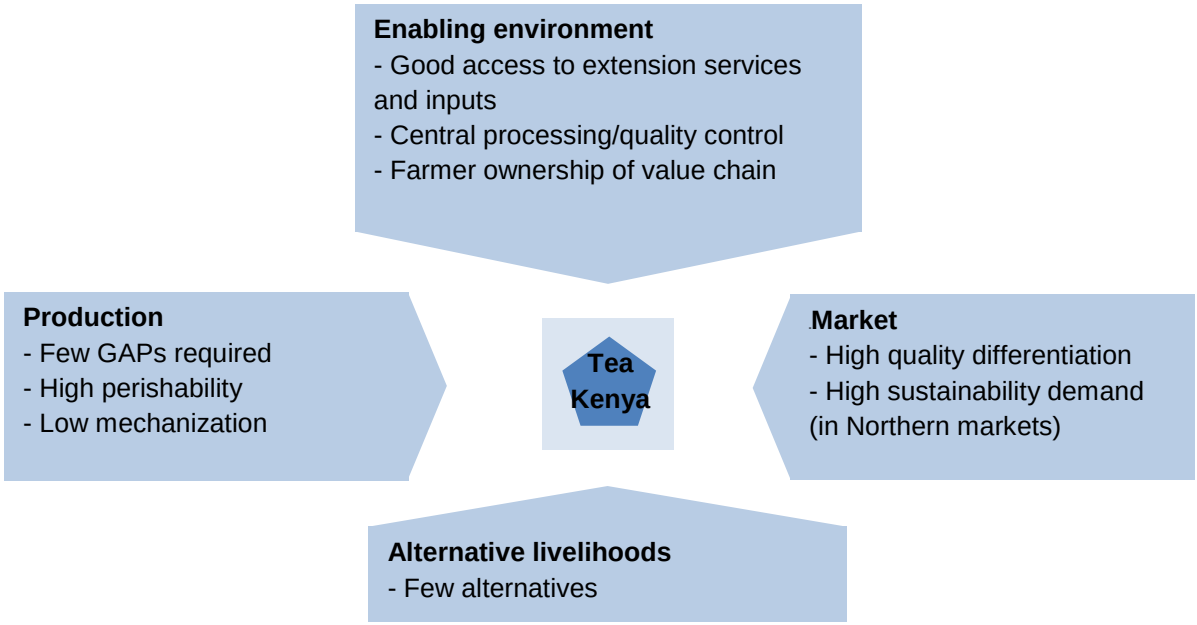


Figure 15. The key forces acting on the tea sector shape in Kenya

In the focus countries for tea, two sector shapes appear. Kenya is diamond shaped because it has a large majority of well-organized farmers operating under the KTDA, which provides an excellent enabling environment for smallholder farmers, including access to training, group buying of inputs (leading to lower prices for farmers), quality controls, market access, and centralized processing (the Tea Research Foundation in Kenya and the Tea Board have also helped to support the sector), as well as facilitating group certification. Farmers are shareholders in the KTDA and the factories around which they are organized, creating incentives for quality production and returning greater shares of export prices to smallholders. Most tea farmers in Kenya are certified, supplying a large share of the market demand for sustainable (and high quality) tea. The dominance of Unilever's demand in the country has helped to drive the use of VSS and investments in

sustainability through public-private-partnerships (e.g. Lipton and KTDA) such as Farmer Field Schools. Kenya's tea sector is well into the critical mass phase of the S-curve.

In Indonesia, on the other hand, the enabling environment is not as supportive. There is much less support for farmers and the tea sector as a whole. The quality of the tea produced in Indonesia and smallholder productivity is low. Coverage of international certification schemes of smallholders is non-existent, though farmers are currently trained for certification. Smallholders produce largely for the domestic market, whereas estates produce for export. There are quite a few estates which are better organized, and more efficient, but these are declining in number because of the low tea price and resulting low investments in tea estates by farmers and funders (both the government and private sector); other crops, like palm oil, are seen as a better investment. There is relatively good coverage of international certification schemes of estates. *Teh Lestari*, a national standard, has been created to address the specific challenges faced by farmers (especially smallholders) in Indonesia and the perceived inappropriateness of international standards for smallholders (such as a need to reduce inputs and a need to focus on improving productivity). A key challenge for *Teh Lestari* is generating sufficient demand in the domestic market for sustainability and getting the large retailers on board. The tea sector in Indonesia can be placed in the early part of Phase 2 on the S-curve.

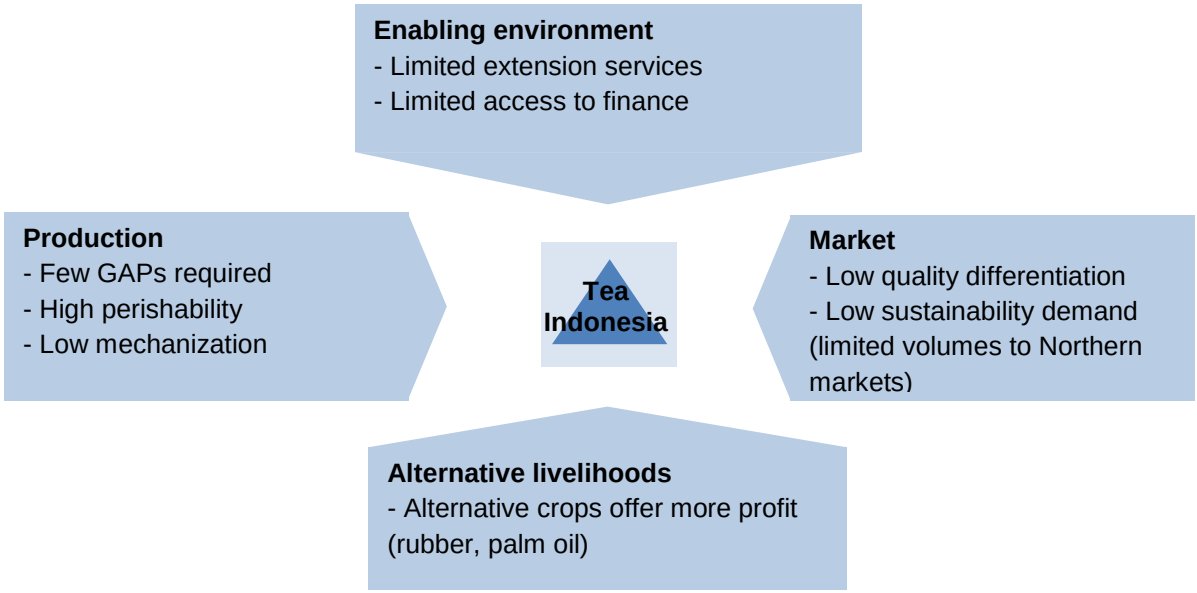


Figure 16. The key forces acting on the tea sector shape in Indonesia

1.4.4 Cotton

Cotton in developing regions like India and West Africa seems to be stuck in a flat pyramid shape and is struggling to progress on the sustainability S-Curve. The cotton sectors in developing countries have an overwhelming majority of smallholders (90% of cotton farmers live in developing countries on farms of less than two hectares) and low levels of producer organization and professionalism. Productivity is far from optimal because the crop needs many inputs (fertilizer, pesticides, and irrigation) that the farmers in these countries cannot provide consistently and efficiently – in part due to their limited access to credit and low and volatile prices for their cotton. These farmers are often in debt due to purchases of the fertilizer and pesticides required to grow cotton, and cannot afford the mechanized techniques used in Western producing countries.

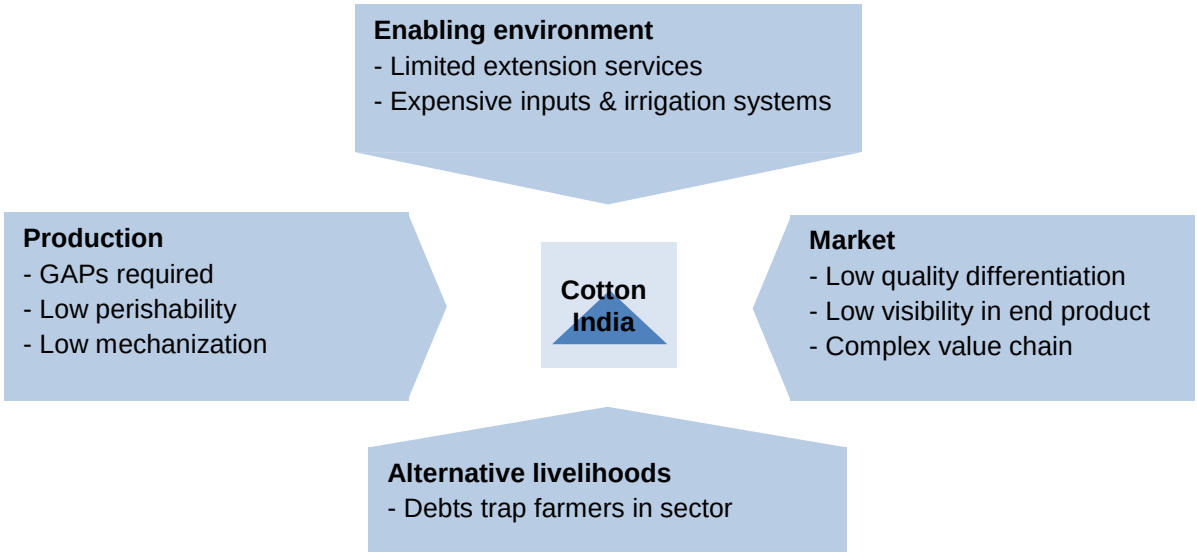


Figure 17. The key forces acting on the cotton sector shape in India

There is increasing demand for sustainable cotton; consequently certification and program outreach is growing, but this is still challenging due to cotton's long and complex supply chain. The value chain consists of many companies, brands, and countries, which makes both visibility and traceability of the product very difficult. On top of this, there is little quality differentiation in cotton, so the demands from the market focus chiefly on price. However, even garments made from cotton produced in the USA face sustainability issues related to the working conditions in garment factories that are dominant in the developing world – particularly Asia (note that this study focuses on primary production, not manufacturing). These factors cause the sector to linger in the early part of Phase 2 (first mover) on the S-curve.

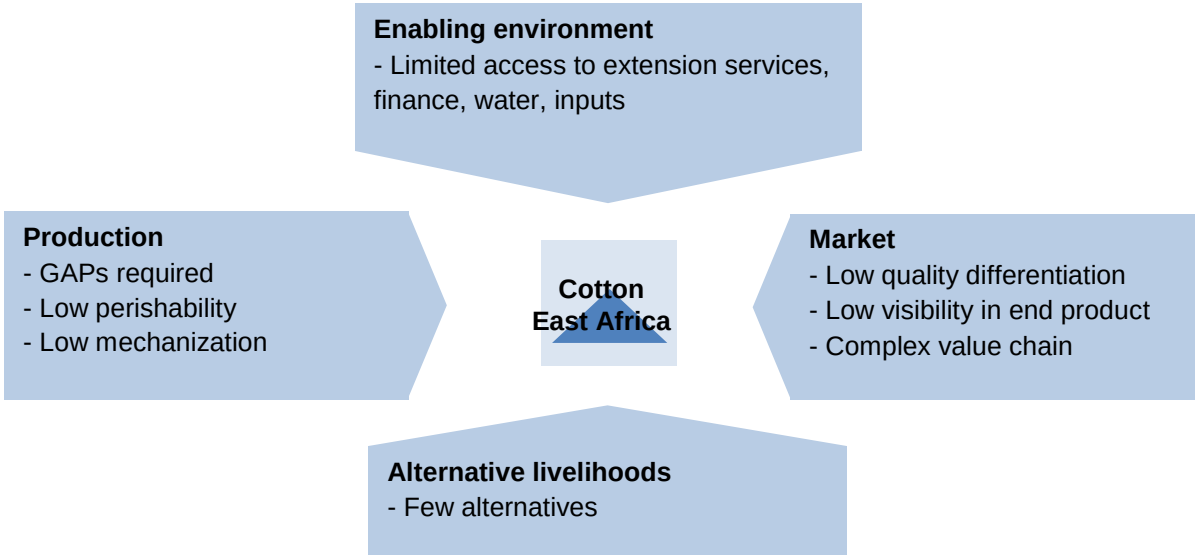


Figure 18. The key forces acting on the cotton sector shape in East Africa

1.4.5 Soy

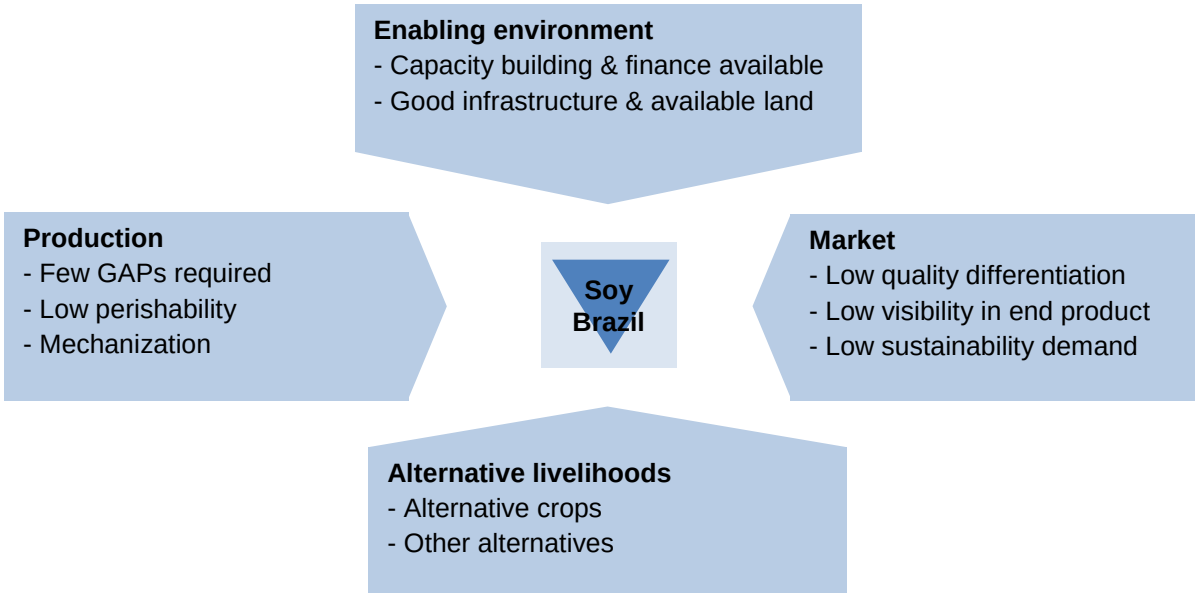


Figure 19. The key forces acting on the soy bean sector shape in Brazil

Soy is a perennial crop that can be grown in rotation with other crops. The soy sector is characterized by a high level of mechanization in the leading producing countries, including Brazil. Land for expansion has been and is still available. Here, dominant large-scale companies with average sizes of over 1,000 ha possess good knowledge of GAPs and benefit from an enabling environment that stimulates the development of the sector. Consequently, the Brazilian soy sector has an inverse pyramid shape. The much smaller Indian market, on the other hand, is dominated by smallholder farmers that generally lack adequate GAP knowledge. Although the Indian extension services are of reasonable quality, smallholders have limited access to these services as well as to finance.

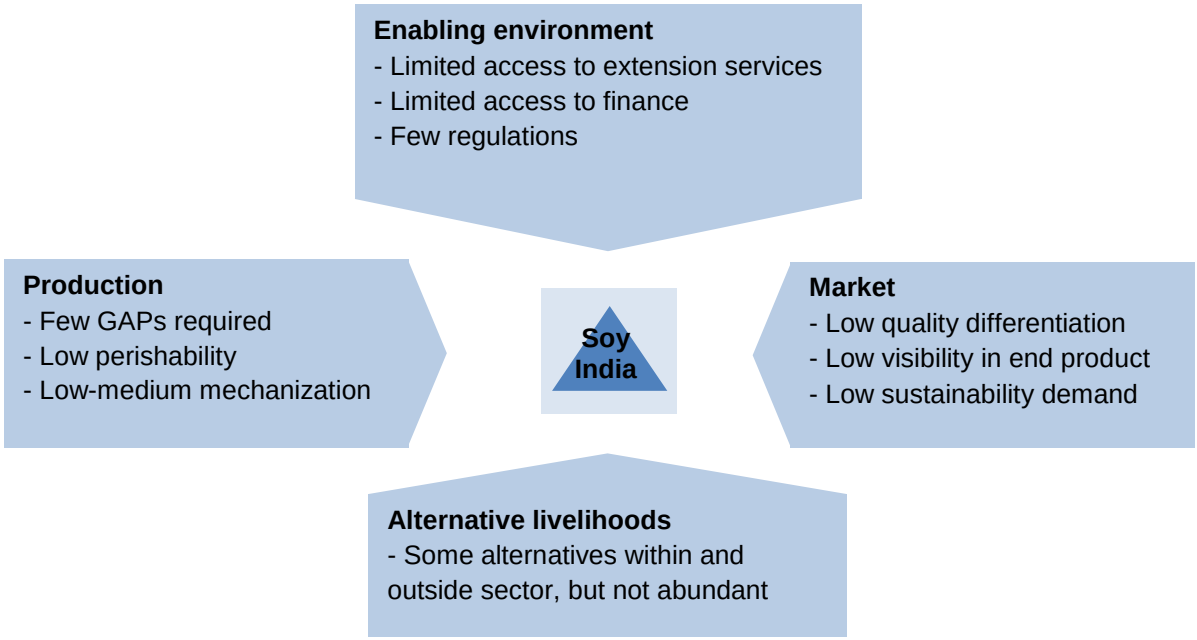


Figure 20. The key forces acting on the soy bean sector shape in India

Concerning market characteristics, the soy sector has many similarities with the palm oil sector. Quality demands are low, and soy has low visibility in the majority of end products. The length of the supply chain can be very long, especially in the feed sector. The demand for sustainability impacts is still limited, partly related to reduced attention to sustainability issues by civil society and the absence of big brands. EU import of food grades is restricted to non-GM, but this is a minority share in total EU imports. With the EU importing only 14% of all traded soybeans, their leverage on the market is limited. China is the major destination market for soy. Low EU demand and the absence of sustainability demands from China is one of the main bottlenecks to move the sector beyond Phase 2 (Early Mover) in the market transformation curve via a market-based approach. However in Brazil, other instruments (mainly policy related), did move the local soy sector into the critical mass phase (Phase 3).

1.4.6 Palm Oil

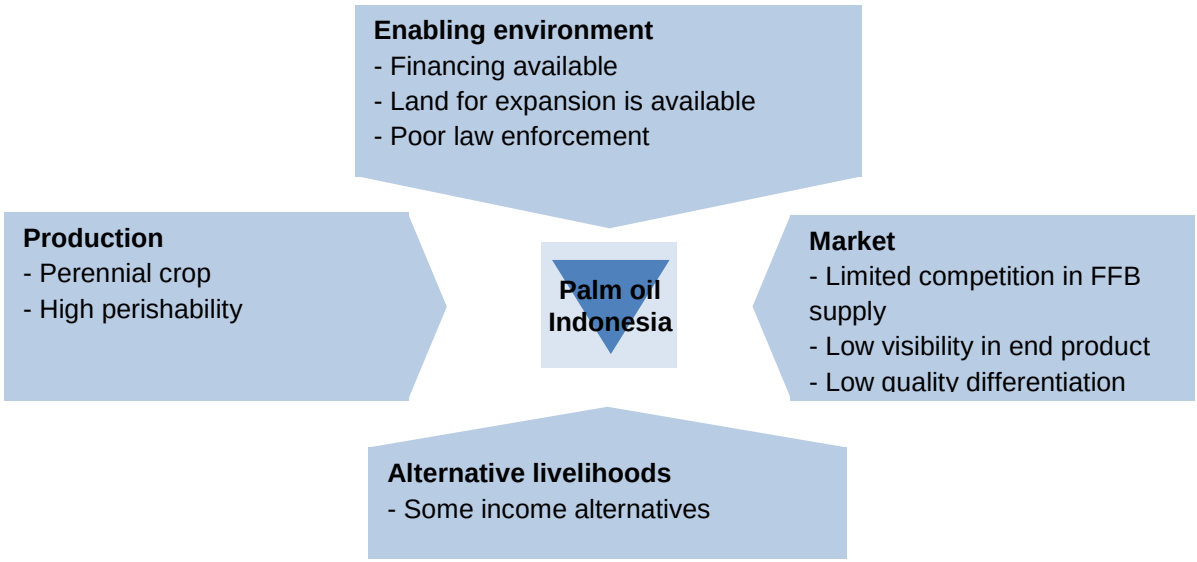


Figure 21. The key forces acting on the palm oil sector shape in Indonesia

Compared to the other focus sectors, the production requirements of oil palm are somewhat more sophisticated due to the critical timing of the harvest of Fresh Fruit Bunches (FFBs) and the short time in which they have to be transported to processing mills. This requires a nearby processing mill and good infrastructure, as well as proper harvest timing by the farmer. In Indonesia, 60% of the planted oil palm area is managed by estates and 40% by predominantly unorganized smallholders, giving the sector a combination of an inverted pyramid and a flat pyramid shape. The strong presence of large scale operations in Indonesia is partly facilitated by the availability of land and the available finance for large-scale plantation schemes. As mentioned before, the Indonesian sector is more of a hybrid between Shapes 1 and 4. In Thailand, however, 70% of palm oil production is realized by smallholders with low levels of organization, hence the sector is pyramid shaped (as mentioned before).

Market demand for palm oil continues to rise, mainly due to its high oil yields and relatively low production costs. However, the market demand for quality is low, and palm oil generally has a low-visibility in end products. Therefore, the palm oil market typically focuses on the lowest price. Furthermore, supply chains can be very long (e.g. chemical industry), further complicating traceability of the product. Although sustainability demands from Northern markets do exist, mainly originating from civil society attention to large-scale deforestation of tropical rainforests and related land conflicts due to oil palm expansion, only 20% of global trade goes to Northern markets, reducing their leverage. It is especially the latter characteristic of the palm oil market that causes market-based sustainability initiatives within the sector to remain stuck in the critical mass phase (Phase 3) of the transition curve.

The enabling environment in Indonesia has failed so far to tackle the main social and environmental sustainability issues in the sector, but does create a positive economic environment for oil palm development, particularly for large-scale producers. In Thailand, the enabling environment mainly falls short in providing capacity building, access to markets and finance to further professionalize oil palm farmers. Alternative livelihoods are insignificant in the palm oil

sector. Oil palm is a considered a relatively profitable crop by farmers, which is reflected in the relatively young age of the farmer community in both countries.

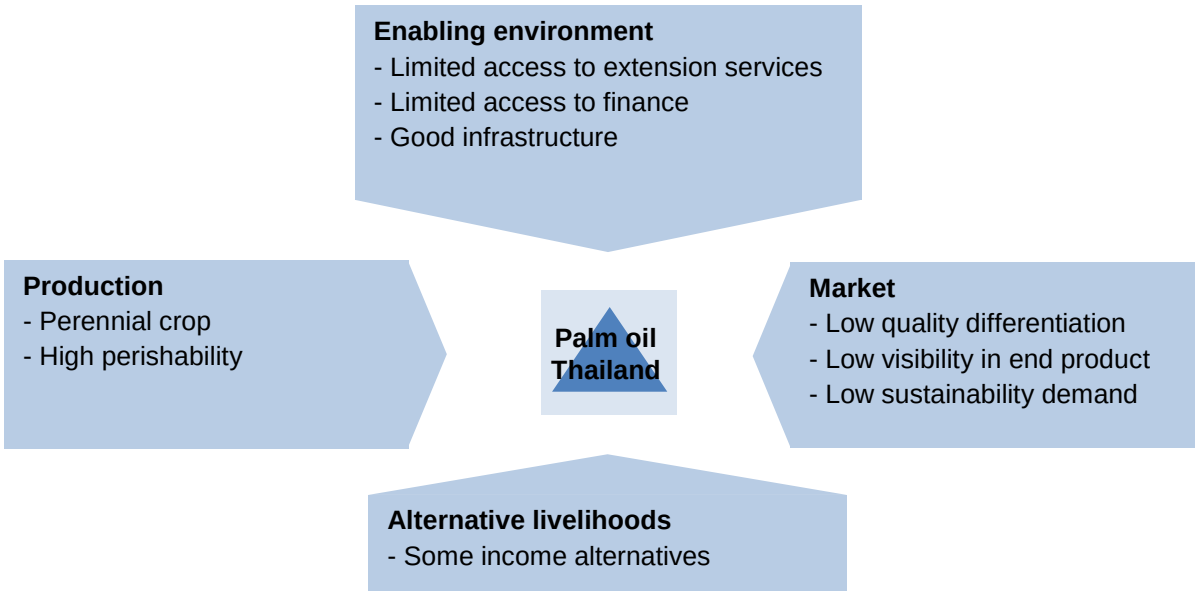


Figure 22. The key forces acting on the palm oil sector shape in Thailand

This chapter presented an analytical framework that characterizes agricultural sectors by sector shape, specific forces and dynamics, as well as particular barriers to, and opportunities for, sustainability interventions. The various realities and challenges faced in each of the sector-country combinations discussed here show the need for a context-specific approach when analyzing the state of sustainability in a specific agricultural sector. This is crucial in order to be able to tailor instruments for enhancing sustainability to the specific context of a sector, thereby improving the chances of successful interventions.

The following chapters of this report build on the above mentioned framework and sector-country descriptions in their analysis of the current use, drivers, barriers and impacts of voluntary sustainability standards (Chapter 2) and other sustainability instruments (Chapter 3) in achieving sustainability in each of the six commodity sectors. This ultimately leads to the conclusions and recommendations for future action, as outlined in Chapter 4.

2 The role of voluntary sustainability standards in furthering sustainable production

In the process of sustainable market transformation, voluntary sustainability standards (VSS) have become increasingly important. Indeed, Chapter 1 demonstrated the important role that VSS play at various stages of the S-Curve of sustainable market transformation.

Based on the choice of sectors outlined in the Introduction, in this study we analyzed the role and performance of the dominant VSS in these sectors to date (e.g. the Rainforest Alliance for tea, and BCI for cotton). More specifically, we analyzed the

- uptake of standards;
- direct and indirect sustainability impacts of standards;
- lessons learned with regards to the value proposition of VSS;
- drivers and barriers and critical success factors of voluntary standard uptake; and
- key challenges in increasing their role and impact in sustainable market transformation.

This chapter explains the current and future role of sustainability standards in the progression towards sustainability in the focus sectors.

2.1 The emergence of standards as an instrument for transforming markets towards sustainability

Voluntary sustainability standards have been developed to assure consumers, processors, retailers, investors and other supply chain players that particular products have been grown, produced, traded and processed in a way that reduces the harmful impacts on sustainable development and enhances positive ones. Certification is the process by which compliance with the requirements of the standards are confirmed and guaranteed.[56] The organic and fair trade movements were first to emerge to address the environmental and social sustainability of agro-commodity production (and trade, in the case of the fair trade movement). These movements saw the emergence of locally developed standards, which evolved into more unified and far-reaching systems over time, resulting in the establishment of the International Federation of Organic Agriculture Movements (IFOAM) in 1972 and the Fairtrade Labeling Organizations International (FLO) in 1997.

In contrast to these two systems, most other standard and certification systems emerged as the result of a conscious effort by a small group of non-profit organizations to convene and engage a cross section of stakeholders within a given sector, and also focused on bringing retailers and manufacturers to the negotiating table. The first standard to emerge from this multi-stakeholder approach was the Forest Stewardship Council (FSC), in 1993. FSC arose from a context in which international advocacy for a global forestry treaty had failed, and there was little hope for national regulations favoring timber-harvesting practices with less environmental damage. This called for a new form of governance consisting of standard setting by representatives with social, environmental, and economic interests, and with third parties accredited to certify when the standards had been met.

This model of multi-stakeholder based standard setting and certification began to spread, and standards such as the Marine Stewardship Council (MSC), the Rainforest Alliance/Sustainable Agriculture Network (RA-SAN) and UTZ Certified emerged in the 1990s. Since 2004, similar

initiatives with even broader multi-stakeholder participation emerged in other sectors such as palm oil, soy, sugar, cotton, biofuels and beef. These stakeholders were convinced that such coalitions, often called roundtables, could have influence where the role of governments and intergovernmental agencies had declined or these parties were unable to intervene in markets.

In the last decade, the private sector – either on a pre-competitive basis or unilaterally – has also developed standards to mitigate sustainability risks in its own operations and supply base. Examples of pre-competitive industry driven standards are GLOBALG.A.P. (previously EurepGap), the Business Social Compliance Initiative (BSCI) and Sustainable Agriculture Initiative (SAI) Platform. Examples of company standards are the Unilever Sustainable Agricultural Code and the Starbucks C.A.F. E. (Coffee and Farmer Equity) Practices.

Many national governments and multilateral institutions have also initiated or played a key role in developing and driving the use of standards. A key area regulated by public standards is food safety and quality and environmental protection.[7] For example, a number of governments started requesting preventive systems of food safety control, which led to the development of the HACCP standard system and the Codex Alimentarius standards. While the majority of standards developed by governments are mandatory, governments are also involved in the development of voluntary standards, such as the International Organization for Standardization (ISO) standards and national or regional Organic standards. Many other examples exist, such as public standards in the forestry sector in Malaysia (Malaysian Timber Certification Council, (MTCC) and palm oil in Indonesia (Indonesian Sustainable Palm Oil (ISPO)). Standards also became an increasingly used tool for multilateral finance institutions. An example are the Equator Principles, including a framework for investment risk management for project finance, or the International Finance Corporation (IFC) Performance Standards on Social & Environmental Sustainability, which was launched in 2006.

In recent decades there has been a strong proliferation of VSS. For example, the ITC Standards Maps – an online tool allowing users to explore and compare VSS – included 114 voluntary standard initiatives in June 2013.[8]

Table 1. Overview of different standard types.

Voluntary Sustainability Standards			
Public	**Private & pre-competitive**	**Multi-stakeholder**	**Financial**
ISO; MTCS (Malaysia) Lestari Tea; Organic standards	Global G.A.P.; SQF 1000; Starbucks C.A.F.E.; BSCI; Nespresso; SAI	FSC; SPO; RTRS; RSB; 4C; BCI; UTZ Certified; FLO; Bonsucro; RA; MSC	IFC Performance Standards; Equator Principles; FSC
Mandatory standards			
HACCP; ISPO (Indonesia); Codex Alimentarius			
Legal requirements			

The following sections focus on multi-stakeholder driven voluntary sustainability standards (VSS). These are not government or industry-led standards, although government and business may be involved in their creation and implementation. We have concentrated specifically on standards that are linked to the sectors selected for this study: coffee, cocoa, tea, cotton, soy and palm oil.

2.2 The role and value proposition of standards

Figure 23 shows the theory of change behind voluntary sustainability standards. This theory of change is based on the assumption that when the standard is complied with, negative social, environmental and/or economic impacts will be mitigated and positive benefits will be created. The theory also includes a market-driven growth model. By implementing best practices and verifying compliance of these practices with the standard, a credible claim can be made. This claim has a value and the assumption is that this value will result in an increased demand from consumers and businesses, which will further drive the supply by producers. Over time this value cycle should result in a situation where certification or verification becomes a condition or requirement for market access.

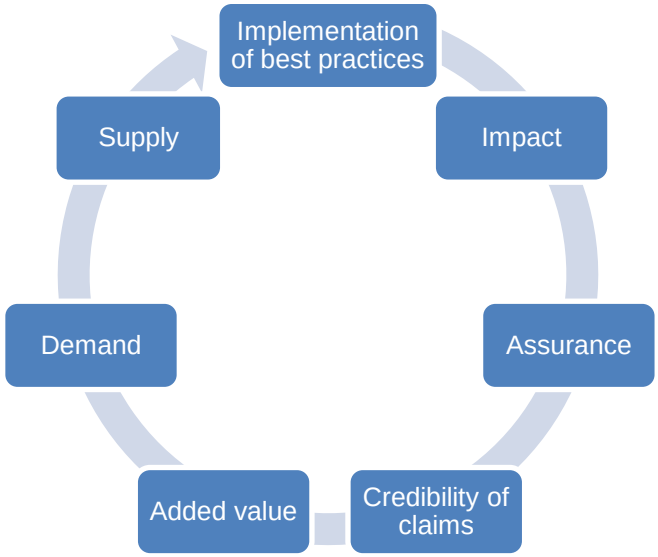


Figure 23. Theory of change: the Standards Value Cycle

Although there are many variations in the structure of VSS, they generally work with a similar set of basic components (see Figure 24). Each of these components fulfills a core value proposition of VSS, developed in support of the theory of change:

- **Providing a platform for dialogue and governance** (*Scheme management & Governance*):
  VSS offer a platform for dialogue between various stakeholders and governance. Such a platform can contribute to the creation of trust, collective vision and action and provides its participants with access to experts and networking.
- **Defining and operationalizing sustainability** (*Sustainability principles*):
  The core of a VSS is its standard, consisting of a set of social, environmental and/or economic criteria that operationalize the concept of sustainability with regards to a process, product or service. Most VSS developed their standard by consensus building, giving them a legitimate basis for action.
- **Support or incentives for implementation** (*Implementation support*):
  VSS may offer support or incentives for compliance with the standard by means of training materials, training programs, grants or a premium.

- **Providing assurance** (*Verification mechanisms & Accreditation*):
  VSS provide a system that verifies whether the requirements in a standard have been fulfilled. Verification contributes to the credibility of any claim on the sustainability of a process, product or service. VVS may provide assurance via certification, which means that the verification is performed by a third party.
- **Providing transparency** (*Chain of custody requirements & Traceability system*):
  VSS enable transparency in supply chains by offering traceability systems to track products and their ingredients or components back to their original source. In combination with a chain of custody certification, VSS assures the integrity of the chain at each stage of the supply chain.
- **Providing market and brand value** (*Scheme marketing & Communication*):
  Participation in a VSS may support or enhance a company's market or brand value. VSS may also provide the option of using on-pack claims, marks or seals indicating conformance with the standard, which can have additional B2B or B2C value.

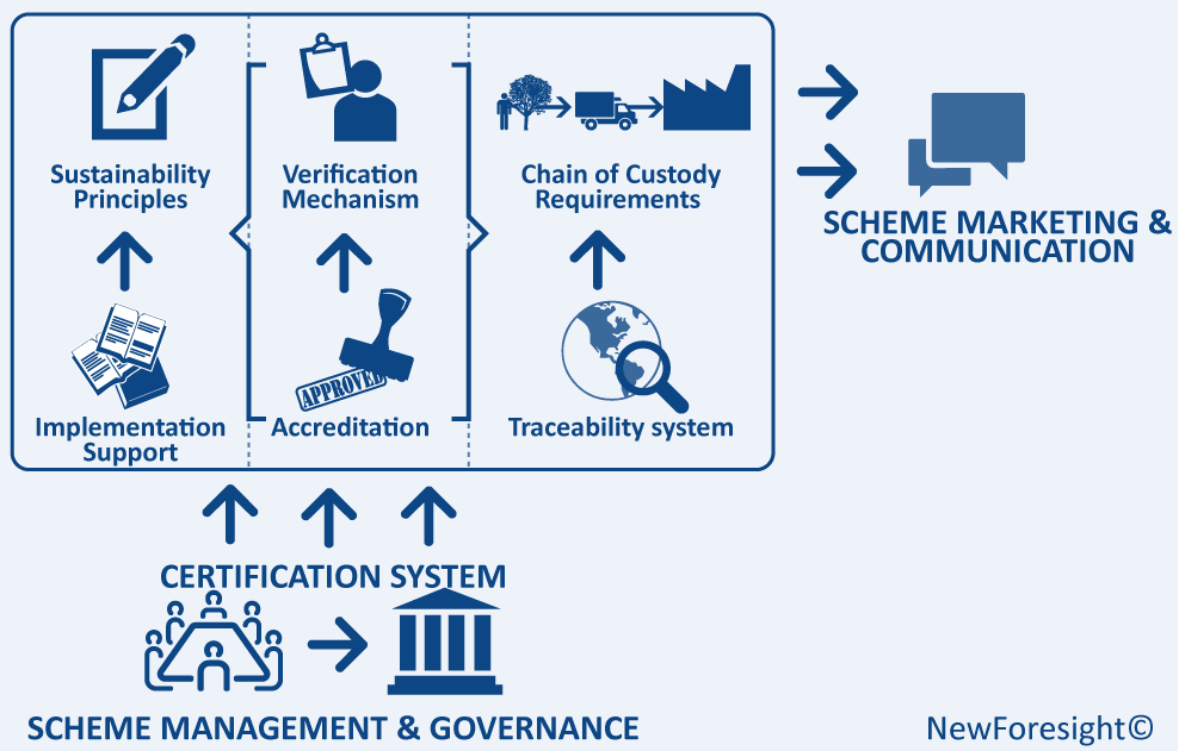


Figure 24. Main components of VSS

2.3 The uptake of VSS

Figure 25 shows the volumes of certified or verified production in the focus sectors. The VSS cover between 2% and 30% of the market. In some sectors the exact shares are difficult to calculate because of multiple verification or certification of the same farms.

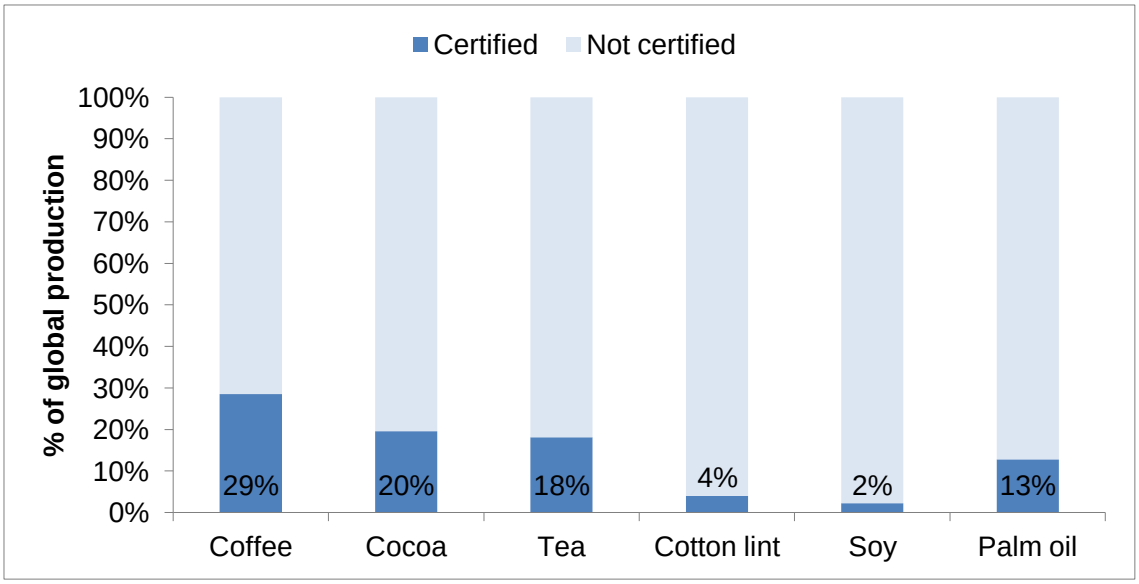


Figure 25. Volumes of verified or certified production as share of global production (2012)[9]

Note: Sources of certified volumes are the same as in Table 2 (see next page), including some assumptions of multiple certification. For cocoa, a 30% share of multiple certification is included; for coffee it is between 25-30%. These estimations for cocoa are based on the Cocoa Barometer (2011), the estimations for coffee are derived from the State of Sustainability Report (2010).

Most of the sectors have experienced a strong growth in verified or certified production. In 2009 for example, the total share in coffee of the VSS, mentioned in Figure 25 and Table 1, was estimated at 1,243,257 metric tons or 17% of global production.[10] Since 2009, the volume of certified tea has tripled. In cocoa, Rainforest Alliance and UTZ Certified experienced exponential growth in the last two years (770% and 900%, respectively). Fairtrade increased its volumes with 400% 2012. In 2009, certification/verification the palm oil and cotton sectors hardly existed. Overall volumes stagnated only in the soy sector the (in 2005 the total certified volume of Proterra equaled 7 million tons and RTRS and ISCC were not yet certifying). The growth rates can vary a lot between VSS. For example, in the coffee sector UTZ Certified and Rainforest Alliance increased their volumes in 2012 with approximately 80%, 4C with 170%, Fairtrade with 20%, while Organic remained stable. Table 2 shows the global volumes of certified or verified produce per commodity and separated into the focus standard schemes.

Whereas both the supply and demand of sustainable products increased rapidly, in many cases demand remains far behind supply. Not all certified production is sold as certified. For example, of all RSPO certified palm oil, the market uptake has been 52% in 2011 and 2012. For other VSS, market uptake is considerably lower. In the coffee sector only 9% of 4C verified coffee is sold as such and between 25% and 40% for UTZ Certified, Fairtrade and Rainforest Alliance certified production. For BCI, market uptake has been 47%. The first years of RTRS production reached a 90% market uptake, but in many cases certificates were sold up to 2 years after they were issued. Although some oversupply in sustainable production may always be necessary to allow for some flexibility in the market, these figures show an imbalance between supply and demand.

Table 2. Overview of global production and certified volume of focus commodities (mostly 2012 data, but also some from 2011) MT= 1 million tons.

Coffee 9.0 million MT world production	Cocoa 4.1 million MT world production	Tea 4.6 million MT* world production	Cotton (lint) 26.3 million MT world production	Soy 251.0 million MT world production	Palm oil 52.4 million MT world production
UTZ Certified **715,648 MT**[11]	UTZ Certified **534,614 MT**[12]	UTZ Certified **64,053 MT**[13]	BCI **670,000 MT**[14]	RTRS **1,000,000 MT**[15]	RSPO **6,724,236 MT**[16]
Rainforest Alliance-SAN **375,000 MT**[17]	Rainforest Alliance-SAN **405,608 MT**[18]	Rainforest Alliance-SAN **570,000 MT**[19]	Cotton Made in Africa* **160,000 MT**[20]	Proterra* **4,700,000 MT**[21]	
Fairtrade **429,000 MT**[22]	Fairtrade **165,000 MT**[23]	Fairtrade **200,000 MT**[24]	Fairtrade* **24,500 MT**[25]		
Organic* **135,000 MT**[26]	Organic* **37,920 MT**[27]		Organic* **151,079 MT**[28]		
4C **1,785,078 MT**[29]					

* 2011 figures

The majority of supply in VSS comes from either estates or well-organized producer organizations. For example, close to 100% of the RSPO certified plantations are large estates or their associated outgrowers. Only five years after the first plantations were certified, the first group of independent smallholders obtained RSPO certification. This group, based in Thailand, achieved this thanks to considerable donor support. Of the total RTRS certified volumes, less than 5% is produced by smallholders. The majority of sustainable coffee production comes from Brazilian estates or well-established groups of smallholders elsewhere. In the Indonesian tea sector, only estates have obtained Rainforest Alliance or UTZ certification, while in Kenya more than 440,000 smallholders have been Rainforest Alliance certified, which has been facilitated by their membership in KTDA. Due to the absence of estates in the cocoa sector, most certified produce in cocoa comes from smallholders, generally the better organized ones. The majority of the BCI supply comes from Brazilian estates, and the number of smallholders included in the system has increased only by means of targeted donor supported efforts.

2.4 The impact of VSS on sustainability

Understanding the impacts of VSS is important in order to determine whether they are successful in bringing about desirable changes and in particular whether they are able to realize their sustainability claims. The subject of impact assessment has received much attention in recent years, as shown by a series of recent meta-studies that summarized the state-of-the-art with respect to impacts for selected sectors or VSS. The meta-studies were based on a range of existing field studies, which can be characterized as follows:

- Using a variety of approaches and types or levels of impact;

- Not using methodologies with counterfactuals, which is required to draw firm conclusions and attribute changes to VSS activities; thus most conclusions are on plausible impacts rather than proven impacts;
- Biased by a focus on Fairtrade and Organic standards, which have the longest history and thus the best available dataset, as well as a focus on sectors with the longest history of certification: coffee, cocoa, bananas, tea and cotton. Impact studies in soy and palm oil sectors (for which VSS have been more recently established) are virtually absent;
- Focus on smallholder household level, and primarily incomes, while studies of large producers and wider impact studies (at regional or landscape level) are absent.

The meta-studies all concluded that rigorous and high-quality data with respect to impacts of certification standards is limited – so firm conclusions cannot be drawn. This is why ISEAL developed the ISEAL Impacts Code (2012). The Committee on Sustainability Assessment (COSA) also developed a systematic approach that is being applied to several sectors. Unfortunately, the results are not yet available except for two studies: coffee in Vietnam and cocoa in Cote d'Ivoire.

For this section we used the quantitative data and conclusions from the available meta-studies, as well as inputs from some selected sector studies (see box below) and interviews (mainly qualitative information). Soon, more data on impacts are expected to become available as most VSS organizations have started to set up systematic impact monitoring and evaluation systems.

Available studies on impacts of VSS primarily used for this section:

- Blackman, A. and Rivera, J. (2010) The Evidence Base for Environmental and Socioeconomic Impacts of "Sustainable" Certification. Resources for the Future.
- COSA (2012) Rainforest Alliance certification on cocoa farms.
- COSA (2013). Vietnam coffee: a COSA survey of UTZ certified farms.
- ITC, (2011). The Impacts of Private Standards on Producers in Developing Countries. International Trade Centre, Geneva.
- Kessler JJ, Brons J, Braam L, van Kuijk M and Pelders P (2012). Social and economic effects of value chains of tropical agro-commodities and sustainability initiatives. PBL, Bilthoven, the Netherlands.
- Kessler JJ, de Koning P and L. Antoniazzi (2013, in press). Case study sustainable soy. Evaluation of Dutch policy aid in Latin America 2004-2011. Evaluation Department, Ministry of Foreign Affairs.
- KPMG, 2012a. Responsible Soy Cost / benefit analysis of RTRS certification in Argentina and Brazil.
- KPMG, 2012b. Cocoa Certification. Study on the costs, advantages and disadvantages of cocoa certification. Study for International Cocoa Organization (ICCO).
- KPMG, 2012c. Certification and biodiversity. Exploring improvements in the effectiveness of certification schemes on biodiversity
- Nelson, V. and Pound, B. (2009) The Last Ten Years: A Comprehensive Review of the Literature on the Impact of Fairtrade. Natural Resources Institute (NRI), University of Greenwich,
- Steering Committee of the State-of-Knowledge Assessment of Standards and Certification. (2012). *Toward sustainability: The roles and limitations of certification.* Washington, DC: RESOLVE, Inc.
- WWF (2010). Certification and roundtables: do they work? WWF review of multi-stakeholder sustainability initiatives.

The available studies used different classifications for types and levels of impacts. We looked at three types of impacts:

1. **Direct impacts on producers**: GAP/productivity increase, profitability, producer share in end value, smallholder inclusiveness
2. **Direct impacts on sustainability:** social and environmental performance at the farm level, social and economic performance at the regional level, environmental performance at the landscape level, keeping worst practices of the market
3. **Indirect impacts:** spin-off towards other producers, institutional effects, crowding-in by other actors.

Table 3. Type of potential impacts of VSS

Direct impacts on producers	Direct sustainability impacts – socio-economic	Direct sustainability impacts – environmental
• Profitability • Productivity • Quality • Market access • Producer share in end value	• Level of poverty • Labor / working conditions • Child labor incidence • Living conditions and health • Labor rights and benefits • Land rights • Food security	• Loss or protection of biodiversity, natural and agro-biodiversity • Conversion of natural ecosystems, deforestation • Air, soil or water • Soil degradation • Greenhouse gas emissions
Indirect sustainability impacts		
• Policy effects (relevant to sustainability issues) • Spill-over effects (non-certified producers adopting standard) • Learning and working in partnerships or coalitions • Other sustainability initiatives (e.g. local standards)		

The main insights and conclusions are summarized in the sections that follow.

2.4.1 Direct impacts on producers

- Certification has positive and negative impacts on net incomes of farmers. Positive impacts can be price premiums, improved yields, improved product quality and reduced input supply (e.g. a transition to less use of agro-chemicals or organic production). Negative impacts can be higher labor inputs, the costs of certification or lower yields (e.g. in the case of a transition to organic farming). All meta-studies concluded that the available evidence of the overall impact of VSS involvement on net income of producers is moderately positive (cocoa, coffee, tea and cotton). However, the results are dependent on context, sector and farming system. While many believe that certification premiums have a significant impact on net incomes, they do not constitute a significant contribution. One reason is that price premiums are not always available and if so they are relatively small; secondly, market price variations may be much more important; thirdly, local companies may take an important proportion of the price premium (see below). Improvements in yield and in quality lead to higher financial rewards than certification premiums do. For soy and palm oil, studies are available that predict improved net incomes from certification for certain types of farmers, based on a business model and a series of assumptions. However, studies on *realized* impact are not yet available.

- For the natural resources based production systems of forestry and fisheries, WWF (2010) concluded that VSS in forestry (FSC) and in fisheries (MSC) have both positive and negative economic impacts. Improved market access and obtaining a price premium are most frequently cited as positive impacts. On the other hand, the cost of certification and the tendency to favor large-scale operators at the expense of small ones (especially for MSC) are negative. These conclusions are not based on rigorous studies, so should be qualified as plausible.
- Increased yields (by adopting GAP) and improved product quality are the main factors leading to increased prices and incomes. There is evidence for such impacts from VSS involvement in several sectors (e.g. soy, coffee, cocoa and tea), but these benefits depend upon several factors, especially initial productivity, farm size, the costs of agro-chemical inputs and other costs required for certification. The potentials for such benefits are generally greatest for smallholders, especially poorly performing ones. With cotton, the dominant incentive for farmers shifting from conventional to organic cotton is the *reduced* inputs and costs of pesticides, which leads to positive net incomes despite lower yields from organic farming. The same has been noted for farmers shifting from conventional to organic coffee growing. In cocoa, the potential for yield increase is large and strongly associated with *increased* agro-chemical inputs and costs For instance, COSA research found that certified cocoa farmers in Cote d'Ivoire earn almost four times more income, but this due to higher productivity on certified farms and is not due to a price premium for certified cocoa beans (COSA, 2012). In soy, applying GAP can enhance productivity, reduce healthcare costs and *reduce* input costs, particularly for small soy producers that have not yet achieved optimal levels of productivity. In tea, the standards call for *reduced* use of agro-chemicals, but this is not considered realistic in some countries, as soils are too poor. In Indonesia net income increases are mainly due to *increased* use of inputs and higher tea quality, together leading to a 20-30% price increase.
- Higher labor inputs and costs may be required for transitions of farmers from conventional production systems to organic production, or investments may be required to comply with all national regulations (e.g. permits). These costs and investments might outweigh the benefits or lead to marginal benefits (Nelson and Pound, 2009). Thus, farmer differentiation is important to assess the potential for net revenues. For instance, cocoa farmers are less likely to benefit from certification if they 1) have a cocoa plot smaller than 1 ha, 2) are not a member of a cooperative and 3) have a low productivity improvement potential (KPMG, 2012b). No systematic data are available on how inclusive VSS are to various segments of producers, including different types of smallholders.
- Few data are available on the share of value received by producers. The COSA study on coffee in Vietnam concluded that the main economic benefits of certification are related to quality improvements, but companies benefit far more from better prices than the farmers (COSA, 2013). In relative terms, farmers may receive a smaller fraction of the retail price for fair trade coffee than those who grow conventional product, though in absolute terms this may be greater (Valkila, Haaparanta, & Niemi, 2010, cited in Resolve, 2012). In certification systems, costs for distributors and retailers, e.g. for logistics, may be higher because of marketing costs and lower volumes (ITC, 2011).
- All meta-studies concluded that the improvements of 'business opportunities' for producers outweigh the monetary benefits. For instance, in forestry and fishery, expectations for economic benefits through increased premiums did not materialize, but improved market access and market security were still valuable for the producers' income stability (Sexsmith and Potts, 2009, in ITC, 2011). Factors that have a positive influence on business opportunities are: better market access or relationships with buyers, improved bargaining power, guaranteed sales for produce (not necessarily as certified), access to credit (usually short-term), improved credibility and better farm management skills. It is plausible that these factors translate into higher and more stable incomes, but there is no firm evidence to support this conclusion. Thus,

the question remains whether initiatives other than VSS might be able to achieve the same impacts, such as direct buyer relations between retailers and producers (vertical integration). This question has not been studied in detail.

- There is evidence that involvement in VSS contributes to higher net incomes for farmers, but these improvements are moderate and do not allow farmers to move out of poverty:
    - For Fairtrade or Organic coffee farmers it has been concluded that production may raise incomes relative to conventional systems, but the modest income gains and low volumes of coffee produced in low-intensity systems mean that, for most marginalized farmers, gains are insufficient to escape poverty (Valkila, 2009, cited in Resolve, 2012).
    - The impact study on Fairtrade (Nelson and Pound, 2010) concluded that while some studies mentioned a dramatic improvement in livelihoods, others emphasized that producer families are still only surviving and covering basic needs. They suggested that Fairtrade needs to be supplemented by other development policies and initiatives to raise rural livelihoods to a more sustainable level.
    - WWF (2010) concluded that for forestry and fisheries there is limited evidence of direct poverty-related impacts such as improved food security and livelihoods.
    - The ITC (2011) meta-study concluded that structural factors such as small farming plots may mean that the income generated by certification is still not comparable to minimum wages and may alleviate, but not eliminate, the poverty trap.
- Linked to above, programs associated with VSS that address multiple areas such as technical support, market access, capacity building, agricultural improvements and pre-financing are more consistently linked to positive results at the producer level.
- For large producers, benefits related to yield improvements are less likely. For them, market access is most likely the most important factor contributing to economic benefits. Since impact assessments of VSS focus on small producers (in line with the linkages with poverty reduction), no data on economic impacts for large producers are available.

2.4.2 Direct impacts on environmental and social sustainability

Environmental impacts

- No systematic studies are available to determine whether VSS are successful in 'keeping worst practices off the market' in the environmental sector, such as deforestation, and in assuring compliance with national environmental legislation (e.g. on conducting environmental impact assessments to acquire permits). These are priorities for all VSS, including the baseline standards (e.g. 4C or BCI), and for those who apply them it is likely that this will be achieved. However, no evidence is available on the extent to which VSS have been successful in reaching out to these issues.
- Many VSS have criteria to stop deforestation, but no conclusions can be drawn on whether this has been effective. Reduced deforestation for soy in Brazil was due to the national decision for a soy deforestation moratorium in the Amazon, and was not a direct impact of any VSS (Kessler et al., 2013).
- A study by KPMG (2012c) on the impact of all VSS in agricultural commodities on biodiversity concluded that there is not enough evidence to determine whether the use of VSS specifically enhances biodiversity or prevents biodiversity loss. This is due to the lack of studies that monitor the impacts of certification, the limited number of sources focusing on the wider biodiversity impact of VSS (beyond the farm level) and the fact that most VSS have been operating for relatively short periods, making it difficult to identify measureable biodiversity impacts.
- However, there is plausible evidence on changes in behavior as a result of certification, e.g. in adopting alternative land management, that may enhance conservation (KPMG, 2012c). This is

associated with the promotion of GAP practices that includes measures for sustainable management of soil and water resources and conservation and restoration of local ecosystems. There is evidence of reduced use of agro-chemicals (e.g. COSA, 2013, coffee in Vietnam), especially when applying organic standards, for VSS in sectors where conventional systems use high levels of agro-chemicals (coffee, cotton, soy, rice, sugarcane and others). It is plausible that these measures will lead to improved ecosystem quality and biodiversity but this cannot be firmly concluded, and the relative contribution by these measures is uncertain. For cocoa farms in Cote d'Ivoire involved in certification, the COSA study (2012) concluded there are fewer signs of erosion – such as gullies and downstream soil accumulation – as a result of soil and water conservation measures that are part of the VSS.

- Regarding the promotion of organic agriculture: depending on the production methods, this may rely on large inputs of organic fertilizers (to replace inorganic fertilizers for soil fertility management). Several international reports have expressed doubts on whether this will be sustainable, as large organic inputs will deplete the soil beyond the farm level in the long run. Whether this is actually taking place cannot be concluded, as VSS do not undertake impact assessments beyond the farm level.
- WWF (2010) concluded that there are positive environmental impacts resulting from FSC (forestry) and MSC (fisheries) certification. FSC certification improves forest planning and inventories, silviculture, biodiversity protection, and monitoring and compliance, with plausible positive environmental impacts. A proven environmental impact from MSC certification is improved fishery management, leading to reduced by-catch mortalities.

Social impacts

- No systematic studies are available to determine whether VSS are successful in 'keeping worst practices off the market' in the social sector, such as child labor, forced labor, land conflicts or human rights violations, and in assuring compliance with national social legislation (e.g. on ILO standards or conducting social impact assessments). These are priorities for all VSS including the baseline standards (e.g. 4C or BCI), and for those who apply them it is likely that this will be achieved. However, little evidence is available on the extent to which VSS have been successful in reaching out to these issues.
- Evidence of the positive impacts of certification and standards on living and working conditions is scarce and comes primarily from studies of fair trade and ethical trade systems. Overall, the impacts of VSS on welfare at the household level were found to be limited (Resolve, 2011). There is some evidence of improvements in working and living conditions, but the impacts are highly system-specific and place-specific, making generalizations difficult. Little research has been done on the social impacts of fisheries and aquaculture certification (Resolve, 2011), but according to WWF (2010), positive impacts on workers for FSC and on local communities for both FSC and MSC have been reported.
- The ITC (2011) report concluded that, based on only a few studies, impacts of VSS involvement on livelihoods tend to be positive, through factors such as food supply, land security, health and education. In some sectors the reduced use of agro-chemicals has led to improved health impacts (especially cotton, but is also expected for coffee, tea and soy). Social services and improved education are other positive impacts of VSS, especially fair trade. In the coffee, tea, cotton and cocoa sectors some studies indicate plausible positive impacts of VSS on working and living conditions, including health and safety, housing and wages. In the cocoa sector, there is evidence of reduced incidence of child labor, not only due to VSS but also to sector initiatives. In timber, FSC certification appears to have a positive effect on working and living conditions, including health and safety, housing, wages, employment opportunities and training and capacity building (Kessler et al., 2012).

- Nelson and Pound (2009) also referred to impacts of fairtrade in terms of community empowerment, including capacity and skills development, organizational development, self-confidence and education. Empowerment is generally considered to be a component of poverty reduction, apart from the economic (incomes) angle. In fact, there is some evidence of improved education in communities benefitting from VSS, i.e. in fair trade (Nelson and Pound, 2009) and cocoa farmers in Cote d'Ivoire (COCA, 2012).
- However, there are also some doubts, for example concerning gender issues. Female participation may be limited, gender equity may be at risk or additional labor is mainly done by women, e.g. for organic cotton (ITC, 2011; Kessler et al, 2012). In the palm oil and soy sectors, NGOs have expressed doubts on the effective application of the RSPO and RTRS standards on social issues, such as land rights, and more time appears to be required for these standards to adequately address these issues (Kessler et al., 2012).
- In cotton, application of the labor code has led to some improvements within households and communities of workers in the garment sector (IDS, 2006, in Kessler et al, 2012). Some of the women stated that working in the factories had led to an increase in their status and decision making at the household level, for example they could now decide on the kind of schools their children attend. They also reported better health of family members. Improved educational opportunities for the children of workers have also been reported (Hordijk *et al.*, 2010, in Kessler et al., 2012)..
- Full compliance with social sustainability criteria is important because there appears to be an attitude of 'zero tolerance' among the public on issues such as child labor and human rights. The credibility of VSS can easily be put at risk if there is any evidence of such issues occurring, which has been the case in sectors such as tea and cocoa. The VSS in these sectors are aware of this but cannot yet provide convincing evidence that they have fully met expectations.

2.4.3 Indirect impacts

Apart from the direct effects on incomes, environmental and social sustainability, there may be a series of indirect impacts. Indirect impacts can lead to systemic changes in terms of behavior, cultures, policies or institutions. These systemic changes may then lead to above income, environmental or social impacts, but at a greater scale because this does not depend entirely on the activities and outreach of the VSS. The following indirect impacts have been noted:

- VSS raise awareness on sustainability and serve as a learning laboratory to test standards, verification systems, and technologies to solve certain sustainability problems (Resolve, 2012). By observing how the voluntary standards operate, regulators and other stakeholders can test and adapt their approaches to achieve their goals. There is evidence that the attention towards sustainable soy and deforestation in Latin America has contributed to strengthening forest and social legislation and improving its enforcement, e.g. in Brazil and Argentina. New legislation has also developed with respect to regional land-use planning in order to reduce deforestation (Kessler et al., 2013).
- The development of a VSS through multi-stakeholder dialogue may in itself constitute an important learning process. There is evidence that the rather long process of developing the RTRS standard, involving numerous multi-stakeholder events and conferences, has contributed to a new culture of negotiation in Brazil and the other Latin American countries involved. In cases such as in Brazil, the debate on the VSS in national frameworks on forest management and labor has raised public and political awareness of their relevance, and this debate has contributed to important adjustments and improvements in terms of their enforcement (Kessler et al., 2013).
- VSS have stimulated enforcement of national legal frameworks on social and environmental sustainability. VSS standards generally take as a starting point the need to comply with

national legal frameworks. In many cases these frameworks exist, but may be poorly enforced. VSS have strengthened their enforcement by raising public and political awareness about their relevance. For example in Brazil as a result of discussions on a standard for sustainable soy, national frameworks on forest management and labor have seen important adjustments and improvements in terms of their enforcement.

- Related to the above, local stakeholders and governments may be inspired to develop their own standards. There is evidence of this in the fishery sector and several examples from the case studies on tea, soy, and palm oil. Although the local standards may be less stringent and compete with the original VSS, their scale of application may be important.
- Farmers adopt GAPs from other farmers to improve yields. This has an important spin-off from VSS farmers to other farmers (Resolve, 2012). Also, extension services pick up messages to improve farm productivity and get involved in training (evidence from cotton in India). These could be summarized as *crowding-in* impacts.
- The emergence of credible voluntary standards has created a certification industry to whom governments and businesses can turn. For example, certifiers of forest products have offered their expertise in compliance verification and chain-of-custody tracking to help enforce EU bans on the import of illegally harvested timber.
- Certification is especially helpful as a tool to improve communication within the value chain and thus drive better collaboration between various components and actors within the value chain (lesson from coffee). Improved communication is essential for building trust and is an important ingredient for adoption and up-scaling of VSS.

2.5 The VSS value proposition in practice

This section explains the main strengths and weaknesses of VSS with regard to their value proposition. This helps to understand their role to date in transforming markets towards sustainability.

2.5.1 Providing a platform for dialogue and governance

VSS have been quite successful in bringing together stakeholders and obtaining consensus on how to promote sustainable market transformation. In various instances, VSS were the first attempts to define sustainability within the context of a sector or country and to develop a system to achieve this. Their strength lies partly in the participatory approach. Although such an approach may be complex and time-consuming, it has helped to build initial stakeholder confidence and commitment. The inclusiveness of the multi-stakeholder approach has also contributed to the overall legitimacy of their system. For example, from a business point of view, working with consensus-based standards and civil society organizations behind VSS gives a credible and shared reference point for collective action, as well as access to expertise and networks.[30]

Despite their participatory approach, VSS have failed or deliberately chosen to exclude government as key stakeholder in their system. VSS are primarily market-based initiatives. While the rationale for this may have been to take action where governments had failed, it now turns out that excluding the public sector actually hinders the creation of national commitment to endorse standards and the creation of an enabling environment for standard uptake. An exception is the Sustainable Rice Platform (SRP), which has always engaged with national governments in sourcing countries and gave them representation in their governance structure – recognizing that in order to promote sustainability in the rice sector, public sector participation is crucial. BCI's new strategy with a focus on national embedding in policy and extension services is one example of how VSS are now looking to engage with government. In addition to governments, some Southern

stakeholders feel underrepresented in VSS, which they still consider Western-driven approach, and consequently do not have a sense of ownership.

An inclusive approach, based upon consensus building, also creates challenges in terms of moving forward quickly and keeping everybody on board. The positions of stakeholders can differ greatly. In such situations, finding a compromise takes time and investment and requires strong negotiation and communication skills. In some cases, interests cannot be aligned, which results in the disengagement of stakeholders. For example, the development of the Roundtable for Responsible Soy (RTRS) standard took six years and saw the disengagement of some of its important Brazilian stakeholders – both on the producer and civil society side.[31] Critical in managing a multi-stakeholder initiative are committed leadership, a clear and representative governance structure and an effective complaints and grievance mechanism. Whereas most VSS have a complaint and grievance mechanism in place, the RSPO developed an additional dispute settlement facility to provide a means for achieving fair and lasting resolutions to disputes. Although these kinds of mechanisms are valuable, doubts have been expressed about their effectiveness and impartiality. An alternative approach could be to outsource grievance and conflict management to a skillful and more neutral ombudsman, possibly servicing multiple VSS.

2.5.2 Defining and operationalizing sustainability

In addition to the principle of consensus building, the success of VSS is related to their ability to translate generic principles such as the protection of labor rights into concrete practices or performance levels relevant to specific target groups. This translation has occurred for a wide range of target groups. Some standards may be applicable to any farm in the world, while others have defined standards according to specific crops, production systems (e.g. large-scale versus small-scale) or countries. Some VSS have standards that only cover one stage of the value chain (e.g. producers), while others cover multiple stages (e.g. processors, buyers). Although there is a call for harmonization between standards, it is also acknowledged that a one size fits all model does not work. Consequently, some VSS have responded to this with product-specific national versions of standards. Another approach to account for local circumstances is a risk-based approach, where the scope of certification depends partly on an initial risk assessment of the producer (e.g. Roundtable for Sustainable Biomaterials (RSB)).

The proliferation of VSS has also led to the creation of a wide range of sustainability definitions, differing in scope and rigor. This creates both opportunities and constraints for achieving sustainability. The scope of sustainability covered by different standards for a similar product can vary widely. Some standards have a holistic approach covering social, environment and economic issues, while others focus on specific social or environmental issues (e.g. BSCI, Organic or Bird Friendly). The requirements of standards also differ widely, with some standards focusing on the elimination of worst practices while others put the threshold of sustainability considerably higher and seek “best practice” application. The first category is often referred to as baseline standards and the second as the more stringent best practice standards. In coffee, 4C is considered the baseline standard whereas Fairtrade, Sustainable Agriculture Network coffee standard, UTZ Certified are considered to be the best practice standards.

There is a concern that the proliferation of standards results in a race to the bottom, as the industry will eventually move towards less stringent and cheaper standards. On the other hand, the co-existence of baseline and best practice standards may enable producers or enterprises to move gradually towards improved sustainability performance. Baseline standards are supposed to offer producers a low entry barrier and are therefore accessible to a larger group of producers. In combination with a continuous improvement process, baseline standards could, at least in theory,

function as a stepping-stone towards more demanding certification. In practice, this stepping stone mechanism does not automatically take place, and baseline standards may lead to stalled progress (or become a resting stone). This process needs clear incentives, such as capacity building, ensured access to markets or price premiums, to move actors up the sustainability performance ladder. These incentives can often be realized only in a coordinated approach. This approach can be exemplified by the pilots that the 4C Association and the Rainforest Alliance have undertaken in El Salvador and Colombia to assist 4C members who had undergone a successful 4C verification with implementation of the Sustainable Agriculture Network coffee standard and Rainforest Alliance certification.[32] Despite a few good examples, there seems to be a lack of such coordinated approaches. In sectors where the key driver for sustainability is a single issue (e.g. deforestation), it is questionable whether there is an incentive to move towards more comprehensive standards once this issue has been addressed.

Note that within a VSS a stepwise approach can also be used to encourage producers to move upwards. For example, in the UTZ Certified Code of Conducts the number of mandatory requirements increases each year until full compliance with all requirements has been obtained after three years.

Proliferation of VSS has stimulated innovation in design and the evolution of the VSS model, but it has also resulted in confusion and additional administrative burden and assurance costs. The proliferation of VSS has contributed to innovations in the design and verification models of standards, which could be embedded in or added to existing systems. However, the general opinion is that too many competing initiatives defeat the ultimate objective to standardize good practice across a given sector.[33] Nowadays it is noted that consumers and industry are confused by the sheer number of certifications and labels.[34] In some sectors, producers are often certified or verified according to multiple standards. Sometimes this comes as a response to buyer demands, and other times is the result of producers seeking market opportunities by acquiring multiple certifications. Either way, producers complain that the cost and complexity of multiple audits is a burden.[35]

Constraints linked to the proliferation of standards have resulted in a growing call for the harmonization or mutual recognition between VSS. Earlier stakeholder research by the ISEAL Alliance revealed that VSS should strive to build a coherent landscape in response the sheer number of standard systems that are overlapping and the confusion that results.[36] Whereas VSS generally do not like the idea of harmonizing their standards and systems, some initial collaboration exists within the context of ISEAL Alliance. For example, various VSS have been working to develop a joint banned pesticide list that will provide an easy reference point for producers, along with guidance on alternatives. Some VSS are also looking at opportunities for mutual recognition. For example, in the cotton sector, BCI has recognized Cotton Made in Africa (CMiA), allowing anything that is CMiA produced to be sold under BCI. Recognition can be a complex exercise, however, as it not only concerns the content of the standard but also the assurance process. Other forms of collaboration are attempts to set up joint auditing systems for farmers that seek multiple certifications. Despite these attempts, joint audits are not yet widespread.

2.5.3 Support or incentives for implementation

In order to incentivize producers to become more sustainable, various VSS have included a premium for certified produce in their systems. Fairtrade applies a minimum guarantee price to the producer, plus a premium to be used for organizational strengthening and for projects that enhance social, economic and environmental development. Cotton Made in Africa offers producers the

possibility of eventually receiving a dividend, but only after the program reaches a certain level of sales. Most other systems use a market-based premium, where premiums vary depending on the perceived value of compliance with a particular standard, the level of demand, the relative supply and the negotiating strength of the buyer and seller in a particular transaction. Some schemes, such as BCI, explicitly seek to avoid a paying a premium so that the scheme can enter the mainstream. The extent to which a premium is indeed an incentive to join a VSS depends largely on the total amount of premium received and how this compares to the costs of certification. There is an increased recognition that although still relevant, price premiums are neither as essential nor as universal as previously assumed.[37] In fact, there is increasing evidence that benefits other than consumer price premiums, for example access to training, may be sufficient to make a VSS of value to producers.[38]

VSS facilitate improved market access by linking demand to supply through supply chains. An important incentive to producers to join a VSS is the opportunity to gain stable and secure market access and the ability to sell to higher-end markets. VSS have developed the chain of custody systems that can facilitate those linkages, and as long as the demand for certified production increases, this will remain an important incentive to producers.

VSS have contributed to the recognition of the significant need for capacity building, particularly among small-scale producers, and they increasingly respond to this need. Some standards systems provide training on their standard, while others rely on a range of consultants, local government extension services and NGOs. In the cocoa sector, several VSS collaborate to develop shared training material. Training is especially relevant to producers with limited capacity and resources, such as small-scale producers. If training on social and environmental sustainability is integrated with training on good agricultural practices, the potential benefits of increased yields and/or quality can be an important driver for producers to participate in a certification scheme. Capacity building is generally offered for free and consequently requires significant financial resources. The RSPO set up a Smallholders Support Fund to cover the costs of getting smallholders certified. The funds are generated from a percentage of the income from trading Certified Sustainable Palm Oil, plus any remaining surplus of income within the financial year of RSPO. To support their capacity building activities, most other VSS seek collaboration with external NGOs, donors and increasingly with the private sector. Despite these efforts, much more investment in capacity building is necessary to allow VSS to scale up among smallholders.

Other potential incentives and support measures include access to finance. For example, Fairtrade requires buyers to pre-finance contracts if producers ask for it. Another example is Starbuck's Cocoa Practices cooperation with Root Capital Verde Ventures and the Calvert Foundation to provide loans to cocoa farmers. Similar programs exist in other sectors.

2.5.4 Providing assurance

Providing assurance is a key function of VSS, but a trade-off exists between the level of assurance and costs. The assurance process can take a number of forms, including verification, certification, and accreditation, each with varying levels of independence and rigor.[39] Verification is the confirmation that specified requirements have been fulfilled. Verification can take place by means of self-verification (first party), an interest party (e.g. buyer, second party) and an independent body (third party). Certification is the formal decision on compliance based on the results of a third party auditor's report. Some VSS also require additional assurance by means of the accreditation of the certification bodies, consisting of an assessment of the competence of the certification body to determine compliance with the standard. There is a clear trade-off between the rigor of the assurance process and the costs of this process. As the assurance determines to a large extent

the credibility or confidence in a VSS, many of the best practice standards have adopted rigorous and often costly systems, often in line with the ISEAL Code of Good Practice for Assuring Compliance with Social and Environmental Standards. Many of the baseline systems apply less rigorous and costly systems that result in lower barriers to entry.

To reduce the costs of assurance for smallholders, alternative provisions have been developed. Most VSS have developed group certification models that combine a second-party internal audit and a peer-review process among an organized group of producers with a third-party independent assessment of the group's management system. This approach enables small-scale producers to share the costs of external verification.[40] Nonetheless, the costs of setting up and implementing such system can be still considerable and are in many cases only feasible for the larger and more professional groups.

Opportunities exist to increase the efficiency of assurance without necessarily affecting credibility. Allowing a single audit for multiple VSS is one option for increasing efficiency, as mentioned above. Some VSS, such as 4C and BCI, started to combine self-assessment with second- and third-party audits to streamline the verification process. Other schemes explore opportunities to reduce the administrative burden linked to assurance. The use of peer reviews and area-based certification are other methods that may reduce the costs of assurance. The introduction of more sophisticated data management systems may also increase transparency and as such reduce the need for rigorous certification.

Concerns over the competence of auditors fuel credibility concerns and require additional efforts in capacity building of auditors. The role of auditors or assessors in a standards system is crucial. Auditor competence derives from a combination of skills, knowledge, and personal attributes. Most standards systems require that auditors have some formal training, often defaulting to ISO 9001 Quality Management System auditor training. Some systems, recognizing that this is insufficient, begin to take a more hands-on role in qualifying auditors. Others already have training and testing programs in place that auditors are required to complete before they can undertake assessments.[41] Despite these efforts, concerns persist about the quality of audits and as such the proof of whether VSS can deliver what they promise. There is a widespread feeling that additional efforts are needed to raise the overall quality of auditors and assessors, in particular with regards to their competence in the assessment of High Conservation Value Areas (HCVA) and social issues. The capacity building of auditors may require collective action by VSS and other centers of expertise. A good practice may be the HCV Resource Network that develops a robust, independent scheme to license and monitor HCV assessors, and provides peer reviews and training.

Assessment of the sustainability impact of VSS is increasingly provided. Impact assessments have not historically been a high priority for most VSS. However a repeated call for impact assessments has resulted in increased efforts in monitoring and evaluation; some of the conclusions are presented in the following sections. In order to create some consistency in how impacts are measured, the ISEAL Alliance developed the Impacts Code, which is increasingly used. Most VSS now have units responsible for monitoring and impact assessments.

2.5.5 Providing transparency

Based on a common understanding of sustainability, VSS have facilitated traceable supply chains from field to shelf. VSS have created a system in which production can be linked to consumption, consequently offering a transparent choice to companies and consumers to buy sustainably produced products. Different traceability models (Book & Claim, Mass Balance, Segregation and Identify Preserved) can be adopted according to the complexity of the supply chain. These models

also provide different options to incentive sustainability performance. For example, a Book & Claim system enables market-based rewarding of sustainability practices, even in sectors where traceability is too complex or too costly.

The proliferation of traceability systems has resulted in concerns of double-counting as well increased costs in implementation. As most VSS have their own traceability systems and chain-of-custody certification, there is a risk of double counting of certified volumes in supply chains that have achieved multiple certifications. For example, one batch of cocoa may have both Organic and Fairtrade certification, and both will be counted by their respective systems. When the total amount of sustainable cocoa being sold is measured, those products are counted twice. Multiple chain-of-custody certifications may also increase costs. Potential solutions to these issues include increased data sharing between VSS or even the harmonization of the traceability models and chain-of-custody requirements.

2.5.6 Providing market and brand value

VSS's proactive marketing and communications strategies have created a market for certified products and opportunities to support or enhance market or brand value. Consumer communication, the use of labels and influencing government and other institutional purchasing programs have helped to create opportunities for companies to meet customer expectations and to support or enhance the "brand story".[42] For example, in some countries certification and labels are valuable in B2B, as many governmental, institutional and corporate buyers now have "green" purchasing policies which reference certifications and labels.

However, with the increased participation of brands in VSS, labels have become less instrumental in creating a competitive advantage. In addition, in most consumer markets sustainability is still rarely the first purchase driver, with value, reliability and quality almost always higher on the list. These facts may result in a reduced value of certification labels and communication efforts. Instead, there is a tendency among companies towards unique brand campaigns that create an emotional connection with the consumer, with certification, labels or attributes used back-of-pack (metaphorically or literally).[43] From a brand value perspective, VSS will become increasingly a "license to operate" rather than a strategy for differentiation.

2.6 Drivers, barriers and success factors of VSS uptake

The previous sections showed a considerable increase of production and sales of certified volumes but also some gaps in terms of market uptake or inclusion of less organized small-scale producers. Despite considerable growth of certified volumes in some sectors, certification or verification has not reached the "tipping point" in any sector (which makes them fully sustainable – institutionalization on the S-Curve). With total certified or verified volumes between 2% and 30% per sector, there is a need for scaling up. To develop strategies for scaling up, it is necessary to understand the most important drivers and barriers for VSS uptake for both producers and buyers and the critical success factors for uptake.

2.6.1 Key drivers and barriers for uptake

Whereas many potential drivers and constraints exist to join a VSS, the most prominent ones are economic. They are presented in the following table.

Table 4. Drivers and Barriers for market uptake of certification

Buyers		Producers	
Drivers	**Barriers**	**Drivers**	**Barriers**
- Reputation & risk management - Brand value - Operational improvements - Supply security - Quality standards - Public policies	- Weak consumer interest - Weak supply of certified produce - Cost of certification	- Market access - Financial premium - Improved yields & quality	- Awareness and capacity gap - Lack of business case - Lack of sector organization - Conflict between standard and local context

Drivers for uptake by buyers

In 2011, the ISEAL Alliance published the results of a survey of 100 thought leaders on the motivations for engaging with certification.[44] These results showed that VSS are becoming a widely used tool to implement corporate social and environmental responsibility. Driven by *reputation and risk management*, linked to civil society and consumer pressure in for example the cocoa, coffee, tea, palm oil and garment sectors, some companies have made commitments for uptake. An increasing number of companies recognize that sustainability can build *brand value*. Sourcing certified products is one strategy to accomplish this. Linked to these drivers, the credibility of a standard is very important in determining a company's awareness and use of a standard. The reputation or credibility of a standard is key, and is based on factors such as credible verification, good governance and a multi-stakeholder approach. The credibility also depends on proof of whether VSS result in the desired impact. Current uncertainties with regards to the quality of verification, chain-of-custody risks such as double counting and the impact of VSS may influence the reputation of standards. Some standards, such as the RTRS, also need to prove themselves with regards to stakeholder buy-in and representation.

Other benefits associated with VSS are the *operational improvements*, as they facilitate supply chain management and create a shared language and agreed processes to deliver sustainable results. In some sectors, VSS are considered as a useful instrument to create more direct linkages with suppliers and as such contribute to *supply security and increased quality standards*. For example, the shortage of the supply of quality produce has partly contributed to an increased use of VSS in the cocoa sector. Although supply insecurity is not an immediate risk in most sectors, quality issues are relevant in sectors such as coffee, cocoa, tea and cotton. This raises the question of the extent to which the implementation of VSS does improve yields and quality. VSS put relative limited emphasis on these issues, and improvements rely generally on additional efforts such as training. However, the implementation of VSS can create more stable and transparent relationships between suppliers and buyers and consequently facilitate the implementation of training programs and quality management systems.

Public policies may also be strong drivers for the uptake of VSS such as the EU Renewable Energy Directive (RED), which has stimulated the uptake of certified bioenergy feedstock. Public

procurement policies have increased the demand for sustainable coffee and timber. Finally, *sustainable lending policies* from banks may also promote the uptake of certified production. Some banks currently do this in relation to palm oil (RSPO) certification.[45]

Barriers to uptake by buyers

Weak consumer interest is an important barrier to market uptake. Certain market characteristics, such as limited consumer awareness, willingness to pay for sustainable products or the low visibility in the end products can have a negative impact on market uptake.

Weak supply of certified produce is considered as another important constraint. This sounds ironic, since the figures above show a considerable oversupply of certified produce. However, buyers generally prefer a situation of oversupply to enable flexibility in sourcing and to keep pressure on premiums. Other supply issues are caused by the complex structure and lack of transparency in certain supply chains, requiring considerable time and investments to link supply with demand and to create traceability of certified supply (e.g. the soy, palm oil and cotton sectors). Unorganized sectors (like those in Shapes 1 and 2) are especially challenged by their complex structures at the producer end (i.e. large numbers of small producers), for example in the case of cotton in India or cocoa in the Ivory Coast.

The *costs of certification* related to obtaining traceability and chain-of-custody certification may be an important barrier to scaling up demand. Premiums (and additional costs) for certified produce may be difficult to absorb by the supply chain or by end consumers in sectors with thin margins (e.g. soy sector) in comparison to high profile or certain niche sectors such as coffee and cocoa. Here market characteristics (as outlined in Chapter 1) are an important driving force in determining the balance of costs and benefits of standards, and therefore their implementation. The relative significance of the costs of certification has also created room for cheaper standards such as some of the biofuel standards that compete directly with RTRS and RSPO (the origin of these new standards was the above-mentioned EU RED).

Debate is ongoing about whether VSS are considered to be a trade barrier according to WTO Agreement on Technical Barriers to Trade (the TBT Agreement). International standards are clearly acknowledged in international trade agreements as being conducive to free, international trade. However, the interpretation of the TBT Agreement's definition of an international standard is not fully settled.[2] This seems to leave room to argue that VSS are trade barriers.

Drivers for uptake by producers

The single most important driver for producers is *market access*. Producers shift towards certification if their current buyers require this or if this allows them to access more profitable markets. In the absence of other markets, VSS become a de facto license to operate.

Linked to market demand, a *financial premium* for certified produce remains an important driver in certain sectors. Although, as stated earlier, the importance of premiums may have been overestimated in the past, producers still expect to be compensated for the costs of certification, so any additional premium would be an important driver.

Especially for organized smallholders, other economic benefits such as increased profitability due to *improved yields or quality* can be an important driver. These benefits may occur if certification is accompanied with technical assistance on good agricultural practices. As mentioned before,

[2] UNFSS (2013), Voluntary Sustainability Standards; Today's landscape of issues & initiatives to achieve public policy objectives

training is not necessarily an intrinsic part of a VSS, and will always come with additional costs. One strategy to cover such costs in the context of group certification is to use premiums received for certified products to cover such training costs, instead of transferring them directly the producers – as it is believed that the benefits of training outweigh the value of the financial premium.

Similar to buyers, the *sustainable lending policies* of banks may also prime certified producers.

Barriers for uptake by producers

An important challenge for small-scale producers to adopt standards is the *awareness and capacity* that is required to meet the sustainability requirements. Knowledge gaps can be considerable and the opportunities farmers have to fill them are often limited, especially in flat pyramid and pyramid shaped sectors (as presented in Chapter 1). Producers may also *lack a business case* to join a VSS. The costs of joining a VSS can be considerable. The costs of certification include costs for audits and possible membership fees to VSS. Additional costs of meeting the production standard's requirements can be substantive, especially for the worst performers. Most of the costs of certification are pre-certification costs of which the associated risks increase if the demand for certified products and the associated premium is uncertain. In many cases, the market demand and associated premium are uncertain. This uncertainty also reduces opportunities to externally finance these costs. Consequently, much of these pre-investments, especially for small-scale producers, depend (at least partly) on the availability of donor money.

The business case of VSS for smallholders can improve if certain costs of certification can be shared. Most VSS enable this by allowing group certification. While group certification schemes enable sharing of certain costs and scaling up among smallholders, the implementation of these schemes entails additional costs for training and for establishing and operating internal management systems. These costs are generally more substantial than audit costs. Despite group certification schemes, the business case of VSS may still be absent, especially for those at the smallest scale and for currently unorganized producers.[46]

If certification of smallholders can only be economically feasible when done in groups, the level of organization in a sector, i.e. the sector shape (as presented in Chapter 1), is crucial in determining the potential of VSS uptake. For example, in the case of Shapes 1 and 2 (Cocoa in Ivory Coast and Palm Oil in Ghana, flat pyramid and pyramid) the *lack of sector organization* (and its quality) is a key barrier to the implementation of VSS and the broader progression towards sustainability.

Barriers may also arise from the *conflict between a standard and the local context*, as some requirements may be difficult or impossible to fulfill. This may be related to cultural aspects (e.g. Indian caste system) or the local legal framework (e.g. the Indonesian law in certain cases does not allow for HCV conservation as required in the RSPO standard). Because many standards include requirements on legal compliance, an unclear or insecure legal environment may also create uncertainty about the exact requirements. Moreover, some producers may have irreversible non-compliances, such as being located on a site that was deforested after the reference date in the standard. Finally, certain requirements in standards may not be applicable to certain types of producers (e.g. smallholders).

2.6.2 Critical success factors in scaling up VSS

Looking in more detail at the focus sectors and countries, several critical success factors for scaling up VSS can be identified. The most critical success factor is a convincing business case for

the different actors involved. The following factors have been most successful in supporting such a business case. They relate to both the forces presented in Chapter 1 and the value proposition of standards.

Linked to the market characteristics or enabling environment

- existing demand for sustainable products
- degree of sector organization (and professionalization, i.e. sector shape)
- sense of urgency and degree of ownership in sourcing countries
- level of law enforcement
- access to capacity building for smallholders

Value proposition of VSS

- flexibility in chain-of-custody models to link demand with supply
- national interpretations and smallholder provisions within the standard and assurance systems
- recognition between standards

The first critical success factor is an *existing demand for sustainable products*. Private and public sourcing commitments have had an important pull effect on sustainability through the supply chain. Demand has an overriding effect on the type and uptake of sustainability standards and certification. Currently, demand for sustainable production has only come from Northern countries, notably Northwestern Europe and the USA. As explained before, demand depends on the sense of urgency among buyers, arising from business, consumer or policy drivers. The combination of civil society pressure, the existence of high profile brands in dominant Northern markets, and the high visibility of the end product gave an impulse to the cocoa, coffee and tea industry to make commitments on sustainable sourcing. The absence of demand, such as in the soy sector, puts a real limit in achieving scale. This absence of demand for sustainable soy can be partly explained by the limited market share of Northern markets, the absence of large brands in these markets and the low visibility in the end product. Different combinations of market characteristics usually have different outcomes. Similar to the soy sector, palm oil is hardly visible in the end product and Northern markets have a minority share. However, public awareness on the sustainability issues combined with the presence of high profile brands did result in a demand for sustainable palm oil.

A second critical success factor has been the *degree of sector organization*. Certification works well for producers/sectors that are well organized and capitalized, with good vertical integration (Sector Shapes 3 and 4, tea in Kenya and soy in Brazil). But inclusiveness of certification and access to associated benefits is weaker for unorganized and more remote farmers in longer supply chains (Sector Shapes 1 and 2, cocoa in Ivory Coast and palm oil in Ghana). RSPO certification has increased relatively quickly in countries such as Malaysia and Indonesia due to the existence of large-scale growers who could adopt the standards with relative ease. Today, 14% of global production has been certified via only 43 growers; if combined, they have considerably larger share of global production. On the other hand, scaling up RSPO in Thailand, with its predominantly unorganized and smallholder dominated markets, has been much more difficult. In the cotton sector, scaling up of Better Cotton went much faster in a country like Brazil with organized large-scale farmers, than in a country like India that is dominated by unorganized smallholders. In smallholder-dominated sectors, such as coffee in Columbia and tea in Kenya, scaling up of certification is facilitated by the existence of horizontal organizations such as the Columbian Coffee Growers Federation (FNC) and the Kenya Tea Development Agency (KTDA). The targeting of such “low-hanging fruit” has created initial volumes and provided in various cases sufficient confidence to the industry to make sourcing commitments.

The opportunity for scaling up sustainability standards and certification is also related to a *sense of urgency and degree of ownership in sourcing countries*. BCI's collaboration with Brazilian and West African producer associations has increased the interest of its system. The current attempts by the Brazilian national cotton association Abrapa to benchmark the BCI standards to their own standard may become a key success factor in creating supply. The creation of national multi-stakeholder platforms, as in the Indonesian tea sector, has also created growing awareness on sustainability issues and the benefits of certification. It resulted in the development of a national standard that may function as a stepping stone to international VSS. Similarly, dialogue between the industry and the government of Vietnam resulted in attempts to remove some constraints to certification.

In countries with poor *law enforcement*, many producers may operate outside the law. In such cases compliance with VSS – which often refer to national legal frameworks or have stricter norms – may require substantial additional investments. Strict law enforcement creates a level playing field that probably makes the step to engage with standards smaller.

Productivity and quality are prerequisites for effective implementation and scaling up of standards and certification. Through improved productivity and quality, farmers have the greatest potential to pay for the social and environmental investments associated with sustainability standards and certification, especially in a premium-free world. Investments in *capacity building of smallholders* have been a critical success factor of getting them into the VSS, as long as they were primarily focused on improving yields, quality and profitability. They are secondary only to the investments in sustainability and certification. Today, these capacity building efforts, which may include the provision of training, inputs and finance, have primarily been funded by NGOs, donors and buyers. However, current efforts fall short and consequently VSS will need to look to more efficient mechanisms for reaching producers, including better leveraging outside technical assistance providers.[47]

A third critical success factor has been *flexibility in chain of custody models* to link demand with supply, as obtaining traceability and segregation in sectors such as palm oil, soy and cotton can be a complex and costly affair. The introduction of Mass Balance and especially Book & Claim models has been a relatively successful low entry model for producers and buyers to commit to sustainable production. However, these models do not automatically result in an 'upgrade' to a segregated chain of custody systems, as this requires additional investment.

The development of *national standard interpretations* has resulted in more applicable standards and the process to develop them in the creation of awareness and commitment in sourcing countries. The development of specific *smallholder provisions* has also made them into a more viable option. Examples of successful VSS smallholder provisions are smallholder interpretations of standards and group certification schemes. Increased flexibility by VSS with regards to what kind of groups are eligible for certification (e.g. trader networks and outgrower schemes) has enabled outreach to farmers other than those who are members of a cooperative, which has been, and in some cases still is, the only group type that can apply for certification.

Although there is limited experience up to now, the *standard recognition* between BCI of CMiA has been received positively by suppliers and buyers.

2.7 Future challenges for scaling up

The previous sector identified market demand and sector organization as key success factors in VSS uptake. Taking into account these key success factors, this section estimates the potential

ceiling of VSS uptake under current conditions and identifies the key challenges to larger scale certification.

2.7.1 Potential market shares

With regard to the immediate future, the market shares of VSS in the coffee, cocoa and cotton sectors is expected to increase rapidly. For example, both UTZ Certified and Rainforest Alliance expected to double their volumes between 2010 and 2015 in the coffee sector and add another 50% to 66% until 2020.[48] In the cocoa sector, growth figures are expected to be even higher.[49] BCI is expecting to grow rapidly with increased participation from manufacturers and the creation of a supply strategy for national embedding and recognition; it aims for 30% market coverage in 2020. In tea, after a few years of rapid expansion, growth is expected to continue at a slower rate constrained by its limited coverage in terms of southern consumption. In palm oil the growth is also expected to continue, but possibly at a slower rate due to saturation in European markets. In soy, the RTRS aims to reach 2% of global production in 2015. Whether this will be achieved and whether it can grow after 2015 will depend largely on whether demand takes off.

Most VSS expect rapid growth in the coming years. What is the potential ceiling? To what market share can VSS be expected to grow? This is difficult to estimate. However, assuming that the ceiling of certified production is determined by demand from Europe and the USA (as it is currently), then the palm oil and tea sector would reach their ceiling fairly soon, while market shares of sustainable coffee, cocoa and soy still have much growth potential (Figure 26). Taking into account that the market demands a structural oversupply of certified products, the coffee and cocoa sector may even reach 100% certification under this assumption. It should be noted that in most sectors the share of Northern demand is declining rapidly. In these cases, Northern demand seems to be unable to tip a sector towards sustainability. On the other hand, global targets of some multi-national companies may also drive demand from emerging markets.

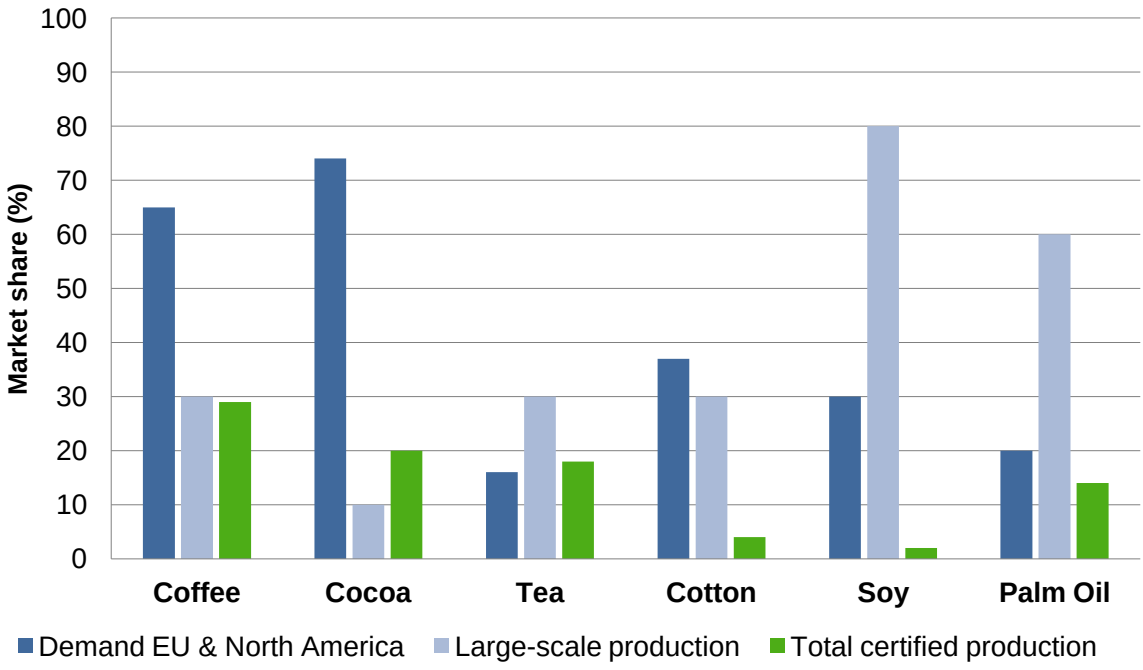


Figure 26. Testing the ceiling of certification: this graph compares the market shares of Northern market demand (dark blue) and large-scale production (light blue) per commodity with the actual certified production volumes (green).

Assuming that the ceiling of certification depends on the level of sector organization and in this case large-scale producers, then Figure 26 shows that in the cocoa sector, the ceiling has been surpassed, the ceiling will be soon reached in the coffee and tea sectors, while the cotton, soy and palm oil sector have most potential for growth. Combining both assumptions basically means that all other sectors will hit a ceiling between 15% and 30% of global production. These estimations do not take into account the fact that in various sectors a considerable (but generally unknown) proportion of the smallholders are already organized, as in the cocoa and coffee sectors, which is shown by the certified market share.

Although these two assumptions have limited forecasting power, they do provide an indication on how big the challenges are in terms of making VSS mainstream based upon the current forces. The importance of market demand is a huge challenge to certification systems, as current demand is limited to Europe and partly to the USA, while in most commodities these destination markets have a minority share in global consumption. Likewise, the importance of reaching out to unorganized small-scale producers is a huge challenge, since they are responsible for a large part of production in most commodities and have been hardly reached up to now. Unless these two challenges are met, it is unlikely that VSS will include the majority of production in most commodity sectors.

2.7.2 Key challenges for scaling up VSS

The biggest contribution of VSS may well be their success in building consensus on the concept of sustainability in various sectors and among various types of stakeholders. In addition, they have managed to build a supply chain system linking producers to consumers with concrete changes on the ground as a result. To quote SustainAbility (2011)[50]: “They’ve made what was once invisible visible, changed societal and consumer norms, given producers access to new markets, promoted multi-stakeholder collaboration, and driven operational changes among businesses and other large buyers. They are now in widespread use as operational tools for business to make purchasing decisions, manage supply, market and sell to B2B and B2C customers, guide employees, and respond to stakeholders and regulators.”

Current market shares of VSS in the sectors taken into account in this study lie between 2% and 30%. VSS are likely to continue to grow, but their full market potential is uncertain. Based on current forces, there will be a clear limit to this growth. In order to remain relevant and reach full market potential, the following key challenges must be faced:

1. **Safeguard the credibility of claims about compliance with standards and the impact of VSS to ensure long-term buy-in**

A key driver for demand of verified/certified produce is the reputation or credibility of the systems. Concerns exist on the *quality of the assurance process* with regards to standard compliance on farm and chain-of-custody level. For example, serious doubts exist on the compliance with social issues and on potential double counting in multiple certified supply chains. The challenge of VSS will be to address these concerns sufficiently in a cost efficient way.

In relation to the credibility of VSS, there is an increased call for VSS to come up with *proof of the desired sustainability impacts*. Such evidence is needed to maintain the credibility of VSS. Despite increased attention by VSS, additional rigorous research is required to be able to make credible claims that VSS result in the desired sustainability impacts. The question remains whether the results of impact assessments will reveal that VSS do have the desired impacts or that complementary instruments are needed to achieve them.

2. Increase demand and supply by reaching out to new markets and improve systems to link demand and supply

With demand having an overriding effect on the nature and uptake of sustainability standards and certification, increasing demand will be a crucial success factor for scaling up VSS. Increasing demand in markets that are now partially covered are probably quick wins compared to *reaching out to new markets*. This will be especially a challenge in sectors where there is a low sense of urgency (e.g. soy sector) or a high Southern (or Eastern European) demand, which is the case in tea, palm oil, cotton, and increasingly soy, because these markets have not been reached until now. The outcome of this process is still very uncertain, and failure could mean that VSS will be unable to tip markets towards sustainability.

In line with increasing demand, supply needs to increase as well. More and more of the better organized suppliers and better performers are being reached, so the main challenge will be to *increase supply from other types of producers*, notably the worst performers and unorganized smallholders. For some segments, VSS may be a viable option if combined with important investments in capacity building or if additional incentives are provided. In other market segments the business case may simply be absent, and other instruments are needed to move the producers towards sustainable practices.

This includes the challenge to set up cost efficient approaches or mechanisms to *link supply with demand in sectors* where supply chains are not integrated. This is particularly a challenge in complex supply chains such as soy, palm oil and cotton. In these sectors, innovative approaches are required to enable these links in a cost-efficient way.

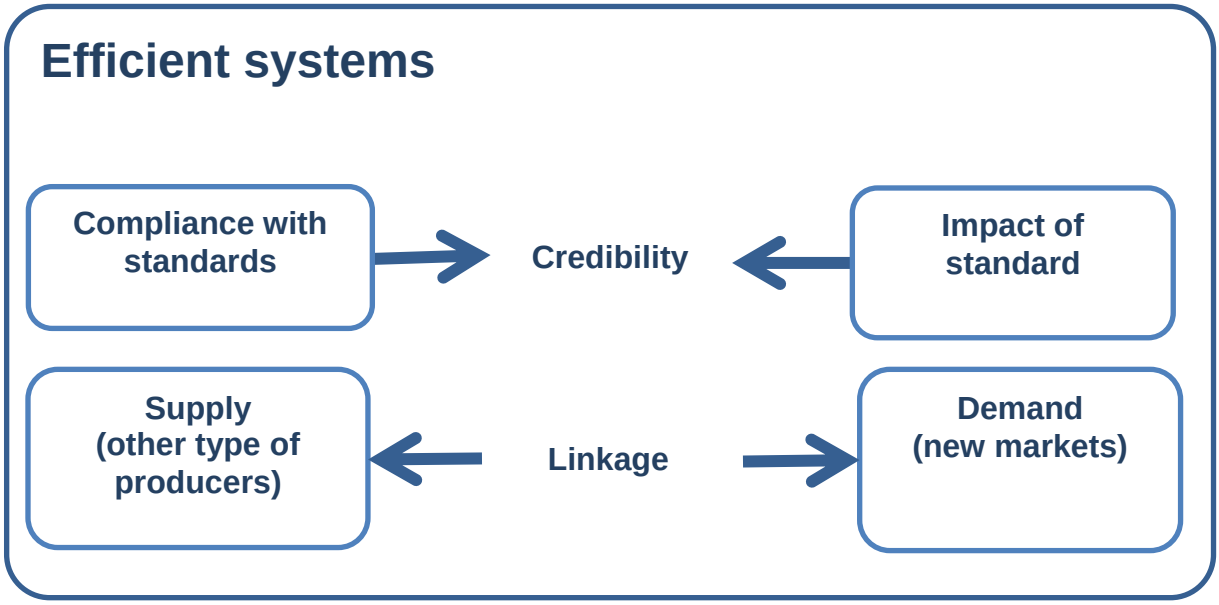


Figure 27. The key challenges for scaling up VSS

3. Develop effective and cost efficient systems with a business model that enables innovation and scaling

Above-mentioned challenges need effective and cost efficient solutions in order to strengthen a business case for both producers and buyers. The continuous tension between what buyers want to pay and what producers want to receive for sustainable products creates a pressure to reduce the costs of implementing standards and certification. Meanwhile, the solutions to these challenges require some significant investments. To be able to invest in innovation and increasing market

uptake, VSS may need to *change their current business model.*[51] This may also require *new types of partnerships*. The solutions to these challenges should therefore not only be sought within the VSS, but also in collaboration with other organizations and instruments. Furthermore, in view of the magnitude of the challenges and the uncertainty about the scope of VSS's sustainability impacts, additional instruments are needed to foster large-scale growth in inclusive and sustainable agro-commodity production. These other instruments may be complementary to VSS or in certain cases replace VSS. Before the possible key strategies to scale up VSS are presented, the following chapter explores some of these instruments.

3 The role of other instruments in furthering sustainable production

As highlighted in Chapter 1 and validated in Chapter 2, sustainable market transformation requires more than a focus on VSS alone. While VSS have been able to obtain significant market share, this is not true for every sector-country context, particularly in sectors where unorganized smallholders dominate (such as Shape 1, the flat pyramid). Where a sector is not shaped in a way that is conducive for VSS, there will be limits to scaling up, and other instruments and approaches are needed. Indeed, achieving the final stage of market transformation (institutionalization on the S-curve) typically does not require reaching “more of the same” farmers, but reaching out to different types of farmers.

And there are different ways in which other instruments can complement, substitute or provide a stepwise approach for VSS. This chapter explores how that can be done, and what the strengths and weaknesses of a number of instruments for sustainable market transformation are. Firstly, the ones that improve the efficiency of certification. Secondly, policies and regulations that directly or indirectly influence sustainability and VSS. Thirdly, instruments that improve the sector through activities such as organizing and training. Finally we look at the role of market governance institutions in organizing a sector.

3.1 Complementary supply chain instruments

A number of instruments available to improve the efficiency of certification. In this context, efficiency means that the combination of the tools and VSS will allow for standards to achieve scale or greater impact in a way that is more cost-effective than their functioning in isolation. Some tools that could play that role are:

- Industry-based Standards or Company Codes of Conduct;
- Benchmarking and mutual recognition of standards to avoid multiple certification;
- Use of data management and data sharing systems;
- Lifecycle analysis and other quantitative impact assessment tools;
- REDD and PES.

3.1.1 Industry-based Standards or Company Codes of Conduct

In the last ten years, companies started to develop their own sustainable sourcing policies, in which a Supplier Code of Conduct is a frequently used instrument. Some of the Supplier Codes of Conduct are elaborate, with detailed lists of requirements, while others may consist of a simple set of do’s and don’ts. Companies may also have different assurance systems attached to these Codes ranging from no system at all, to self-assessments, verification by the company and third party audits.

The strengths and weaknesses of Supplier Codes in relation to VSS

The introduction of Supplier Codes has promoted the demand for transparency in supply chains, increased awareness on these issues within the supply chains and introduced in certain cases the first elements of assurance mechanisms. These developments can be considered as valuable first steps towards the adoption of VSS. On the other hand, the proliferation of company Codes and possible assurance mechanisms may have contributed to the confusion and administrative burden of supply chain actors. In addition, the implementation of these Codes may face the same

constraints as VSS in terms of reaching out to unorganized producers or in being able to make credible claims in cost-efficient ways. In response to these constraints, a coalition of good manufacturing practice companies joined forces in the SAI Platform to work towards more harmonized approaches to promoting sustainability among suppliers. The development of common standards, checklists and benchmarking against the company's own standards are important elements of this approach.

3.1.2 Benchmarking and equivalence

The complexity and cost of dealing with many different and competing VSS can be reduced through collaboration between standards (e.g. allowing combined audits) or through benchmarking and mutual recognition. Several initiatives are in place that benchmark existing schemes against a defined set of criteria. The biggest player in benchmarking of standards is the Global Consumer Goods Forum (formerly CIES), through the Global Food Safety Initiative (GFSI) and the Global Social Compliance Program (GSCP). Both initiatives work through a global cross-industry platform, building comparability and transparency between existing social compliance and environmental compliance systems.

GSCP is an industry-led initiative that VSS are expected to follow. It has developed a set of reference tools and processes that describe best existing practices and provide a common interpretation of labor and environmental requirements and their implementation at supplier level. This approach enables mutual recognition between existing systems, using the GSCP reference tools as a benchmark. The Global Sustainable Seafood Initiative (GSSI) is a similar initiative in seafood. The Program for the Endorsement of Forest Certification (PEFC) endorses national forest certification systems, developed through multi-stakeholder processes and tailored to local priorities and conditions, using a standard definition of sustainable forest management. The organic sector has a long history in benchmarking. For example, the Global Organic Market Access project provides various tools to support harmonization and equivalence of organic standards and certification performance requirements.[52]

The strengths and weaknesses of benchmarking and equivalence approaches in relation to VSS

The opportunities of benchmarking and equivalence are clear – a level playing field, transparency, and cost reduction in VSS certification. It can simplify and introduce flexibility into sourcing strategies and facilitate the availability of larger volumes of sustainable products for a larger group of buying companies. In addition, when communicating with consumers and other stakeholders, it can allow for a consistent message. This can offer good opportunities for the scaling up of VSS and increasing their market share. However, there are also risks involved in using these instruments: benchmarking may result in a race to the bottom by bringing pressure to relax standards down to the minimum bar of the lighter level standards, and result in a legitimacy gap through poor transparency about the process. It may also remove incentives for innovation by providing what is in effect an efficient auditing system, rather than a driving force for continuous improvement.

To counter the risks of a race to the bottom, good and broad sector-based governance is important. Implementing a benchmarked "graduation system" (or stepping stone approach) would be a concrete way to create an upward cycle. Benchmarking against best practices such as the ISEAL Code of Good Practice for Setting Social and Environmental Standards could be a good way to limit a race to the bottom.

3.1.3 Use of data management and data sharing systems

In response to the need for transparency and information about sustainability performance in supply chains, new initiatives have emerged that are specialized in data management and sharing systems. Some specialize in the data collection and sharing of sustainability risks. Based on the Social Life Cycle Assessment (see next instrument), the Social Hotspots Database, for instance, provides data to identify and model social impacts, risks and opportunities at the sector, factory and country level. It thus identifies "hotspots" in the supply chain that require attention.[53]

Other initiatives facilitate information exchange and communication intensity between supply chain actors. For example, Sedex functions as a knowledge management provider, seeking to drive convergence and improvements in ethical trading practices and standards in global supply chains. They provide a web-based data exchange system that enables suppliers to collect, access, share, analyze and exchange constantly updated business information on sustainability issues. The information can then be used for ethical assessments, action plans and corrective measurements, in production or other practices.[54]

Data management systems can also be combined with traceability systems. For example, GeoTraceability maps the size and location of farms using GIS technology. It allows for adding of information on production volumes, crop quality, pest occurrence, farm practices, etc. Supply chain actors can use systems like this to monitor production volume and quality, as well as sustainability practices and their impacts, and trace batches of produce down to the farm level. The possibilities of such systems are endless; for example they provide a module to monitor weather conditions in a supply base. In the near future they will have options to assess the risks of child labor and monitor the biodiversity status on farms.[55]

The strengths and weaknesses of data management and sharing systems in relation to VSS

Systems like the ones discussed above increase transparency within and across supply chains. They enable the identification of sustainability risks and they allow informed decisions on how to improve sustainability performance and how to monitor progress. Some of these systems provide customized information and enable companies to engage in an improvement process via stronger supplier-buyer relationships and to manage according to outcomes.

If used like this, such systems provide companies with a possible alternative to VSS in promoting sustainability and providing transparency. However, these tools may not provide the credibility that a VSS does. They are generally not based on normative systems (and if they do, not necessarily those which are based upon consensus-building), and they do not offer third party verification on the improvements made.

Many synergies may exist in collaborations between these systems and VSS. This may result in more cost-efficient traceability and data management systems. Decreased costs of such services could enhance the business case for certification. For example, collaboration may enable VSS to improve their traceability systems via the use of GIS technology. GeoTraceability is developing a module that manages all the information needed to set up and update a digitalized Internal Control System to comply with various VSS like Fairtrade, Rainforest Alliance, and UTZ Certified. Sedex enables members to share their auditing results, reports and other material with the aim of reducing data duplication and therewith monitoring efforts and costs. The Social Hotspot Database recently entered into a partnership with ITC that should result in creating detailed and concrete analyses combining standards information and social risk data sets.

Assuming that improved transparency reduces the need for strict assurance systems, these specialized data management systems may provide solutions to reduce the costs related to assurance. On the other hand, current users of data management systems may need the VSS to provide them with a credible definition of what sustainability is and the external assurance to make a credible sustainability claim.

3.1.4 Life cycle analysis (LCA) and other quantitative impact assessment tools

LCA approaches compare environmental effects assignable to products and services at all the stages of a product's life. They enable benchmarking and allow for an improvement process based on quantifiable targets. The procedures of LCA are part of the ISO 14000 environmental management standards. An increasing number of quantitative impact assessment tools are also becoming available that can help measure the actual environmental footprint of specific practices. For example, the Cool Farm Tool is a greenhouse gas calculator, free for growers, to help them measure the carbon footprint of crop and livestock products.[56] Another example is the HIGG Index 1.0 from the Sustainable Apparel Coalition.[57] The Index, which is based on life-cycle thinking, is primarily an indicator-based self-assessment tool for apparel that enables companies to evaluate material types, products, facilities and processes based on a range of environmental and product design choices. As such it is a learning tool for both small and large companies to identify challenges and ongoing improvements across the supply chain.

The strengths and weaknesses of LCA in relation to VSS

LCA tools can help to initiate improvement processes, for example if they are used to increase water use efficiency within existing supply chains. As such they can be considered an alternative to VSS in promoting sustainability within supply chains. But they are data intensive and can be difficult to interpret and translate into action. LCA approaches have also struggled to consider social or environmental issues for fair trade standards, or social issues in the supply chain for timber products.[58]

With an increasing popularity of LCA initiatives, opportunities may exist to combine them with the experience of VSS in providing assurance and traceability in supply chains. LCA data, as well as similar approaches, could over time be used for reporting purposes. Some companies already publish the “true cost” (including externalities) of their operations. Some initiatives, including the Global Reporting Initiative (GRI), have taken up the cause.

In addition, LCA initiatives could provide VSS with more quantitative indicators. The call for the use of quantitative indicators and measuring on outcome rather than process is increasing among users of VSS, and some stakeholders have taken up this cause. Examples of initiatives that have adopted metrics-based approaches are Bonsucro, the Aquaculture Stewardship Council (ASC) and Field to Market.

3.1.5 REDD projects and PES

Payments for Ecosystem Services (PES) is a different route to protecting ecosystem services than public policy or private certification. PES and Reducing Emissions from Deforestation and Degradation (REDD) are being put forward as market-based solutions to provide ecosystem services through improved land management. PES operates on the assumption that channeling incentives (monetary or in-kind) to land users encourages them to conserve, enhance or reverse degradation patterns affecting the provision of ecosystems services like carbon sequestration, biodiversity conservation and protection of water quantity and quality.[59] PES may or may not be associated with the actual commodity and are not necessarily implemented via a supply chain

instrument. However, PES projects can potentially be integrated with supply chain approaches, allowing companies to offset setting carbon emissions within their own supply base.

Strengths and weaknesses of these approaches (REDD projects and PES) in relation to VSS

PES suffer from the same unevenness in benefit-cost ratios for small-scale producers as certification.[60] Uncertain land tenure could exclude billions of poor people worldwide if land-based criteria are used for participation in PES. High establishment and transaction costs limit uptake to large landowners and exclude smallholders. Buyers of ecosystem services are not inclined to incur the costs of negotiating with many individual smallholders. There is also the question of limited or uncertain ecosystem service provision; verification and implementing conditionality may represent a substantial proportion of the costs associated with PES and may also exceed local community capacities. Implementation of most PES schemes is, therefore, strongly targeted and exclusionary.

These limitations can be tackled through reducing fixed transaction costs, collective or group contracts, or bundling at the landscape level through agreements with communities.[61] There is a potential to combine PES or REDD+ projects with VSS uptake. Because payments on PES or REDD+ alone are rather small, payments can be bundled with certification premiums to increase the income-generating options of PES schemes and VSS. Joint approaches may also reduce transaction costs. For example, the Rainforest Alliance has set up a module to enable already certified smallholder farmers to generate additional revenue streams by selling carbon credits for the climate services their sustainably managed lands provide. The RT-REDD Consortium was established to foster synergies between agricultural roundtables (RSPO, RTRS and Bonsucro) and REDD+, resulting potentially in a program linking farmers in need for funds to certify their farm with REDD+ based credit programs.[62] The emergence of PES approaches has also resulted in the creation of new VSS. An example is Plan Vivo, which combines standard setting, and implementation with PES contracts in the context of smallholders and community projects.

3.2 Policy and regulation

Public policy and regulations can significantly affect VSS uptake. They can both promote and oppose the implementation of VSS, or can offer alternative approaches to tackle certain sustainability issues. Governments could promote VSS by incorporating them in their own policy frameworks or actively set volume targets for certified production or exports. Sustainable public procurement policies could also give a boost to VSS. Moreover, governments could support VSS by providing direct financial or technical input. Public policy and regulation are often crucial in creating the enabling environment for VSS uptake. VSS are often designed to be more stringent than local public law, but they nonetheless may benefit from a strong legal foundation. Conversely, certification may be hindered by a legal foundation that is unclear, corrupt, not enforced, or runs counter to the goals of certification.[63] Public regulation may also target sustainability issues that are outside the scope of VSS. This section presents some policy and regulatory instruments that are important in promoting sustainable production:

- Policies and regulations in consumer countries
- National standards in producing countries
- Policies and regulations in producing countries
    - Social and environmental laws,
    - Spatial planning
    - Moratoria
    - Quality regulation

- Market governance institutions

3.2.1 Mandatory regulations in consumer countries

The use of trade measures in consumer countries to discriminate against products based on sustainability criteria has traditionally been hindered by WTO. But there are examples of policy objectives related to sustainable development that are aimed outside the EU through the power of the market. The main examples are the EU Biofuels Regulation and the EU illegal logging regulation FLEGT. These are described below, as well as the ISO CEN/TC415 standard for traceable and sustainable cocoa (which is currently being developed).

EU Biofuels Regulation

In the EU, biofuels sustainability is stipulated in the Renewable Energy Directive (RED). In June 2010, the European Commission (EC) announced its scheme of mandatory certification of sustainable biofuels. It is part of a set of guidelines on how the RED, which came into effect at the end of 2010, should be implemented. The EC thereby sought to ensure that its biofuel policy, which was established in the name of sustainability, actual generates positive impacts inside and outside the EU. In order to receive government support or count towards mandatory national renewable energy targets, biofuels used in the EU (whether locally produced or imported) have to comply with sustainability criteria.

The entire biofuel production and supply chain has to be sustainable according to criteria of land use and GHG savings. To date, the EC has approved 13 VSS that would ensure that biofuels certified under those schemes qualify for EU biofuel targets under the RED. Recognized private certification schemes include RTRS, RSPO, Bonsucro, RSB and ISCC. This case of mandatory certification of Europe biofuels is an example of hybrid governance. Linking back to the critique of equivalence schemes in Section 3.1, the WWF said it would support only three of the seven schemes – RTRS, Bonsucro and RSB – because those schemes "have been developed in multi-stakeholder processes and deliver criteria for social and environmental standards, which go beyond what the EU has set as legal minimum requirements".

Forest Law Enforcement, Governance and Trade Action Plan of the EU (FLEGT)

The FLEGT has been described as "the most comprehensive, and ambitious, attempt to use the power of timber-consuming countries to reduce the extent of illegal logging."[64] The EU Timber Regulation (EUTR) from 2010 prohibits the placing on the EU market of illegally harvested timber and products, and establishes requirements on the supply chain to exercise due diligence.

The regulation is based on legally binding treaties with tropical timber exporter countries known as Voluntary Partnership Agreements (VPAs), which aim to guarantee that the wood exported to the EU is from legal sources. These VPAs feature national timber tracking systems to control the timber supply chains, and a licensing system designed to identify legal products exported from partner countries and license them for import to the EU; unlicensed products will be denied entry. There is also capacity-building assistance to partner countries to set up the licensing scheme, improve enforcement and, where necessary, reform their laws.

FLEGT shows that consumer country regulations can have an impact on legislation in producer countries. A related example is the US-Peru Free Trade Agreement (FTA), in effect since 2009, which was the reason for the modification and increased enforcement of the Peruvian Forest Law. [65] Without this modification and enforcement, Peru would have been unable to fulfill the

requirements of the FLEGT licensing scheme as well as the US Lacey Act. The latter also bans commerce in illegally sourced timber and timber products.

There is encouragement for voluntary industry initiatives to control their own supply chains, and thereby exclude illegal products. FLEGT is likely to have a similar evolution as the Europe biofuels mandatory certification, though currently none of the schemes fully delivers the assurance of legality as defined by the EUTR.[66] "Emphasizing legality and environmental sustainability, the FLEGT scheme both complements and competes with non-governmental forestry sustainability schemes, including the Forest Stewardship Council (FSC), which considers social sustainability issues of a human rights character as well as environmental sustainability."[67]

There is an associated risk that because the scheme is based on legality, it will risk both compromising the scheme *and* reduce the importance of VSS. And because application of private schemes like FSC may decline in countries that export to the EU market (as long as private schemes like FSC do not offer legality verification that conforms to the EUTR requirements) then forest sustainability will end up being defined more narrowly, as in the FLEGT scheme.

Although FLEGT is focused on timber trade as a driver of illegal logging (in contrast to REDD+, which requires strong coordination with other economic sectors including agriculture) FLEGT may eventually affect trade in agricultural commodities as well.

ISO CEN/TC415 standard for traceable and sustainable cocoa

In 2012, the European Committee for Standardization (CEN) started work on the definition of a standard for traceable and sustainable cocoa. CEN standards are being developed to support EU legislation and to eliminate potential barriers to intra-EU trade. The CEN/TC 415 Project Committee on Sustainable and Traceable Cocoa "is a technical body that aims to define standards, specifying requirements and verification criteria for the sustainability and traceability of cocoa. It also aims to establish requirements for bodies assessing the conformity of sustainable and traceable cocoa."[68]

Currently it is unclear what exactly the CEN standard for cocoa will be or how it will relate to existing VSS. At its best it could provide an opportunity to increase support for sustainable cocoa and reduce transaction costs. But it could also undermine existing VSS. It will all depend on what criteria will be in the standard. If it becomes an accumulated "wish list" of sustainability requirements for many stakeholders, then it may be too burdensome to implement feasibly. Producing countries are worried that it may head in that direction, and the plans of Ivory Coast to build its own standard appear to be to some extent a response to the CEN process (in which they feel underrepresented).

3.2.2 National standards in producing countries

Voluntary sustainability standards – as a form of non-state global governance – have come to supplant the state's traditional role in resource management. This is because the state was seen as increasingly ineffective in regulating global production chains, due to "twin deficiencies of lack of capacity and bounded jurisdictions" (i.e. authority ends at borders)[69]. Multilateral governance of natural resources has – as shown by the debacle of COP15 – been blocked by North-South divisions. This is avoided in VSS, since they draw their legitimacy from acceptance by market actors rather than states.

But what started as a potential conflict of authority and sovereignty between VSS and public regulation is giving way to interesting accommodations, synergies and hybrid forms of regulation.[70]

In analyzing the scaling up of sustainable commodity production and trade, it is clear that VSS in their current form are not an alternative to public regulation and are not the final solution. But they can be a first step towards more effective regulation. Private sector initiatives can act as a trigger for public or hybrid forms of regulation that may give way to effective regulation and institutionalization by Phase 4 of the S-curve. There are also examples of VSS integrated within national policy.[71] National standards are interesting examples of hybrid initiatives between public and private regulation.

National standards and GlobalGAP

GlobalGAP has in several countries provided a model for a national standard that is similar but not identical. The idea is usually that the national GlobalGAP-modeled sustainability standard will, over time, allow for full benchmarking, with its associated market access benefits. As such, these standards are examples of how policymakers can use the approach taken by private standards to drive upgrading of their domestic markets.

One example is KenyaGAP, a government-supported private initiative to reduce costs and improve local appropriateness of certification to GLOBALGAP standards. Although KenyaGAP has not yet found acceptance in the international market, despite huge investment and a five-year benchmarking process, it has now found an excellent application for all produce sold through formalized channels within Kenya, including food service outlets. This represents the "enfranchisement" of a private standard into public policy.

China's domestic certification scheme, ChinaGAP, is benchmarked to GlobalGAP. The latter is one of only seven codes granted equivalence by the GFSI (see section 3.2.1). ChinaGAP is managed by the Certification and Accreditation Administration (CNCA), which is led and owned by the Chinese government. Certification is done by private bodies, which are accredited by the China National Accreditation Service for Conformity Assessment (CNAS).

Indonesia Sustainable Palm Oil (ISPO)

The Indonesia Sustainable Palm Oil (ISPO) standard is an example of national enforcement of certification. The ISPO was introduced in 2011 after the Indonesian Palm Oil Association (Gapki) exited the RSPO in 2011 following a series of conflicts linked to environmental standards. The standard is based on Indonesian national laws and regulations. Compliance with the ISPO standard will be mandatory for all oil palm plantation companies in Indonesia from mid-2014. Certain ISPO requirements are less strict than RSPO standards, but the cost of certification per hectare is also lower. Recently, several international and national certification bodies have been approved to perform audits, and the first companies have been certified. In comparison, the long-awaited Malaysian Sustainable Palm Oil (MSPO) standard will probably be close to the Malaysian interpretation of the RSPO framework, but at lower cost, and will not be mandatory.

The Vietnamese National Sustainability Focus

National standards are not just about sustainability and its relation to local capabilities and costs (especially costs of compliance). They are also about sovereignty. Many governments see VSS as an infringement on their ability to make decisions regarding their environmental and social policies, with the market as an enforcer. This may lead to a situation where governments are unwilling to contribute to social and environmental reform in line with VSS requirements.

In an attempt to escape this dynamic and engage the Vietnamese government in making its coffee sector more sustainable, the National Sustainability Focus (NSF) was set up through the Sustainable Coffee Program. The NSF involves the government in sustainability interventions by

having it work with industry on a set of priorities that will be integrated into all capacity building programs. A similar initiative is underway in Ivory Coast, through the African Cocoa Initiative (see above discussion on CEN). In both cases it is not clear whether the initiative will over time become an actual standard or merge with other forms of regulation.

Quality requirements

Some national standards (or regulations) may focus exclusively on quality requirements. Such requirements are often enforced by market governance institutions (see below) to ensure that they can sell the commodity at the set price. But many countries enforce such criteria to make sure a certain amount of value is derived from the crop. In Ivory Coast and Ghana, quality criteria are enforced, with Ghana having a more sophisticated set of requirements. One of the best, and most demanding, examples is Colombia.

Quality requirements can be key in addressing sustainability. Differences in quality can allow for a quality premium that gives farmers (or the sector institutions that receive the premium) capital to invest in sustainable production. Indeed, sustainability is a form of differentiation, just as certain quality requirements are.

Strengths and weaknesses of national standards in relation to VSS

The introduction of national standards such as the KenyaGAP and ISPO also raises many challenges for international VSS. The ISPO challenges the world of certification with the question whether universal and mandatory application of a lighter standard is preferable to partial application of a stricter VSS. National standards focusing on aspects such as legal compliance could become a stepping stone for more comprehensive standards such as the RSPO, or could codify national sustainability priorities that may not get enough attention in such global standards. Whether stepping-up takes place will depend to a large extent on the performance and recognition of national standards and attempts to create the right incentives and coordinate the transition towards the international standards. Linked to national standards, national quality requirements add value to the crop and therefore contribute to the income of *all* farmers operating under these requirements. This is something that can be implemented on a more ambitious scale, such as in Colombia (through the FNC), or more modestly, like cocoa in Ivory Coast.

As many questions still exist with regards to the relation between national and international standards, ISEAL is investigating whether they can become the interface between national and international standard and can also promote credibility of national standards.

3.2.3 Policy, laws and regulations in producer countries

Policy, laws and regulations in producer countries can contribute so sustainability by operating in a way that is either complementary to or a substitution for VSS. Several examples of social and environmental regulations, spatial planning, moratoria and quality requirements (enforced sector-wide) are discussed below.

Social and environmental laws

Some examples of social and environmental laws and their interplay with VSS can be found in Brazil. The Brazilian labor laws, which would be most relevant with regards to social sustainability, demonstrate that the relationship between laws and VSS can be problematic. In the Brazilian coffee sector, labor laws are viewed as too strict and compliance is incomplete. This is tolerated by the Brazilian government, but not by the coffee-certifying VSS. The latter demand full compliance with local laws. The result is that, while Brazil is more sustainable in terms of social conditions than

many other coffee-producing countries, it is often very hard to certify Brazilian coffee due to lack of compliance with labor laws. Industry and government are currently seeing if this conflict can be addressed.

The Brazilian Forest Code is the most relevant law to govern environmental issues in that country. It is a stringent piece of legislation, passed in 1965, that makes it a legal requirement for landowners in the Brazilian Amazon to maintain 80% of forests as legal reserves and 35% in the Cerrado tropical savannah. The Code was rarely enforced until recent years. Starting in 2008, the Brazilian government stepped up enforcement, using satellite images to focus environmental policing on areas where deforestation was most severe. In May 2012 the Forest Code was revised, controversially, including an amnesty on illegal deforestation before June 2008, but in a clear effort to put compliance within reach for the majority of producers and allowing a gradual convergence towards compliance with national law and sustainable production standards. If that indeed becomes the case, then the law will have a far greater impact on environmental sustainability than VSS.

Spatial planning and regulation

The Agro-ecological zoning of sugarcane in Brazil is considered a success. In September 2009, the Brazilian government released a new law regarding agro-ecological zoning of sugarcane. The law prohibits the expansion of new sugar cane production areas on about 80% of the national territory including the Amazon, the Pantanal and the Upper Paraguay River Basin. With the introduction of agro-ecological zoning for sugarcane, the stakes have been raised to include significant new ecological criteria together with a nationwide requirement for all financing institutions to evaluate the loans essential for large farming endeavors based on their compatibility with the new agro-ecological zoning requirements. Additionally, if evidence of illegal activity is found, the government reserves the right to refuse permits or permit renewals to local processing facilities on which farmers depend upon to buy their goods.[72]

Moratoria

Moratoria are temporary suspensions of certain activities. Moratoria can be an effective instrument to stop activities such as logging or land-use conversion linked to the cultivation of a certain commodity. In 2011, Indonesia announced the Moratorium on New Forest Concessions that prohibited the award of new licenses in primary natural forests and peat lands. It was recently extended until 2015. This particular Moratorium is regarded as flawed due to large exceptions for existing concessions, the unclear status of secondary forests as well as problems with enforcement and encroachments.[73]

Voluntary moratoria are an alternative to mandatory moratoria. In Brazil the Moratorium on Soy was established by trade associations in 2006. They pledged not to trade and finance soy originating after that date in deforested areas within the Amazon. The government has only been involved in a recent stage as an observer in the Soybean Working Group (GTS), which was created to define the operational model for the moratorium, bringing together Brazilian producers/crushers, civil society representatives and major Northern buyers (European Soy Customer Group). The initiative succeeded in inhibiting the expansion of soy production in the Amazon,[74] but pushed it into the Cerrado instead. Since only 2% of Brazilian soy comes from the Amazon, the moratorium has limited reach. Moreover, the indirect land-use changes from soy cultivation may have pushed other commodities into the Amazon.[75] The impact of the moratorium is therefore dubious.

3.2.4 Market governance institutions

There are forms of market management that institutionalize broad-based market governance to "raise all boats" rather than a subset of producers in individual value chains These institutions are empowered by their governments to regulate a certain commodity market to make it function efficiently and equitably. In doing so they can benefit farmers and business, if they are supported by a strong enabling environment and good governance. One of the main potential benefits of such market institutions is the reduction in price volatility of commodities.

Relevant institutions include marketing boards such as the COCOBOD in Ghana, commodity exchanges such as the ECX in Ethiopia, and state-sanctioned federations such as FNC in Colombia and KDTA in Kenya. This section looks at these four institutions in more detail.

The Kenya Tea Development Agency (KTDA)

The diamond shape (Shape 3) of Kenya's tea sector is a is largely due to the role of the KTDA. This is a state-sanctioned private body that involves around 400,000 small-scale growers as well as 63 factories, and accounts for over 60% of Kenyan production. The rest is produced by large-scale estates. Smallholders in Kenya get a larger share of production value than other farmers in East Africa. The producer share of made tea prices was three times higher than other East- African countries in 2009, and smallholder revenues per kg of made tea more than four times higher. This has been attributed to the way that the KDTA has enabled collective farmer ownership of processing: training and access to inputs, the pricing system, the quality of plucking and made tea, and supportive government regulation.

Indonesian stakeholders are looking to replicate aspects of the KTDA model, but some are more hesitant to give farmers the majority share in the same way as they have done in Kenya. Some stakeholders dispute the repeatability of KTDA, but attempts in that direction are being made. KTDA itself is playing a key role in offering lessons to other countries and sectors.

The National Federation of Coffee Growers (FNC) in Colombia

The National Federation of Coffee Growers (FNC) in Colombia is generally considered a success story similar to the KTDA. The FNC is a non-profit national federation of coffee growers that has worked to raise the whole sector's economic and social performance. It represents the majority of the 560,000 coffee-growing families in the country, nearly two-thirds of whom farm less than 1.5 hectares.

Quality control is managed by the FNC and has meant that Colombian coffee has consistently received a price premium on world markets. In 2002 the organization also put in place a successful strategy designed to enter new market segments with differentiated products that would create a larger recognition of the origin and would add value for the farmers.[76]

A key element in the FNC approach is the National Coffee Fund, a tax on coffee production managed by FNC on behalf of the government. The fund is used to stabilize producer incomes and invest in social and infrastructure programs in coffee-growing communities. The positive impact on coffee-growing communities in comparison to other countries, in terms of income, public services, literacy and political stability, has been observed in a number of studies.[7778] The FNC has not been able to insulate the Colombia coffee sector completely from competition and exchange rate effects, and recent unrest has drawn large government subsidies into the coffee sector. It also invests in organizing and training its farmers and building up their enabling environment.

The Ethiopia Commodity Exchange (ECX)

The Ethiopia Commodity Exchange (ECX) is a more controversial institution regarding its sustainability impact. It now accounts for 47% of volume and 74% of value in the Ethiopian commodity market. The Exchange was designed to revolutionize Ethiopia's agriculture by providing a marketing system with improved coordination and linkage, and by protecting the interests of both sides of trade. Indeed, it claims to have raised the farmer share of the final coffee price from around one-third to two-thirds. These benefits (which contrast with many failures in establishing commodity exchanges in Africa) are attributed to strong state backing – the government has taken over the exchange and has outlawed any other means to sell the commodities that are covered by the exchange on the export market.

But that is also where the institution is more controversial, at least when it comes to coffee. The Ethiopian government has not allowed farmers to be organized around certification in market-based value chains. And the ECX is a spot market system, where trading is anonymous. The fact that it did not have a window for traceable certified coffee effectively blocked implementation of VSS in the Ethiopian coffee sector for years. This situation is now being addressed through a specialty coffee-trading system with two-tracks: one that allows greater differentiation by origin and one that is a fully traceable direct trade mechanism for producers. But full traceability is not yet guaranteed.[79]

The Cocoa Marketing Board (Cocobod) in Ghana

The cocoa sector in Ghana has been partially liberalized, but Cocobod still has a monopoly on cocoa marketing and export through its subsidiary, the Cocoa Marketing Company (CMC). Upstream collection of cocoa from farmers for transport to Cocobod warehouses is privatized – farmers can choose to whom they sell, and can negotiate for services – but these aspects are still coordinated by Cocobod. The Board is the major shareholder in Ghana's largest licensed buying company (LBC), the Produce Buying Company (PBC).

The producer price is fixed annually so that farmers know in advance what they will get from the LBCs, irrespective of world market price fluctuations. Cocobod pays farmers above 70% of net Fee on Board (FoB) price; for 2012-13, the rate was fixed at 78.36 % of net FoB price. Cocobod sets aside 6.6% of the gross FoB price to encourage higher productivity levels (through replanting, disease control and research) and to cover the costs of internal marketing operations. Ghana is known for a reliable supply of good quality cocoa, for which CMC is rewarded with a premium price on the world market. To maintain product quality, Cocobod's Quality Control Company makes three inspections along the chain.

Productivity levels in Ghana are very low by world standards, however, and in the horizontal marketing system there are no further incentives for quality beyond what is regulated. Combined with the fact that the system is very centralized and paternalistic and therefore not very conducive to innovation, this makes the overall impact of Cocobod with regards to the current or future sustainability of the sector hard to determine.

Strengths and weaknesses of market governance institutions in relation to VSS

Market governance institutions provide a mixed bag of success stories with more ambivalent sustainability outcomes. The main problem with replicating the KTDA and FNC success stories is the fact that they are institutions which are intertwined with local politics and history. For example, for political reasons the Colombian government subsidizes the FNC heavily. Trying similar systems in other countries is often complicated. The key to success is likely to be different for each country

and commodity. But political autonomy and professionalization are key. The examples in this section show that marketing boards can sometimes play a vital role in market coordination when smallholders dominate. Market coordination can also facilitate the implementation of VSS. For example, KTDA enabled the certification of nearly half a million smallholders in only a few years. On the other hand, the ECX example shows that market coordination can also hamper the scaling up of VSS.

As with many other instruments mentioned in this report, we should caution against rushing to invest in such market regulation through marketing boards and similar instruments. Simply upgrading the local market infrastructure and breaking up cartels may be enough to get markets working much more effectively for smallholders.

3.3 Sector improvement services

Even if VSS are made more efficient, their widespread application requires commodity sectors to reach a minimum threshold level of organization, capacities, productivity and infrastructure, especially when dominated by small-scale and dispersed production, as presented in Chapter 1 in the sector shapes. Without these basic threshold conditions, relying on "vertical" chain-based interventions alone to deliver sustainability will lead to failure once project investments come to an end. In fact, "horizontal" sector organization can ideally deliver many of the benefits associated with VSS and certification.

As explained in Chapter 1, the shape of a sector is influenced by a wide variety of factors, including the provision of public goods of infrastructure (roads, market spaces), functioning input markets (seeds and fertilizers), credit and financial services, the rule of law, clear land rights and the voice of small-scale farmers and women in policy design and programming.[80] These "basics" for a functioning agricultural sector also determine the ability for VSS to be successfully implemented. Certification and VSS cannot leapfrog over these basics, but they can provide a locus for such investments and efforts.

The follow section looks in more detail at training and capacity building for improving productivity and quality, often conducted pre-competitively by the private sector in collaboration with NGOs.

3.3.1 Capacity building, the provision of inputs and facilitating market access

Training and capacity building is being increasingly regarded as a vital prerequisite for certification (and sustainability), particularly in sectors with a flat pyramid or pyramid shape (Shapes 1 and 2). Capacity building, and other services such as the provision of inputs and facilitation of market access, can be provided by government extension services, the private sector (for example, through specialized agents like the forest engineers in Costa Rica's PES scheme, or outgrower schemes), NGOs, or through public-private partnerships or alliances with donor organizations.

The benefits of such interventions for farmers go beyond certification. The long-term viability of projects in fact relies on delivering benefits from increased productivity rather than market premiums. For many farmers (especially smallholders), the benefits of improved, sustained yields resulting from changes in agriculture techniques are generally considered to be more important than any market premiums. Sometimes the two are said to be linked, with implementation of VSS criteria leading to yield and quality increases. But this link has still not been adequately demonstrated. As such the business case for certification often remains unclear to the farmer, preventing a natural progression towards sector-wide uptake, with farmers seeking certification for reasons beyond market access or a premium alone.

The business case for other supply chain actors to engage in capacity building interventions is becoming increasingly apparent, however, especially in commodities where scarcity is becoming an issue (cocoa is a good example). These supply chain actors (industry, trade) are therefore increasingly involved in the provision of training, inputs and finance to suppliers. In various sectors there is a tendency to build stronger buyer-supplier relationships, as a way of bringing quality control closer to the source and also to secure supply, while offering suppliers better market access.

The result of these incentives is a focus on additional services to suppliers, such as the provision of training, inputs or finance as part of inclusive business models. Companies increasingly provide or facilitate these services themselves, either directly or indirectly (by financing them). Certification is one of the end results, but the projects do not always aim directly at getting suppliers certified. If the provision of training, inputs and finance can feasibly be provided in a way that does not benefit only a single supply chain, they can be taken up in precompetitive industry collaboration.

The Better Cotton Initiative (BCI) is an example of how a VSS can integrate capacity building into its core approach. BCI has a program of activities for this purpose through a network of farmer learning (training) groups and implementing partners, such as Solidaridad and Ikea.

Below are some examples of interventions targeted at the provision of training, services and inputs by value chain actors, or coalitions of actors, in the cocoa sector. This sector was chosen as it is leading this shift towards a greater focus on capacity building, but similar large-scale initiatives (albeit on a smaller scale) are underway in the tea sector and coffee sector, as well as (to a more limited extent) in the other focus sectors of this study.

Capacity building in cocoa

Cocoa is the best example of a shift in emphasis to capacity building, to take certification beyond the “low hanging fruit” of the wealthiest and most enterprising smallholders, by building productivity and thereby securing supply. Total investments for sustainability interventions in the coming years will surpass $1 billion USD.

Individual supply chain actors are all stepping up their efforts. For example, in 2012 Mars announced a shift in focus from getting hundreds of thousands of cocoa farmers certified to providing more in-depth training and supplies of inputs to those farmers. This is being achieved in part through Cocoa Development Centers (CDC) – a type of demonstration farm designed to encourage farm rehabilitation and build local capacity for training and support. The goal of these in-country centers is to reduce farmers' dependency on external support and strengthen the entire agricultural sector. Mars is focusing on building many CDCs in Cote d'Ivoire and Indonesia.

There are also many multi-stakeholder initiatives, led by the World Cocoa Foundation. The Cocoa Livelihood Program (CLP) is working to double the income of 200,000 smallholder farmers, with a strong focus on building up local service provision. The African Cocoa Initiative (ACI) is a similar program that targets 100,000 farmers and has set up working groups with local governments to catalyze sector-wide change. A big player in establishing multi-stakeholder coalitions is the Sustainable Trade Initiative (IDH), through its Cocoa Productivity and Quality Program (CPQP). They have, among other things, piloted an innovative program that is specifically targeted at building up the fertilizer market in Ivory Coast.

Only some of these initiatives are focused primarily on certification. One example is the Certification Capacity Enhancement program, which aims to improve smallholders’ agricultural

practices and meet the requirements of the three main standards in the cocoa sector – Fairtrade, Rainforest Alliance und UTZ Certified – through a collective training curriculum.

3.3.2 Assistance for group formation

Small-scale producers need to be aggregated for efficient technology transfer, power in the market, a voice in policy (and thus prioritization of the sector by government), and to ensure that a reasonable share of value stays with producers. Furthermore, certification of smallholders is only economically feasible when done in groups, although this relies on a strong internal control system (ICS). Instruments that pave the way for standards and certification may include assistance for group formation or at least the removal of disincentives against economic organization of producers.

Distrust and lack of social capital are significant barriers to producer organization. Sometimes alternative approaches may therefore be more effective, such as group formation around traders and input suppliers. But distrust and lack of social capital can also be overcome by conducting training in the governance and accountability of producer organizations as undertaken by Technoserve coffee in East Africa.

In some cases investments in conflict resolution may be required. The FNC is investing substantially in this approach in Colombia. Another example is the Solidaridad cocoa improvement program in Duékoué (Ivory Coast). This project mobilizes individual farmers into groups and helps them work on achieving UTZ certification. To do that effectively it mediates between the farmers. Three years ago, during the civil war, the Duékoué district divided along ethnic lines, and the various ethnic groups lived in constant fear of attack. The district experienced some of the worst atrocities. The improvement program is now a vehicle for social cohesion, peace and sustainable development.

Strengths and weaknesses of sector improvement services in relation to VSS

The lack of sector organization in combination with the economic vulnerability and limited capacity to meet standards of smallholders negatively affects the business case for certification on comprehensive sustainability standards (by leading to high transaction and assurance costs). When seeking scale in group formation and capacity building, not everything can rely on vertical chain-based interventions, especially if production is predominantly small-scale and dispersed. Horizontal interventions are required to ensure the basics of infrastructure, access to inputs and credit for producers to invest in productivity, quality and sustainability – and therefore to produce the types of sector shapes that make sustainability easier to achieve (Shapes 3 and 4).

Especially in flat pyramid and pyramid shaped sectors (Shapes 1 and 2) sector improvement services, especially capacity building, can be considered the prerequisites for VSS uptake. Capacity building that is underwritten by traders, processors and retailers (perhaps with temporary donor support) marks a shift to privatized provision of extension services; it pulls the responsibilities of private sector actors ‘upstream’ into the countryside, to fill the gap left by the shrinkage or disappearance of public extension in most countries. This model of privatized extension is not sustainable at scale, however, unless it is part of a business model that generates value. Companies will be unwilling to fund pre-competitive programs over the medium to long term without a business incentive. Sometimes private funding runs out after a pilot phase, and the partnership then looks to the government or donors to enable scaling up.

Long-term, pre-competitive industry investments in capacity building, replanting and related activities are attempts to replace the more deeply institutionalized forms of sector management

that existed before liberalization. To be successful, they should focus on setting up new, lasting structures that have impact beyond individual supply chains and beyond the horizon of the program. Otherwise there is a risk of “boom and bust” interventionism that is subject to the same short project cycles that donors had in the past.

VSS can also take a more pro-active attitude in capacity building and sector organization by setting up partnerships with institutions, which are successful in reaching out to farmers. Such partnerships could result in the development and implementation of training curricula on good agricultural practices and sustainability standards or even in the integration of good agricultural practices into their standards. Both examples would increase the relevance of VSS in smallholder dominated sectors.

3.4 Finance and mobilization

Financial services play a crucial role in enabling sustainable market transformation. The transformation may require important investments, both at the farm level and in the enabling environment. For large-scale producers in any sector, if external borrowing is necessary, commercial banks should be able to cover any financing need for investments in sustainability. Commercial lenders are generally not interested in financing smallholders, due to a combination of high transactions costs and high risks.

The poorest farmers will most likely rely on financial support in order to be able to make investments in sustainable farm improvements. Impact driven or social lenders have been involved in financing smallholders (certified or otherwise) for decades. With $350 million in disbursements, social lenders are small, but they play a catalytic role in driving financial institutions into untapped markets. They are mainly focused on export trade finance.[81] However, the social lender model requires farmers to be organized, and as the majority of smallholders are unorganized, they face serious constraints in scaling up. Micro-finance institutions can target individual smallholders, but they may not always have the necessary experience in agri-finance.

There are various projects and organizations that focus on increasing the creditworthiness of smallholders or smallholder groups (e.g. FAST, SCOPEinsight and the Rabobank Foundation). VSS can also play a facilitating role between farmers and financial institutions. For example, based on the premise that certified farmers are less risky and therefore more creditworthy than non-certified ones, Fairtrade, UTZ Certified and Rainforest Alliance promote connections between farmers and financial institutions.

Working capital is generally not the main bottleneck for better-organized farmer organizations. However, when the financing needs of farmers go beyond short-term finance – as in the case of replanting oil palms, with a 8 to 13 year payback period – the supply of finance will be scarce. Other financial products and most likely other financiers are necessary, but not many institutions are active in financing such investments. Public sector finance facilities, such as the Indonesian Revitalization Program, which finance replanting efforts in various crops, may be able to fill these financing gaps.

Donors and government also have an important role to play in investing in the enabling environment, such as organization, training and infrastructure. Public–private partnerships (PPPs) can increase the level of private sector investment into poorly performing agricultural supply chains. In some sectors, industry-led, sector-wide pre-competitive coalitions engage in organizing, capacity building and input supply (coffee and cocoa). Some other sectors can rely on sector

institutions such as the National Federation of Coffee Growers (FNC) in Colombia and its National Coffee Fund.

Apart from making finance for sustainability available, the financial sector could also promote sustainable production practices by setting conditions with regards to the sustainability of investments or finance. As mentioned briefly in Chapter 2 under drivers for market uptake, financial institutions may refer to VSS in their sustainable investment and lending policies.

3.5 Synergies between certification and other instruments

Both voluntary sustainability standards and the other instruments discussed above aim to promote sustainable commodity production, but they approach it from different angles. Where governance structures and legal frameworks are strong, policy and regulation are a better fit for driving sustainability than standards, as the Brazil example seems to show. In countries with poor governance of natural resources and weak legal frameworks, the combination may well be the most effective. Certification provides market recognition through claims and labeling that other instruments do not. It also maintains pressure on individual companies at a level of detail not addressed by regulations.

Certification is able to scale up most easily in smallholder-dominated sectors if the sector is well organized and coordinated (Shape 3, the diamond, or Shape 4, the inverse pyramid) and where training can be delivered through a centralized model. The role of the KDTA in Kenya highlights the complementarity of sector organization and certification, as presented in Chapter 1. The rapid scale up of Rainforest Alliance certification with Kenyan smallholders has been facilitated by KTDA and its centrally run extension services and purchasing of inputs.

The Kenya case also shows that the delivery of training and capacity building is a much more important route to farmer learning than standards, as rule-based mechanisms. KTDA has shown that farmer field schools deliver the biggest improvements in sustainability, for example through a partnership with Lipton and KTDA (and supported by DFID) to pilot new methods for encouraging Kenyan smallholder tea growers to adopt more sustainable and more profitable farming practices. Currently there are over 500 KTDA Farmer Field Schools in Kenya. Although Kenyan tea farmers have greater bargaining power through the KDTA, they are still better trading partners for Lipton and Unilever than tea producers in other East Africa countries without strong sector institutions.

The question arises, however, as to whether these “other instruments” can make commodities sustainable without requiring third party standards and costly certification to provide an endorsement. In a sector where farmers are organized (i.e. have social and political capital), they receive a greater share of product value, and where the product – through enhanced quality and better production techniques – receives a price premium of world markets, there could be much more “sustainability” than when certifications are given to products and regions without these forms of market coordination and empowerment. Where there are also social programs, as with the FNC, this type of sustainability may be further enhanced.

4 Conclusions and recommendations: strategies for scaling sustainability

The transition to sustainability consists of various phases during which the uptake of sustainable practices gradually increases (scaling up) and the degree to which sustainability issues are addressed gradually improves (stepping up). Together, these processes lead to greater overall sustainability impact in a sector. In the final stage of the transition, sustainability becomes integrated into mainstream practices, and becomes a market qualifier and the de facto norm for the sector as a whole.

Along this path of *market transformation towards full sector sustainability* – as illustrated by the S-Curve in Chapter 1, various instruments play a role. Chapters 2 and 3 discussed the use and impact of VSS and a selection of other instruments. The choice of instruments depends on the position of a sector on the S-Curve, as well as on the shape of the sector and the forces that determine its shape.

This final chapter combines the analysis and lessons from Chapters 1, 2 and 3 with the aim of collecting the building blocks for a roadmap towards sustainability. Firstly, we discuss possibilities to improve the growth strategies of VSS (4.1). Secondly, the role of other instruments is analyzed (4.2). Finally, the building blocks of the roadmap towards sustainable market transformation are identified (4.3). Based an example from the coffee sector, we indicate how this transformation may be achieved (4.4).

4.1 Key growth strategies for VSS

Certain sectors have experienced rapid growth of VSS in terms of certified production and, to a lesser extent, market uptake. Some sectors, such as coffee, cocoa, tea and palm oil, have reached a critical mass phase where demand by the main global market players, in combination with efforts by NGOs and donors, has resulted in market shares in sustainable production of 15% to 30%. Other sectors, such as soy and cotton are still in an inception or first mover phase where the market demand for more sustainable raw materials has led to the emergence of VSS, but market shares are still small (around 2%). However, in all phases – inception, first mover or critical mass – opportunities exist to increase the scale of the sustainability impact of VSS. This can be achieved by either including new producers in their system (scaling up) or by promoting the use of more stringent standards (stepping up).

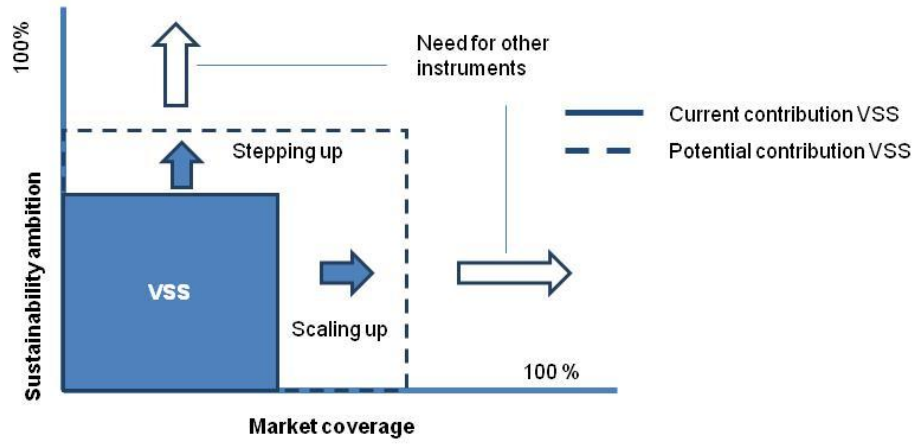


Figure 28. Potential of VSS for improving their sustainability impact

Scaling-up refers to increasing the market coverage of current VSS by increasing the number of producers that endorse them. In many cases this would involve reaching out to the more problematic producers (the "higher hanging fruit"), such as worst performers and unorganized smallholders. Stepping-up refers to increasing the sustainability impact of VSS by increasing the sustainability scope or ambition. This can refer to farmers moving from baseline standards to good practice standards. It can also refer to the inclusion of new sustainability concepts in existing VSS. Examples of concepts which have not been widely included in standards, but which are receive increasing attention, include food security, climate change, living wages and sustainable intensification. However, improving the sustainability impact by scaling-up and stepping-up requires rigorous implementation.

VSS still face a number of barriers to both stepping-up and scaling-up. In their current form, they will not be able to realize the ultimate goal of overall sector transformation towards sustainability (i.e. positive sustainability outcomes in the sector at a national scale). Chapter 2 identified the barriers to scaling-up based on the analysis of sector-countries carried out for this research. This analysis showed that demand for VSS depends largely on the credibility of standards and the availability of supply, while the availability of supply depends largely on demand (which provided the market signals for producers to get certified) and the degree of sector organization. For both demand and supply, the costs of certification can be a barrier. This resulted in the identification of three key challenges:

1. Safeguard the credibility of claims about compliance with standards and the impact of VSS to ensure long-term buy-in
2. Increase uptake by promoting demand and supply and improving systems to link demand and supply
3. Develop effective and cost-efficient systems with a business model that enables innovation and scaling

The strategies to ensure credibility and uptake must be cost-efficient in order to optimize the business case for its users and VSS. This may require collaboration between VSS and complementary instruments. The chosen strategy may differ per sector, per country and per VSS (depending upon the stage of the transformation process in the S-Curve and sector/country shape – see Section 4.3).

1. Safeguard the credibility of claims about compliance with standards and the impact of VSS to ensure long-term buy-in

Credibility is an important determinant of buyer interest in a VSS. To safeguard their credibility, VSS must address concerns about the quality of the assurance process and offer proof that standards contribute to their potential impact. To improve the credibility of claims, the following strategies should be adopted:

- *Reduce the risks of double-counting in supply chains that have multiple certifications*. These risks could be reduced by improved data sharing between VSS or by the harmonization of the traceability models and chain-of-custody requirements of different VSS. This does not mean that individual mapping should disappear, but overlap should become apparent.
- *Increase the capacity of certification bodies* for auditing compliance with standards. Capacity building is needed not only for the general skills of auditors, but especially regarding social and biodiversity-related requirements; their skills in checking compliance in these areas are particularly deficient. Instead of having all VSS set up their own

capacity building efforts, a joint approach could be developed. Credibility issues with one VSS may affect the credibility of others. To support such capacity building efforts, centers of excellence may be required to develop to tools and training programs and to offer the option of peer reviews (e.g. HCV Resource Network; see Section 2.3).

However, improving assurance may lead to higher assurance costs. To ensure an affordable business case for producers and buyers, efficient solutions are required. The following strategies could reduce assurance costs without necessarily affecting credibility:

- *Implement joint assurance processes* in the case of supply chains with multiple certification.
- *Introduce new technologies and assurance methods* (e.g. self-assessments, peer reviews, area-based certification, remote sensing, risk-based approaches). In combination with *improved data management systems* that allow for more transparency, such measures do not have to compromise credibility. Sharing back-offices between VSS (e.g. data management) and front offices (e.g. accreditation and traceability) could further drive down the costs related to assurance.

With regards to proving the sustainability impact of VSS, the following strategies could be envisaged:

- *Harmonize impact assessment methods* to create a consistent view of the sustainability impacts of VSS. These studies should include sustainability impacts beyond direct uptake of VSS and focus more on demonstrating the indirect impacts of VSS. If the scope of these studies would be extended to the interplay between VSS and other instruments and the attribution of impact to the various instruments, this could provide additional insights into the synergies between VSS and other instruments in support of sector-wide continuous improvement.
- *Link up with life-cycle assessment initiatives* in order to remain relevant to buyers who want more information (also quantitative) on the sustainability impacts of their supply chains.

2. Increase uptake by promoting demand and supply and improving systems to link supply and demand

Chapter 2 described the challenge of increasing demand and supply of certified/verified products. Because demand has an overriding effect on the nature and uptake of sustainability standards and certification, increasing this demand will be a crucial success factor for scaling up VSS. Strategies to promote demand are:

- *Encourage key Northern market players to set sustainable import targets.* Most Northern sectors still have scope for increased market share. Company and national industry-wide targets have proven quite successful in triggering demand in most Northern markets. Government procurement could also provide additional uptake.
- *Promote demand in Southern markets.* Promoting global targets for multi-national companies may drive early adoption in Southern markets. The RSPO strategy to focus on international manufacturers and retailers active in sourcing countries such as Indonesia and Malaysia may be a viable strategy for engaging with Southern markets. The creation of national platforms to increase awareness and the development of standards for local markets, such as provided in the tea market, are other strategies.

- *Increase mutual recognition between VSS* to allow for more flexibility in sustainable sourcing.

To meet increasing demand, supply must also increase. In many cases, this will require reaching out to new types of producers, notably unorganized smallholders and the worst performers. Supply could be promoted by the following strategies:

- *Improve the applicability of standards to different contexts in sourcing countries.* This could for example be realized by the development of national interpretations or implementation guidelines. In addition, *smallholder-inclusive provisions* could be developed. Examples are smallholder interpretations of standards or group certification schemes, which can accommodate different types of organization structures (e.g. cooperatives, outgrower systems and trader networks).
- *Introduce stepping-up mechanisms that offer a low barrier for entry and incentives for continuous improvement (e.g. from baseline requirements to best practices).* Such mechanisms can be particularly relevant if they include the "higher-hanging fruit" in the standard systems. VSS can build these mechanisms into their own systems or they can collaborate with other VSS or national standards that build on each other. This requires effective collaboration between VSS (and if relevant, national standards) to ensure smooth transitions, and to progress beyond baseline criteria and to avoid a "race to the bottom" of minimum criteria.
- *Increase mutual recognition between VSS* in order to improve market access at the same cost.

In addition, VSS could promote additional service provision to producers, either by themselves or in partnership with other institutions. This can include:

- *Capacity building of smallholders* on good agricultural practices and social and environmentally friendly practices in order to prepare them for certification. Considering the resources required for this strategy, partnerships are required with other actors who have leverage over smallholders (e.g. public extension services, input suppliers, traders, processing companies, MFIs and NGOs).
- Capacity building of certain types of smallholders may need to be accompanied with *subsidies* to cover start-up costs of certification (capacity building, corrective actions and assurance costs). Funding of such activities could be made available by levies on certified produce (e.g. RSPO Smallholder Support Fund) or in partnerships with private sector and donors (e.g. Better Cotton Fast Track Program).
- *Facilitating improved access to credit and inputs* to certified farmers could also increase the added value of VSS. This requires collaboration with banks and input suppliers.
- *Linking with REDD and PES mechanisms* to create additional financial incentives for sustainable practices.

In certain complex value chains there are constraints in linking certified demand with supply. Strategies that could help alleviate these constraints include:

- ***I**nvest in traceability systems in complex value chains* (e.g. palm oil, soy and cotton). This may require collaboration between VSS and with external service providers. However, in a smallholder context, where attaining scale in sustainable supply may be an issue, a Book & Claim mechanism can be more efficient to transfer value to farmers and promote VSS uptake than traceable supply chain systems.
- *Facilitate market linkages* by increasing transparency in existing demand and supply, brokering, and creating "hubs" of large volumes of sustainable supply.

Perhaps even more important than the above-mentioned recommendations, VSS may need to reconsider the *business case for the uptake of VSS*. The current business case for VSS adoption at the producer level is driven mainly by a combination of market access and premiums. VSS operate in a context where consumer demand for sustainable products is limited and where the huge investments still required to promote consumer demand have uncertain outcomes. Due to a structural shortage of demand for certified/verified products and uncertain premiums, the benefits of certification are limited, which poses a serious constraint to scaling up. If consumers are not willing to pay for sustainable products, something else should drive the uptake by producers and buyers. Consequently, a new business case for sustainable production is needed, both for producers and buyers (instead of consumers), away from the price-premium mindset. The main elements of this business case could be to broaden the scope of VSS to issues such as productivity, quality, efficiency and profitability. This broader scope is particularly relevant in sectors where there is a potential for improvement on these aspects, i.e. smallholder-dominated sectors (Shapes 1 and 2). It could also be relevant in sectors that have entered Phases 3 and 4 of the S-curve where, in general, premiums are under pressure compared to the Phases 1 and 2. Examples of how VSS could embrace such business models that have greater economic relevance are the following:

- Include *good agricultural practices* and *quality management* in its standards.
- Design the internal management systems of group certification schemes not just for assurance purposes but also as basis for *professionalizing group management systems*, which should aim to increase value to members by the provision of services such as training, inputs, finance, insurance and marketing.
- Include a *community relationship* dimension to enhance the "social license to operate" (and avoid the costs of conflicts).

3. Develop effective and cost-efficient systems with a business model that enables innovation and scaling

Several of the above recommendations refer to more effective and efficient ways of creating value by VSS (e.g. in assurance, traceability and impact in terms of productivity and quality). This will require investments, and as highlighted in Chapter 2, this may require new business models for VSS and new types of partnerships. Many of the above strategies require improved VSS collaboration or delegation of tasks to other agencies in order to improve efficiency. Key elements will be national embedding, collaboration and recognition between standards, and the creation of new kinds of partnerships with the private, public and financial sectors. This will require VSS to have an open and collaborative attitude as well as to allocate sufficient internal resources to start such improvement processes.

4.2 Other instruments

To complement VSS in bringing sustainability to agro-commodity sectors, three sets of other instruments have been identified: (1) norms and regulations, (2) sector improvements, (3) finance. Regulatory instruments can complement or substitute for VSS if uptake is lacking or if the requirements of standards are not strict enough. They can encourage or even enforce VSS adoption directly, or stimulate uptake more indirectly through building a beneficial regulatory environment. Sector improvements services can have a direct impact (e.g. training), but are generally focused on getting the sector properly organized or equipped for sustainability

interventions. Finally, financing is key as many of these interventions are costly and may need different financial products and different financers to close the finance gap.

4.2.1 Policy and regulation

Public policy and regulations can significantly affect VSS uptake. They can both promote and oppose the implementation of VSS, or can offer alternative approaches to tackle certain sustainability issues. Their role will depend on the shape of a sector. In sectors that are well organized and/or have a well-developed enabling environment that can effectively enforce them, policy and regulations can be more ambitious. They can encourage or even enforce VSS adoption directly, or stimulate uptake more indirectly through building a beneficial regulatory environment. Their roles are summarized below:

Mandatory regulations in consumer countries can create demand for sustainable goods, directly and indirectly by policies prescribing certain VSS (or sets of VSS). For example, the EU Renewable Energy Directive requires compliance with VSS to obtain market entry to the EU. In the future it is also likely that the Forest Law Enforcement Governance (FLEGT) will drive the use of VSS. This can also happen directly through a new standard. The latter is the case with the ISO CEN/TC415 standard for traceable and sustainable cocoa. How effective such regulations are is not yet clear.

National standards in producing countries can facilitate supply of sustainable commodities. Such standards are on the rise, which has been greatly stimulated by increasing awareness of sustainability and the progress of VSS. The standards can be governmental or private, and are generally voluntary. As an exception, the Indonesia Sustainable Palm Oil (ISPO) standard is an example of a national mandatory standard.

Even if not legally enforced, national standards can prove useful. They can provide a stepping-stone towards other globally accepted standards, or they can codify national sustainability priorities that may not get enough attention in such global standards. The latter may help to achieve the former, as exemplified by the National Sustainability Focus in the Vietnamese coffee sector.

Linked to national standards are national quality requirements that add value to the crop and therefore contribute to the income of *all* farmers complying with the requirements. This is something that can be implemented on a more ambitious scale, such as coffee in Colombia (through the FNC) or more modestly, such as cocoa in Ivory Coast.

Social and environmental regulations in producer countries can contribute to sustainability by operating in a way that is either complementary to or a substitution for VSS. In a setting with a developed enabling environment, mandatory regulations can be stricter. The agro-ecological zoning of sugarcane in Brazil and to a certain extent the Brazilian Forest Code are examples of this approach. Public policy may also ban certain practices or products, or promote others (e.g. by providing subsidies or application in public owned estates).

The enabling environment is key. VSS were to some extent designed to ensure elements of sustainability that the government of a producing country was unable to enforce. If VSS are failing to succeed in a way that relates to a failing enabling environment, it is unrealistic to assume that mandatory regulation can fill that gap easily.

Market governance institutions again demonstrate the crucial importance of the enabling environment. They also show that capturing sufficient value (to afford investments in sustainability) is key. This enabling environment does not always have to be provided by the

government. The Kenya Tea Development Agency (KTDA), initially a government-led initiative, was able to continue to organize smallholders as a private agency and allow them to capture more value from their crop through processing.

Less successful examples of market governance institutions in fostering sustainability can also be cited. The Ethiopia Commodity Exchange (ECX) brought additional value to coffee producers, but failed to bring sustainable coffee to the market because it did not facilitate traceability. Similarly in Ghana, Cocobod regulates the cocoa market to a large extent, but sustainable cocoa is produced only on a limited scale.

4.2.2 Sector improvement services

As shown in the previous chapters and these conclusions, one crucial element is the level of organization in the sector, both in the form and degree of organization and the actual capacity of producers to implement sustainable practices. For all smallholder-dominated sector shapes (Shapes 1 and 2 and to a large extent Shape 3), further organization of the value chain and building up the capacity of the producers is a key intervention.

*Organizing small-scale producers i*s a critical condition for sustainability. Shapes 1 and 2 are unsuitable for mainstream sustainability. Farmers need to be aggregated for efficient technology and knowledge transfer, power in the market, a voice in policy (and thus prioritization of the sector by government), and to ensure that a reasonable share of value stays with producers. Directly related to standards, certification of smallholders is economically feasible only when implemented in groups.

Training, extension and capacity building is the other crucial element. Capacity building and access to inputs can come from government extension services, the private sector, NGOs, or through public-private partnerships or alliances with donor organizations. Although farmers can be trained without proper forms of organization, achieving a lasting impact at a larger scale is proving difficult in these circumstances. This is one of the key elements for making Shapes 1 and 2 more sustainable. Other important services are *input supply* (such as seed and fertilizers) and the creation of *market linkages* (e.g. by the provision of market information).

4.2.3 Finance and mobilization

Financial services play a crucial role in enabling sustainable market transformation. Sustainable market transformation may require important investments both at the farm level and in the enabling environment. To be able to make the necessary investments in sustainability, the poorest farmers will most likely rely on external financial support. Banks are generally not interested in financing smallholders, due to a combination of high transactions costs and high risks. Consequently, donors and government agencies have an important role to play in investing in the enabling environment, such as infrastructure and education and in partnering with financial institutions to share their risks.

Public–private partnerships (PPPs) can increase the level of private sector investment in poorly performing agricultural supply chains. In some sectors, industry-led, sector-wide, pre-competitive coalitions engage in organizing and capacity building (coffee and cocoa). In other sectors institutions such as the National Federation of Coffee Growers (FNC) in Colombia and its National Coffee Fund can provide financing for the sector.

The role of donors and governments and the need for pre-competitive private investments by the private sector will decline as a sector becomes more organized and transforms towards Shape 3.

Reduced transaction costs, reduced risks and increased economic performance by smallholders pave the way for more commercially based financing, such as micro-finance institutions, first impact lenders and value chain finance (e.g. trader credit or input supply credit). For large-scale producers in any sector, commercial banks should be able to cover any financing need for investments in sustainability.

4.3 The building blocks for sustainable market transformation

In this report, the logic of sustainable market transformation has been presented as a progression through four phases of an S-curve towards sustainability. It has been demonstrated that market transformation is determined largely by the structure of sectors and the forces that shape them. In this report we also introduced a number of instruments that can influence the shape of a sector and drive sustainable market transformation.

Figure 29 (below) presents an overview of the presented models and the relationships between them: the instruments discussed in Chapters 2 and 3 shape the forces that we identified in Chapter 1, which in turn impact the shape of a sector and/or its position on the S-Curve.

Looking at this figure one can observe how the process of sustainable market transformation shows two impact pathways: one is systemic (shifting the shape) and one is issue-specific (shifting within the shape). The issue-specific pathway relates to instruments that affect the state of sustainability by impacting one or more of the forces (directly or indirectly). An example is the implementation of VSS. By creating market demand for sustainably produced goods, as formulated around several specific issues, greater adoption of such practices may take place. This could lead directly to a movement on the S-Curve towards greater sustainability. However, the force field is not necessarily impacted in a systemic way. In the end the sector could remain stalled in an unsustainable state (for example in a flat pyramid shape).

The systemic pathway implies that the forces are impacted in a way that fundamentally changes them and leads to a different structure (shape) of the sector. This is not likely to be the result of a single instrument, but of a combination of many instruments involving institutional reform and changes in the market environment. Distinguishing between issue-specific and systemic impact pathways is insightful. In Shapes 3 and 4, it is not the sector that is likely to be reshaped, but instruments focused on specific issues could make the sector more sustainable. In Shapes 1 and 2 it is unlikely that the sector will become structurally sustainable without first changing shape, as the capacity and business case to adopt sustainable practices at a mainstream level do not exist.

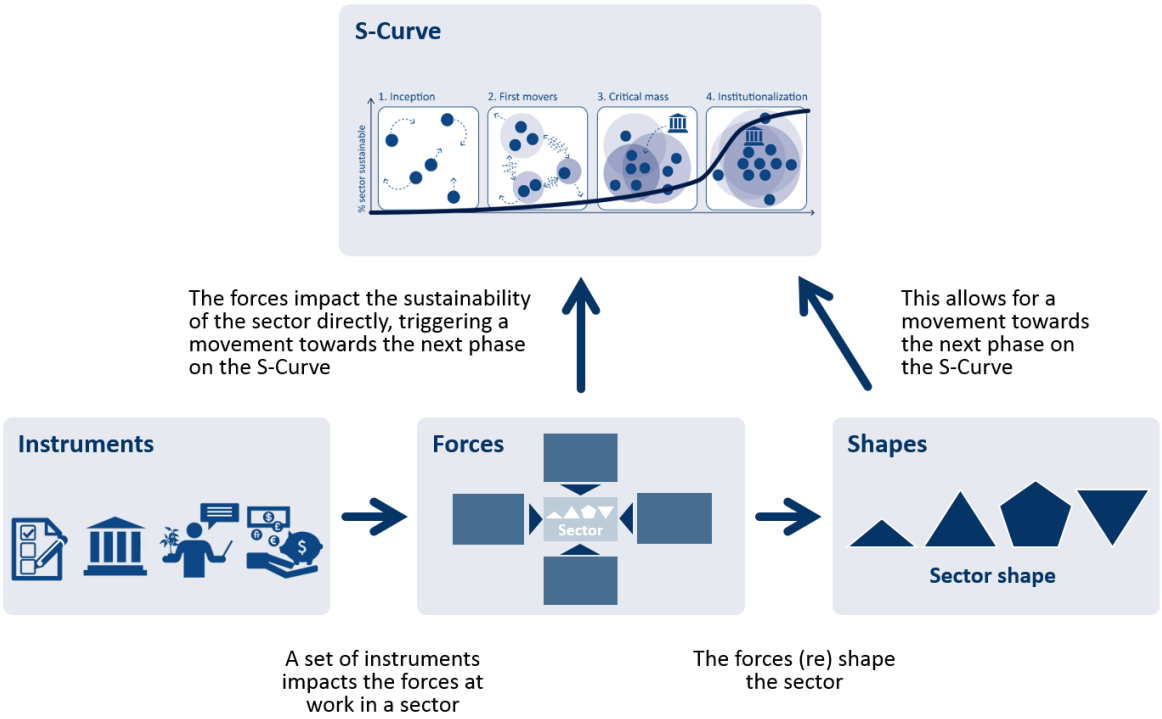


Figure 29. Overview of the relationships between the models presented in this study

The key is to combine the tools to build roadmaps towards sustainable market transformation. Table 5 aims to help in building such roadmaps by showing the relative importance of the various instruments in this transformation process, depending on the sector shape. Four basic types of instruments are shown in Table 5. The *VSS* include both baseline and best practice standards (both national and international). They have limited relevance if the sector is unorganized, but gradually become more relevant if the sector becomes more organized. Policy and regulation (including market governance) is the second type of instrument. In Shape 4, *policy and regulation* will likely be more effective than standards, but will have a more limited impact in Shape 1. *Sector improvement services* (including organization, technical assistance and input provision) are essential in Shapes 1 and 2, while having only a minor role in Shape 3 and likely no critical role at all in Shape 4. Finally, *finance* plays a crucial role to fund the other three types of instruments. As a sector moves from Shape 1 to Shape 4, it becomes more capable of providing the resources for becoming sustainable, given the right policy and market conditions.

When combined, the instruments from Table 5 can alter some of the forces presented in the model from this study. That can then lead to the systemic changes required to alter the shape of a sector, so it becomes a more beneficial environment for sustainability. The modification of forces can also lead to direct adoption of sustainable practices (legally prescribing them would be an example), but only if the sector is capable of adopting them (again determined by its shape). Ultimately, the alteration of forces should result in a combination of forces that makes sustainability a mainstream practice and market qualifier, and the de facto norm for the sector as a whole.

Table 5. Bringing sustainability to the four sector shapes: (++) high relevance, (+) medium relevance, (0) limited relevance

Instruments	Sector shapes			
				
VSS (international and national)	(0) Limited relevance within current VSS business case. Sector does not have the capacity to comply. National standards could be of value to initiate the demand for minimum requirements.	(+) Baseline standards implementable to start removing worst practices. Best practice standards for better-organized farmers.	(++) Sector is capable of universal baseline (national or VSS) implementation; also large scale best-practice standards.	(+) Sector is capable of implementing standards. Uptake depends on demand. Enhance impact through instruments to improve standard efficiency.
Policy and regulations (including market governance)	(+) Limited impact; some basic conditions can be demanded but sector does not have the capacity to comply with comprehensive sustainability demands.	(++) Potential impact for large or organized smallholders is very high; risk of excluding unorganized smallholders (must be compensated with sector improvements).	(++) Market coordination mechanisms can be very effective.	(++) Sector has capability of complying with regulations if standards fail to guarantee sustainability; constraint is international competition.
Sector improvement services	(++) Main interventions; should focus on organizing farmers, offering basic training, combined with input provision (possibly subsidized) for increased profitability. If enabling environment is extremely weak, sector improvement may include basic needs (individual or community).	(++) Top of the pyramid provides models for organization and service/input provision; needs to be spread towards base. Enabling environment should be made ready to support sustainability at scale through credit input and large-scale extension services.	(+) Scale of individual entities may not be sufficient for investments in sustainability; support will be required (additional training).	(0) Limited relevance. Government (legal requirements) or sector (standard-related requirements) can facilitate compliance with sustainability criteria (e.g. through targeted extension work)
Finance	(++) Finance should play a major role; will need pre-competitive action, as required investments are significant. Donor institutions can play a large role here, as poverty impact will be large.	(+) PPPs on large scale can have sector-wide impact. Value chain actors can work pre-competitively (on the enabling environment) and in their own supply chains. Donor interventions at bottom of pyramid.	(0) Reduced donor interventions. Financial sector (including soft lenders) should be able to finance sustainability.	(-) Production base is capable of implementing sustainability.

Table 6 makes the generic information from Table 5 more specific. By combining the S-Curve, the forces and shape models with specific sector information, it presents various key strategies that could further enhance sustainability of national commodity sectors by taking into account the structure of a sector and the forces that shape this structure. Not surprisingly, in most cases, the strategies comprise different instruments.

For example, in the smallholder-dominated Indian cotton sector (Shape 1), the focus should be on sector improvement strategies, which include sector organization and the development of scalable models of capacity building. Further strengthening the relatively well-organized extension services can be a viable strategy to achieve this. These extension services could be incentivized to include sustainable practices in their service delivery package.

The Vietnamese coffee sector (Shape 2) may be close to a sustainability breakthrough in terms of its policy and institutional framework, but its farmers remain largely unorganized and untrained. Addressing these deficiencies will take some time, while the sector further reforms its institutional framework.

In the well-organized Kenyan tea sector (Shape 3), all farmers will soon be certified. This is a fairly unique situation, but does not necessarily lead to the desired level of sustainability in tea growing areas. In order to improve this, additional instruments are required, such as increased minimum wages and environmental landscape approaches (e.g. on climate adaptation).

Brazil (Shape 4) has an organized soy sector and a relatively well-developed legal framework. Consequently, sustainability impact can be obtained by improving legal enforcement and supporting producers to comply with these laws. This strategy could be complemented by voluntary initiatives such as the Soy Moratorium and RTRS certification. RTRS certification could be promoted by collaboration with national initiatives such as SojaPlus.

Table 6 briefly summarizes possibilities that exist in the sectors. The current study provides a framework for action. The challenge is now to further develop sector roadmaps and see how the combination of VSS and other instruments can drive these sectors towards mainstream sustainability.

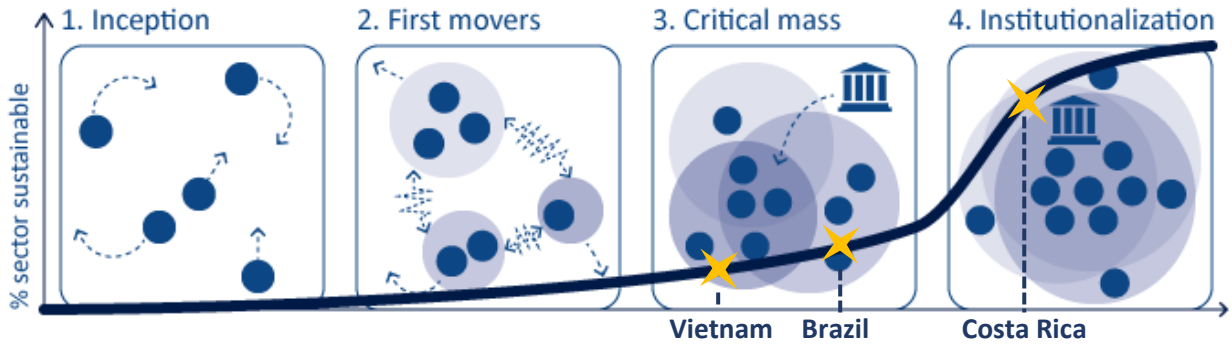
Table 6. Priority strategies to support sustainable market transformation

Sector-country combination	*Shape of sector*	*Phase in S-curve*	*Priority strategies to influence shape and reach next phase*
Coffee – Brazil	4	Critical mass	- Seek further integration of sustainability into government institutions, policy and regulation - Involve extension services, financial sector and large-scale stakeholders for regional interventions
Coffee - Vietnam	2	First Mover	- Support institutional reform in Vietnamese coffee sector - Focus on additional instruments that are still lacking: access to finance, input provision, training and organization
Cocoa – Ivory Coast	1	First Mover	- Work towards harmonization of many initiatives - Develop a joint holistic agenda that addresses many sustainability issues simultaneously - Focus solution on remote farming communities
Cocoa - Ghana	1	First Mover	- Work with government/Cocobod on reforming input provision and extension work structures - Integrate into regional reform agenda (with IC)
Tea – Indonesia	2	First Mover	- Support smallholders via inclusive business models (tea factory) to achieve sector organization - Promote domestic demand with national standard (*Teh Lestari*) and promote stepping-up to international VSS
Tea – Kenya	2	Critical Mass	- Continuation of existing extension model - Focus on landscape-based approaches (e.g. climate adaptation or living wages)
Cotton – India	1	First Mover	- Support sector organization & market institutions - Reinforce government extension services - Set up PPPs for smallholder support - Link sustainable demand with supply
Cotton – West Africa	2	First Mover	- Continue efforts for sector organization, including smallholder ownership of gins - Improve access to finance - Link sustainable demand with supply and growing demand for sustainable cotton from Africa
Soy – Brazil	4	Critical Mass	- Improve law enforcement - Continue Soy Moratorium - Promote demand for RTRS supply and reach out to organized producers
Soy - India	1	Inception	- Support sector organizations & market institutions - National embedding & smallholder outreach via public extension services
Palm oil – Indonesia	Combination of 1 & 4	Critical Mass	- Enforce national mandatory ISPO standard - Link RSPO demand with supply - Promote commercial service providers and use CPO mill leverage for smallholder support - Improve public land-use planning and monitoring
Palm oil –Thailand	2	First Mover	- Link RSPO demand to large-scale producers - Promote CPO mill's inclusive business models towards smallholders

4.4 A case study: the transition to sustainability in coffee

In this section we analyze the various ways in which a sector can move towards sustainability, based on a case study of sustainability interventions in the coffee sectors of Brazil, Vietnam and Costa Rica. They are framed in the context of the S-curve, and how their position on the S-curve relates to the shape of the coffee sector in that country. It also shows the role and position of VSS in relation to other instruments during this transition. We end with a set of recommendations based on this analysis.

The coffee sector in each of the three countries is positioned in a different phase of the sustainable transformation curve (S-curve), as shown in Figure 30. The Vietnamese and Brazilian coffee sectors have moved to the critical mass phase. Both countries are now addressing sustainability in an inclusive way by building up the required enabling environment through public-private cooperation, for example in the delivery of capacity building. In Costa Rica's coffee sector, sustainability is already institutionalized to a high degree. The sector is subjected to national environmental and social laws, which cover aspects such as responsible handling of agrochemicals, reduced water pollution and health insurance to workers. For more than two decades, consistent and favorable government policies have further stimulated sustainable and inclusive sector development, as has the close collaboration between all value chain actors.



©NewForesight

Figure 30. The position of the coffee sector in Vietnam, Brazil and Costa Rica on the sustainable transformation curve (S-curve)

The different positions of the three coffee countries on the sustainable transformation curve are related to the shape of the national coffee sector, representing the degree of farmer organization, scale and professionalism. Figure 31 presents the coffee sector shape for each country in combination with the predominant forces that determine the sector shape. The resulting picture per country provides the basis to analyze the effect of VSS and other sustainability initiatives on sector shape and sustainability.

Brazil

Brazil is the world's largest coffee producing nation, with Arabica comprising about 75% of production. The sector is characterized by large-scale coffee farming, including industrial scale, mechanized harvesting. The average Brazilian smallholder farm is relatively large in area when compared to smallholders in other countries; Brazilian coffee smallholdings are larger on average than big farms in Vietnam.

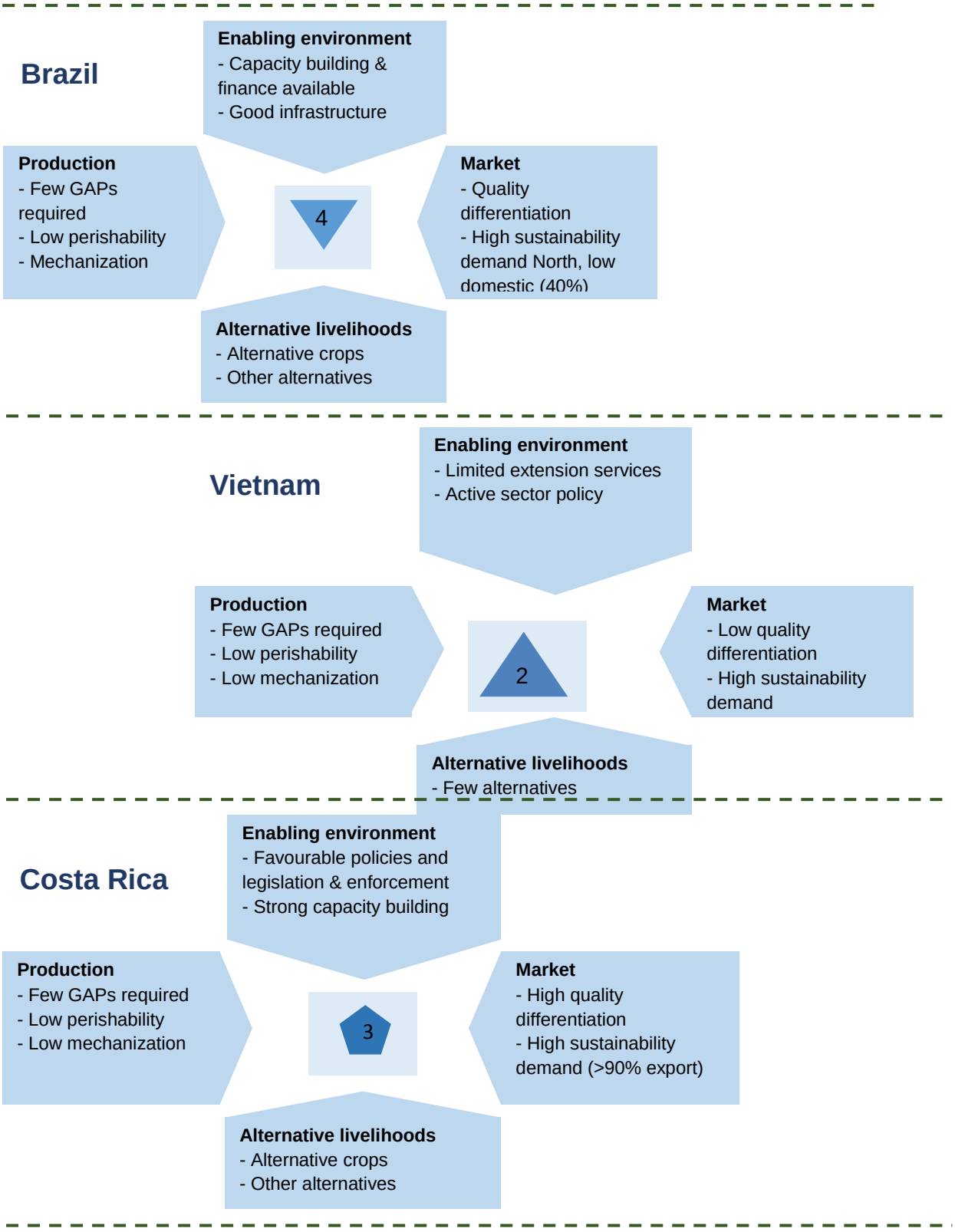


Figure 31. The sector shapes and predominant forces of the coffee sector in Brazil, Vietnam and Costa Rica.

Moreover, the cooperative structures are powerful. The enabling environment stimulates the development of the sector, good infrastructure and favorable policy are in place, and high-quality extension services, inputs and financing are available (although not always easy to obtain). Furthermore, the national Forest and Labor Codes promote sustainable practices to a high

degree. The combination of larger-scale farming and a strong enabling environment have resulted in an efficient coffee sector in terms of productivity. Moreover, this explains why VSS have expanded quite rapidly in the Brazilian coffee sector. The demand from Northern markets for sustainability resulted in the certification of the Brazilian coffee estates and well-organized cooperatives that could attain certification relatively easily (the “low-hanging fruit”).

However, the incentives brought by VSS alone appear insufficient to move sustainability further along the transition curve. This is related in part to the relatively large domestic market for Brazilian coffee, for which sustainability is not a market qualifier. Where market instruments such as VSS reach their limits of influence, government should step in to bring sustainable transformation of the Brazilian coffee sector to a higher level. Recommended actions would be to further integrate sustainability into government institutions, policy and regulation while improving enforcement. More concretely, sustainable production methods could be included in the well-established extension services available in coffee-growing regions in order to increase their dissemination. Sustainability standards could also be integrated in the criteria of the financial sector and regional interventions. Lastly, considering the significant production of coffee for the domestic market, increasing the demand for sustainable coffee in Brazil could have considerable impact on the sector.

Vietnam

Vietnam’s coffee sector differs in many ways from the Brazilian sector. The sector is made up of a wide base of smallholders cultivating small tracts of land. Over 85% of Vietnamese smallholders farm coffee on less than 2 hectares, with little mechanization of production. The level of farmer organization in cooperative structures is low, hence the pyramid shape of the sector. Vietnam is almost entirely focused on the production of Robusta coffee, the variety for which market requirements and margins are low. Productivity, on the other hand, is relatively high. The enabling environment is weaker than in some other agricultural sectors in the country, and the development of extension services and the financial and processing infrastructure has not kept up with the rapid expansion of coffee farming in Vietnam. The unregulated expansion in recent decades has also resulted in serious sustainability issues such as deforestation, depletion of water resources and land tenure conflicts.

In recent years, the Vietnamese coffee sector is being pushed by industry and trade to produce more sustainable (VSS-certified) coffee, as the leading coffee roasting companies have large sustainability commitments to fulfill. Vietnam mainly exports its coffee to Western markets and is thus susceptible to the market demand for sustainability. The industrial aim to achieve 25% sustainable coffee sales in 2015 created the necessary momentum in the sector. The feeling of urgency was further spurred by the pressing sustainability issues. This explains the on-going certification efforts of VSS in the country, but it has been difficult for them to address issues at the landscape level (i.e. concerning water and land) and to reach out to smallholder farmers. Moreover, a coalition of government and the private sector is engaged in fundamental sector reform. Large-scale capacity building (by government and other actors) is accompanying this effort. To create the proper context for a swift transition towards more sustainable Vietnamese coffee farming, the on-going institutional reform deserves full support. The focus should be on additional instruments that are still lacking: access to finance, input provision and on-going training and organization. When this occurs, scaling up VSS certification wil become more feasible.

Costa Rica

The story is again quite different for Costa Rica. Similar to Vietnam, the majority of Costa Rican coffee (>90%) is produced by smallholders with farms of less than 5 ha. Unlike Vietnam, however, Costa Rican smallholders have a high degree of organization in democratically governed cooperative structures. These cooperatives (in cooperation with civil society) often provide member farmers with training in GAPs, technical assistance and input provision, resulting in increasing coffee yields and productivity. They also enable farmers to centralize certain processing steps and thereby reduce costs. The sector is structured as Shape 3, with its large base of well-organized smallholders who are efficient, but can improve their productivity.

The Costa Rican Coffee Institute (ICAFE) ensures that smallholders receive a minimum ("fair") price for their coffee and also supports cooperative formation. With 100% Arabica production (required by law) and 90-95% of its produce exported to Northern markets, a large part of Costa Rican coffee enters specialty markets, which ensures higher prices (above the world market price). ICAFE guarantees product quality before export. In addition, Costa Rica has solid regulations and enforcement on social welfare aspects and the protection of water sources and forest conservation.

The consistent and favorable government policies have established a good basis to attract private sector initiatives to further promote sustainability. Partially facilitated by long-term relationships between producers and buyers, VSS have been successfully introduced. Certification in Costa Rica is among the most advanced in Latin America. Sustainability has been largely achieved on all environmental and social criteria, including landscape planning. However, it is unclear how much of Costa Rican coffee's sustainability transition can be attributed to the successful introduction of VSS in the country. Moreover, productivity is still an issue and has not been significantly addressed by VSS. Cooperation between VSS and other actors (especially the strong government) could have a beneficial impact on this aspect, including the national replanting programs that have been promised by the government.

Appendices

Appendix I: Analytical framework of the study

Research scope

This study focused on specific agro-commodity 'sectors' (e.g. cocoa, tea and coffee, referred to from now on as sectors) and countries, recognizing that a "one-size-fits-all" approach does not work for sustainability– the challenges and opportunities are very different. It aimed to answer the following questions:

1. What are the current levels of sustainability in specific agro-commodity sectors in particular countries? What are the drivers and barriers to sustainability in those sectors and countries? What are the particular characteristics of sectors in specific countries and how does this shape the approach needed to achieve sustainability?
2. To what extent are voluntary sustainability standards being used in the focus countries and with what impact? What opportunities exist for enhancing their impact?
3. What other instruments (the enabling environment) are needed to create the necessary preconditions for the success of voluntary sustainability standards, to complement them, or that might be better suited to the task of achieving sustainability?
4. Using the evidence obtained through answering the questions above, what are the building blocks for a roadmap for sustainability for agro-commodities?

Working hypotheses

The study was based on the following working hypotheses:

- Despite the rapid growth and success of VSS performance, when used as an instrument VSS – either by themselves or in perfect collaboration – face barriers to upscaling. They will not be able to attain the ultimate goal of overall sector transformation towards full sustainability (i.e. positive sustainability outcomes in the sector at a national scale).
- For the abovementioned ultimate goal to be realized, systemic change is needed within a sector or even within the wider (national, regional and/or international) enabling context. Part of the required systemic change is the use of a combination of VSS and other instruments, eventually being institutionalized. Once systemic change has been realized, sustainability becomes the norm and scaling up will occur by itself.
- Knowing when and how various instruments can be used to bring about systemic change should not be a process of trial and error, but can be based upon the understanding of patterns that show the potential of different instruments to contribute to sustainability under different conditions.
- The potential for the use of VSS and other instruments depends upon sector characteristics, determined by a set of forces that is specific to markets and countries. We have developed a typology of various "sector shapes" which can be used to categorize particular sectors in specific countries.
- The potential for the use of VSS and other instruments also depends upon the dynamics of the process of sector transformation towards sustainability, which can be understood by a typology of 4 phases that characterizes the process of sector transformation.
- Understanding the dynamics of sector transformation and understanding the key forces driving sector changes will enable recommendations to be made about the set of instruments needed to bring about systemic changes that lead to upscaling towards full sector sustainability.

To frame the thinking on the relevance of VSS, the following hypotheses were used:

- Certification in smallholder-dominated markets has the greatest prospects for growth when the sector is managed and coordinated
- Productivity and quality are prerequisites for effective implementation and scaling up of standards and certification. There are opportunities for scaling up of standards in the gap between actual and potential yield, as a measure of the capacity for farmers to invest in sustainability and certification.
- The opportunity for scaling up sustainability standards and certification is related to a national sense of urgency, driven by market demand or threats to supply security.
- The scaling up of standards and certification will be restricted if the market only calls for the worst/illegal production to be kept off the market
- Scaling up certification across ecosystems and landscapes requires moving beyond a patchwork of farm-scale best practice towards regional planning or agro-ecological zoning
- In sectors with a high share of domestic or South-South trade, mainstream certification will not occur unless Southern demand for certified products increases.

Steps taken in this study:

Step 1: Build frameworks to classify sectors, standards, performance, impacts, drivers, barriers and key success factors

Step 2: Classify sectors, standards and other instruments to be included in this study

Step 3: Collect basic data on six sectors; sustainability issues, key standards, performance, drivers and barriers and select two countries for more in-depth research

Step 4: Per country-sector combination, summarize the key findings and remaining gaps of information or questions/dilemmas, which will serve as a basis for the interviews.

Step 5: Explore some additional instruments to identify their role in sustainable market transformation and their potential synergy and complementarities with VSS

Step 6: Draw conclusions and write the report

The methodology used to carry out this study included extensive desk research and telephone interviews with 57 sector and country experts, including representatives from the private sector, donors, NGOs, producers and certification bodies.

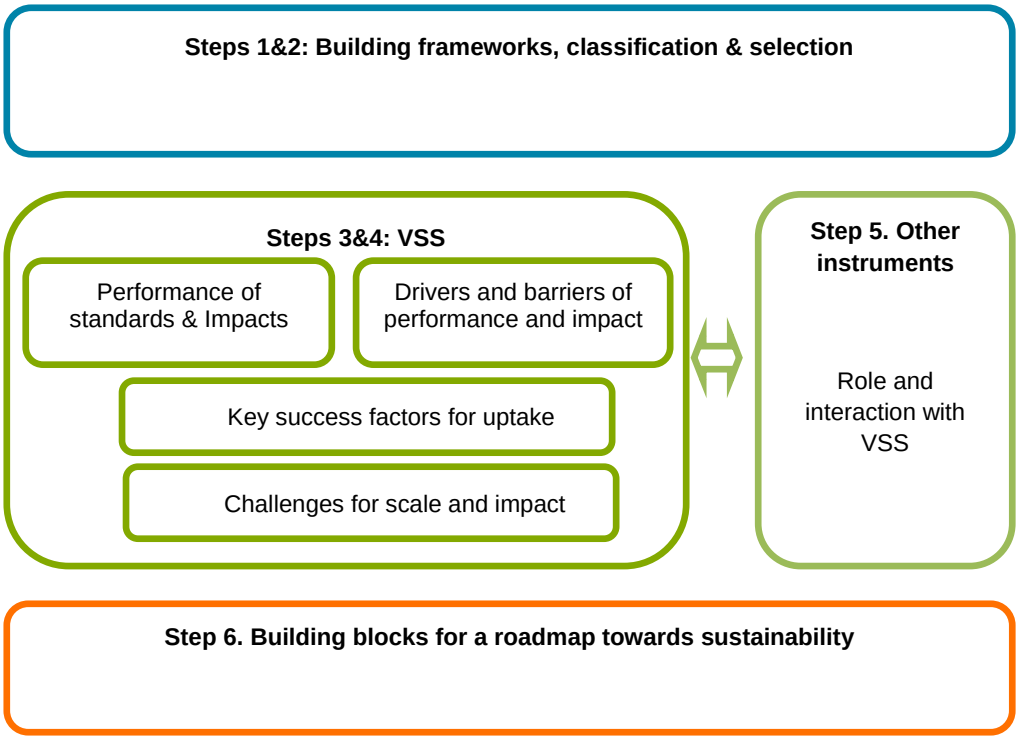


Figure 32. Steps in the research process.

Rationale behind choice of sector and country

- ***Coffee*:** The coffee sector is perhaps the most widely studied sector when it comes to Voluntary Sustainability Standards. The sector has experienced a variety of standards, including baseline codes, company codes and emerging platforms for supporting sustainable sourcing.
  - **Brazil** – The world's largest producer of coffee, with a high percentage of domestic consumption (40%). The sector is relatively well-organized, with larger farms on average than in most other producing countries. Predominantly production of Arabica (70%), high percentages of certification, well-functioning extension services, and strict (but not strictly enforced) labor and forest legislation.
  - **Vietnam** – The second-largest coffee producing country worldwide, predominantly Robusta production(97%). Dominance of smallholder farmers (85% grow on less than 2 ha) with low levels of organization and relatively high levels of poverty. Environmental issues concern excessive pesticide use and water pollution and depletion. Most coffee produced for Western markets.

- ***Cocoa***: Currently experiencing remarkable urgency for collective, precompetitive action on a sustainability agenda, with the potential to study and shape this agenda in the process. Security of supply is an issue, and the sector suffers from low levels of farmer organization and professionalism and high levels of poverty (lack of investment and inputs). Mainly South-North trade.
  - **Ivory Coast** – Leading cocoa producing country worldwide. About 90% of production from smallholders with very low levels of organization. Aging farmer community living near the poverty line. Politically unstable regions with low outreach of capacity building programs (donor or otherwise) and certification. Very limited access to inputs and finance.
  - **Ghana** – The world's second-largest cocoa producer, dominated by small-holder farming with very low levels of organization. COCOBOD subsidizes fertilizers and regulates export, leading

to less volatile market prices. Limited formal capacity building, high presence of industry, donor and NGO programs.

- ***Tea*:** Significant diversity in sector and producer organization in various countries and in approaches to sustainability. Important South-South trade and domestic markets; increasing development of national standards. Significant coverage of Rainforest Alliance for Western markets. Dominance of a few players, including Unilever.
  - **Kenya** – well organized and relatively successful sector that is dominated by smallholders. Dominated by exports to Western markets and high levels of market coverage of certification.
  - **Indonesia** – lack of organization in smallholder sector, but smallholders increasing in importance as estates shift to other crops. Mix of domestic and export markets, with the latter having some certification for Western markets. Development and implementation of national standard to address localized sustainability issues and for domestic consumption.

- ***Cotton*:** Complex and opaque supply chain. Mix of large and smallholder farming systems. Specific sustainability issues around input use (water and chemicals). Presence of BCI, a relatively new voluntary sustainability standard that seeks rapid scaling up and mainstreaming. Dominance of retailers in BCI.
  - **West Africa** – presence of Africa-specific standard (Cotton Made in Africa), importance of cotton to the country's development, dominance of smallholders and role of governments in supporting the sector.
  - **India** – dominance of unorganized smallholders, large exporter and processor of cotton, important source country for BCI-certified cotton and for many large retailers.

- ***Palm Oil***: High sustainability profile, large-scale players (with leverage over smallholders) in a sector that is growing very rapidly. Rapid growth in certified volume, with interesting national standard dimensions.
  - **Indonesia** – Biggest producer, most production from large-scale plantations with leverage over smallholders, relevance of sustainability debate in sector, creation of national mandatory standard (Indonesian Sustainable Palm Oil - ISPO)
  - **Thailand** – Dominance of unorganized smallholders, recent certification efforts, limited exposure in terms of sustainability issues.

- ***Soy***: many different standards and local initiatives. RTRS appeared to be a collective failure with low producer uptake, but now there is a high buyer uptake and producers are following (slowly). An interesting dynamic case to explore barriers and drivers to sustainable certification.
  - **Brazil** – Dominance by large-scale producers, export to EU, has become a focus in the sustainability debate (both international and national), presence of various other sustainability instruments
  - **India** – Dominance by unorganized smallholders, absence of a national sense of urgency and no export to Northern markets.

A selection of frameworks used

Potential Drivers / Incentives

Category	***Details / indicators***
Producer perspective	• Immediate financial benefit (higher prices, lower costs) • Productivity improvement • Market access/license to operate • Long-term efficiency & improved quality

	• Health, safety and access to natural resources • Access to inputs & finance • Avoided costs of legal non-compliance and conflict • Social status and self-esteem (soft incentives)
Buyer perspective	• Security of supply • Market access/license to operate • Increase efficiency and quality • Marketing claim and brand value • Risk management • Access to cheap finance/donor money • Avoided costs of legal non-compliance and conflict
Intermediary perspective	• Compatibility with its social and/or environmental mission • Business opportunity

Potential Barriers

Category	***Details/indicators***
Costs	• transaction costs (especially in the case of smallholders) • costs for corrective actions, • costs for assurance, • chain of custody requirements, • membership fees/premiums.
Complexity/lack of capacity	• technical, • administrative/managerial • marketing/business
Lack of brand advantage	• price premium • consumer preference
Market risks	• lack of demand for sustainable produce, • credibility issues with specific standards, • insecure financial return (e.g. flexible premiums), • side-selling (e.g. by participants in an outgrower scheme)
Legal/political insecurity	• legal insecurity production system (land, infrastructure) • poor business climate, uncertainties taxes etc. • political instability (nationalization, ..) • political resistance
Standards systems	• inefficiencies between multiple certification systems • poor quality certification bodies • poor training services • resistance against transparency
Poor access to finance	• no appropriate financial products available (related to distance, type of finance or eligibility criteria) • high levels of rents • high local currency variations

Impact Assessment framework

Section and Indicator	*Score + Evidence*
A. Producer and market uptake of standard: • # or proportion of producers/organizations currently certified • # or proportion of producers/organizations becoming certified • Volume or proportion of certified production *produced* • Volume or proportion of certified production *traded* • Area or proportion of production certified • Price premium realized	

B. Performance effects (# or proportion of producers)
• .. improved producer profitability:
  ○ .. trained, with improved agronomic skills
  ○ .. with improved net incomes
  ○ .. with improved yields / intensification
  ○ .. with improved product quality
• .. improved business opportunities
  ○ .. with improved market access
  ○ .. trained, with improved business skills
  ○ .. more access to credit
  ○ .. increased credibility
  ○ .. with improved employment
  ○ .. with improved relations producers – traders
• .. better management of natural resources
  ○ .. less use of agrochemicals/pesticides
  ○ .. application of GAPs	

C1. Direct sustainability impacts – ecological • Loss or protection of biodiversity, natural and agro-biodiversity • Conversion of natural ecosystems, deforestation • Air, soil or water • Soil degradation • Greenhouse gas emissions	
C2. Direct sustainability impacts – social and economic • Level of poverty • Labor/working conditions • Child labor incidence • Living conditions and health • Labor rights and benefits • Land rights • Food security	
D. Indirect sustainability impacts • Policy effects (relevant to sustainability issues) • Spill-over effects (non certified producers adopting standard) • Learning and working in partnerships or coalitions • Other sustainability initiatives (e.g. local standards) • Institutional strengthening / capacity building (relevant to sustainability)	

Appendix II: People consulted

Members of the Steering Committee

- Luy, Larissa (IFC)
- Peppelenbos, Lucian (IDH)
- Peter, Martin (SECO)
- Trigt, Henk van (MinBuZA)
- Wise, Bruce (IFC)

Members of the Advisory Committee

- Brugman, Dr. Olaf P.G. (Rabobank)
- Bymes, Hugo (Ahold)
- Cheng Hai Teoh (Total Quality Environmental Management)
- Chicchon, Avecita (Gordon and Betty Moore Foundation)
- Child, Alistair (Mars)
- Debenham, Nicko (Armajaro)
- Gardaz, Adrienne (Global Compact)
- Grothas, Frank (UNFSS)
- Grimard, Andréanne (Solidaridad)
- Hogge, Guy (Louis Dreyfus Commodities)
- Kreider, Karin (ISEAL)
- Lavor Lopes, Juliana de (Guppo André Maggi)
- McLaughlin, David (WWF)
- Potts, Jason (IISD)
- Rogers, Richard (Bill and Melinda Gates Foundation)
- Schukat, Philipp (GIZ)
- Vis, Jan Kees (Unilever)
- Voivodic, Mauricio (Imaflora)
- Wheatley, Fiona (Marks & Spencer)
- Woodhill, Jim (Ausaid)
- Wozniak, Joe (ITC)

Other people interviewed, reviewed the draft versions of the report or participated in a feedback workshop

- Anstey, Chris (Cotton expert)
- Bijl, Gert van der (Solidaridad & RTRS Board member)
- Boselie, Dave (IDH)
- Beyers, Lee (Fairtrade International)
- Brando, Maria (P&A Marketing)
- Browning, David (Technoserve)
- Dr. Brugman (Rabobank)
- Bulckens, Heleen (Ethical Tea Partnership)
- Chanda, Pramit (Cotton expert)
- Chattopadhayay, Shatadru (Solidaridad Asia)
- Chester, Anita (IDH)

- Chi, Tran Thi Quynh (Institute of Policy and Strategy for Agriculture and Rural Development (IPSARD))
- Clendon, John (GM Univanich Palm Oil PCL)
- Corsin, Flavio (IDH)
- Darussamin, Asril (RSPO Indonesia Liaison office)
- Dros, Jan Maarten(Solidaridad)
- Ebai, Sona (WCF)
- Esselink, Eddy (Product Board for Margarine, Fats and Oils)
- Eyhorn, Frank (Helvetas)
- Ferrigno, Simon (Cotton expert)
- Gillespie, Piers (Solidaridad Indonesia)
- Giovannucci, Daniele (COSA)
- Guemas, Matthieu (Armajaro/GeoTraceability)
- Hendrickx, Harrie (Solidaridad West Africa)
- Henke Dr., Jan (ISCC)
- Heyneardhi, Henry (Tea expert)
- Hoffman, Ulrich (UNFSS)
- Honk, Jordy van (IDH)
- Hupperts, Pierre (Tea expert)
- Jansen, Don (Universiteit Jansen)
- Kwan, Jenny (IDH)
- Laven, Anna (Royal Tropical Institute)
- Lee Byers, Lee (FLO (Fairtrade International)
- Leegwater, Marieke (Solidaridad)
- Majail, Julia (RSPO)
- Mallet, Patrick (ISEAL Alliance)
- Malta Campos, Pedro (P&A Marketing)
- Manu, Vincent (Solidaridad West Africa)
- Mascotena, Agustin (RTRS)
- May, Daniel (GIZ - Consultant Program Social and Environmental Standards)
- Miltenburg, Stefanie (DEMB)
- Monserrat, Marc (Rainforest Alliance)
- Mostert, Alice (Solidaridad)
- Motlani, Suresh (Solidaridad India)
- Nyagah, Ruth (Africert)
- Oorschot, Mark van (PBL)
- Peeling, Caitlin (FLO)
- Pensel, Annette (4C)
- Petit, Nicolas (Better Cotton Initiative)
- Pornsansirikul, Supanai (Shell Thailand)
- Quynh Chi, Tran Thi (IPSARD)
- Rajatapiti, Thanes (Shell Thailand)
- Ratri Kustanti, Veronika (Tea expert)
- Rosenberg, David (ECOM)
- Singh, Pramod (IKEA)
- Sumpit, Andrew (Sariwangi)
- Tanos, Petra (Rainforest Alliance)
- Virakulp Dr., Prakarn (Advisor/ Thai Ministry of Agriculture and Cooperatives)

- Vries, Daan de (UTZ Certified)
- Vrolijk, Bart (Dutch Royal Embassy Argentina)
- Webber, Darryl (RSPO)
- Wunderlich, Christopher (UNFSS)

Appendix III. Sector description per sector-country combination

	Sector-Country Combination					
	Coffee		***Soy***		***Palm Oil***	
	Brazil	Vietnam	Brazil	India	Indonesia	Thailand
Sector organization						
Percentage of smallholders	71% < 10ha 4% > 40ha	85% < 2ha 1% > 5ha	Large-scale companies dominate (average size 1,000) 16% of production from relatively small family farms.	Smallholder domination	42%	70%
Level of producer organization	Low (70% not member of cooperative)	Low	High	Low	Dominance of large companies (30% planted area by 10 companies), Medium organization of smallholders	Smallholders hardly organized
Sector shape (1-4)	3 (diamond)	1 (flat pyramid)	4 (inverse pyramid)	2 (pyramid)	4 (inverse pyramid)	2 (pyramid)
Force type						
Production characteristics						
GAPs (minimum requirements)	Medium	Medium	Generally high	Smallholders lack knowledge on GAPs	Generally high (for estates and outgrowers), lower for independent smallholders	Smallholders lack knowledge
Crop perishability	Low	Low	Low	Low	Critical phase: harvested fruits need to be processed within 24 hours	Critical phase: harvested fruits need to be processed within 24 hours
Mechanization of production	Medium	Low	High	Low	Medium to high	Low

Market characteristics						
Quality and safety requirements	Medium (70% Arabica)	Low (97% Robusta)	Low (except for GMO issues)	Low	Low	Low
Visibility in end product	High	High	Low	Low	Low (except for cooking oil)	Low (except for cooking oil)
Domestic vs. Export markets (or North vs. South trade)	40% domestic	Mostly export to Western market	EU imports 14% of global trade, China 59%. China is becoming main importer of Brazilian soy	EU imports 14% of global trade, China 59%. No export from India to Europe	Global: Predominantly South-South (only 20% of global imports to Western markets). Indonesia large exporter to North, but share declining	Global: Predominantly South-South (only 20% of global imports to Western markets). Thailand exports limited quantities to North
Power concentration in value chain	High in roaster segment (45%), high in trader segment	High in roaster segment (45%), high in trader segment	Control of trade (and crushing) by 4 multinationals	Control of trade (and crushing) by 4 multinationals	Dominance in production by large companies. Leverage power of mills over smallholders, high concentration in trade	Little leverage over smallholders by mills (due to mill overcapacity), high concentration in trade
Demand for sustainability impacts	High	High	Low to medium from western demand	Low	High from Western demand	Medium from the limited Western demand
Price volatility	High	High	High (large producers can hedge)	High	High (large producers can hedge)	High
Security of supply	Medium importance	Medium importance	Limited importance	Limited importance	Limited importance	Limited importance
Enabling environment						
Access to capacity building	Medium (quality programs in place, doesn't reach everyone)	Low	Generally high of good quality	Low access, reasonable quality	High for outgrowers, much lower for independent smallholders	Generally low
Access to inputs and finance	Medium (Funds available,	Low	Good for large scale producers,	Low	Better for out-growers, low for	Low

	but hard to reach)		(medium to family farms/ smallholders)		independent smallholders	
Market and price information	High (though low for sustainable coffee)	Medium	High	Low	High for estates, low for smallholders	Low
Policy/regulatory framework (social/ environmental/trade)	Good national Forest and Labor Code, weak compliance	Government active in addressing sector issues	Successful soy moratoria. Good Forest and Labor Code (though weak compliance)	No major force, emerging platform for private sector initiatives	Stimulating oil palm development, failing forest moratorium and REDD program	Government framework for forest protection and price support
Land tenure and property rights	No major issue	No major issue	In some regions land conflicts due to soy expansion is big issue, and smallholder lock-in	Issues with land permits	Big issue in Indonesia: many reported land conflicts due to oil palm expansion	No major issue
General education and health care	-	-	-	Illiteracy is high	-	-
Infrastructure	Good	Medium	Good	Medium	Good, but variable for independent smallholders	Medium to good
Alternative livelihoods						
Alternative crops or occupations / urbanization	Not a big issue	Poor farmer communities	Many options	-	Low, young farmer populations	Low, young farmer population

	Sector-Country Combination					
	Cocoa		***Tea***		***Cotton***	
	Ghana	Ivory Coast	Kenya	Indonesia	India	West Africa
Sector organization						
Percentage of smallholders	~90%	~90%	62%	23% (but 43% of production area)	>90%	>90%
Level of producer organization	~10 - 15%	~20-30%	High	Low	Low (inhibited by caste	Low

					system, language variety, etc.)	
Sector shape (1-4)	1 (flat pyramid)	1 (flat pyramid)	3 (diamond)	2 (pyramid)	1 (flat pyramid)	1 (flat pyramid)
Force type						
Production characteristics						
GAPs (producer knowledge)	Low	Low	Medium-high	Low	Low	Low
Crop perishability	Low (after fermentation and drying)	Low (after fermentation and drying)	High (24 hours to get to factory)	High	Low	Low
Mechanization of production	Low, mostly done by hand	Low, mostly done by hand	Planting & harvest: low, processing (local): high	Planting & harvest: low, processing (local): high	Low-medium, many mechanization options are not used in India	Low-medium, many mechanization options are not used in West Africa
Market characteristics						
Quality and safety requirements	Limited – some specialty varieties and products but mostly standard cocoa	Limited – some specialty varieties and products but mostly standard cocoa	High – many flavors, varieties, qualities (Kenya quality = high)	High – many flavors, varieties, qualities (Indonesia quality = low)	Low – differentiation in added value higher up the supply chain	Low – differentiation in added value higher up the supply chain
Visibility in end product	High, but changed and mixed with other products	High, but changed and mixed with other products	High	High	Medium-high (main component of garments / fabric)	Medium-high (main component of garments / fabric)
Domestic vs. Export markets (or North vs. South trade)	Export (S>N)	Export (S>N)	Export (both S>S and S>N)	Export (both S>S and S>N) and domestic	Export (S>S for manufacturing) and domestic	Export 80% (S>S for manufacturing)
Power concentration in value chain	High with grinders and chocolate manufacturers (7 companies)	High with grinders and chocolate manufacturers (7 companies)	High in trade and blending for Western markets (7 companies, 90% Western market share)	High in trade and blending for Western markets (7 companies, 90% Western market share)	Medium-high with trading companies (15: 85-90% market share)	Medium-high with trading companies (15: 85-90% market share)
Demand for sustainability impacts	High from industry and (Western)	High from industry and (Western)	High from Western demand	Low-medium. Some	Medium (growing) from	Medium (growing) from

	consumers	consumers	(mainly UK)	demand from Western markets, but not much from domestic	Western demand, limited from South	Western demand, limited from South
Price volatility	Price less volatile to farmers because of COCOBOD export regulation	Market cocoa price very volatile	High price volatility and low unprocessed price levels. But captured value relatively high due to smallholder owned processing facilities.	Low price due to overproduction – long term price declines and volatility	Long-term price declines, though supply is declining – Indian government supplements market price when it falls below a minimum	Long-term price declines, though supply is declining – in Burkina Faso and Benin prices are negotiated on the basis of costs or supplemented (in low price years) by savings from high price years
Security of supply	Important	Important	Limited importance	Limited importance	Medium importance	Medium importance
Enabling environment						
Access to capacity building	Many industry, donor and NGO programs – yet reach and impact are low or unclear – limited formal capacity building (farm schools, etc.)	Similar to Ghana, but politically unstable regions of Ivory Coast are never reached by these programs	High due to Kenya Tea Development Agency (management service provider for smallholders) and government prioritization of industry	Some, associated with *Teh Lestari* certification for smallholders and with UTZ and RA certification for estates	Limited	Limited
Access to inputs and finance	Fertilizer subsidized by COCOBOD; very limited access to other inputs / finance	Very limited access to and use of inputs / finance	High due to KTDA	Limited – high costs of inputs, low investment in farms (both estates and smallholders)	Reasonable access to inputs and finance, but unable to deal with negative consequences (high debts, poor	Low access to finance (only through traders), low access to inputs but increasing, water pressure

					soils, resistant pests); very limited access to irrigation; in some places inputs subsidized	
Market and price information	Yearly fixed price for farmers through COCOBOD	Limited knowledge / bargaining power for farmers	Ownership of production chain, trade, and market of farmers through KTDA	Limited knowledge / bargaining power for farmers	Limited knowledge / bargaining power for farmers	Limited knowledge / bargaining power for farmers
Policy/regulatory framework (social/ environmental/trade)	COCOBOD strongly regulates trade, product quality, and farmer income security	CCC sets rules regarding quality and trade	KTDA originates from government and regulates processing, trade, quality, price divisions, etc.	Some government initiatives to stimulate social, environmental and trade aspects (i.e. through certification) but nothing far developed	Some price regulations to secure income for farmers	Some price regulations to secure income for farmers
Land tenure and property rights	Limited importance	Limited importance	Limited importance	Limited importance	Limited importance	Limited importance
General education and health care	Low	Low	Low	Low-Medium	Low, high illiteracy rate	Low
Infrastructure	Varies; includes remote areas with bad infrastructure	Varies; includes remote areas with bad infrastructure	Varies; includes remote areas with bad infrastructure	Poor; farmers often far from markets	Poor	Poor
Alternative livelihoods						
Alternative crops or occupations / urbanization	Poor farmers have no other alternative, although as soon as they get sight of a better future (youth,	Poor farmers have no other alternative, although as soon as they get sight of a better future (youth,	There may be other alternatives but farmers are doing relatively well in tea in Kenya	Low investment in tea estates because land would be more profitable with other crops	Usually difficult to escape due to debts, but farmers do move to more profitable crops	Lacking alternatives

	educated, etc.) they move to city or other crops	educated, etc.) they move to city or other crops				

Endnotes

[1] The sources of certified volumes are listed on Table 8.
[2] DFID (2004). *Agricultural sustainability.* Working paper.
[3] Molenaar, J. W., Beekmans, A., and Pelders, P. (2011). *Producer group models and certification: an exploration of various producer group models in the agricultural and forestry sectors*. ISEAL Alliance, London
[4] Good Agricultural Practices (GAPs) are practices that address the environmental, economic and social sustainability for on-farm processes, and result in safe and quality food and non-food agricultural products (*FAO 2003*).
[5] Steering Committee of the State-of-Knowledge Assessment of Standards and Certification (2012). *Toward sustainability: The roles and limitations of certification.* RESOLVE Inc., Washington DC.
[6] International Trade Centre (ITC) (2011). *The Interplay of Public and Private Standards*. ITC, Geneva.
[6] Ecolabel Index (www.ecolabelindex.com) and ITC Standards Map (www.standardsmap.org).
[6] SustainAbility (2011). *Signed, Sealed…Delivered? Behind Certifications and Beyond Labels*. SustainAbility.
[7] International Trade Centre (ITC) (2011). *The Interplay of Public and Private Standards*. ITC, Geneva.
[8] Ecolabel Index (www.ecolabelindex.com) and ITC Standards Map (www.standardsmap.org).
[9] See Table 8 for sources of certified volumes.
[10] Potts, J., Van der Meer, J., and Daitchman, J. (2010). *The state of sustainability initiatives review 2010: Sustainability and transparency*. IISD, IIED, Aidenvironment, UNCTAD, and ENTWINED, Winnipeg, Manitoba.
[11] UTZ Certified, Annual Report 2012 (2013).
[12] Ibid.
[13] Ibid.
[14] Personal communication with BCI 2013
[15] RTRS website, viewed May 2013
[16] RSPO, Table 1: Key Statistics for Certification, Area (ha), APC, Sales & Uptake (2013). Online available at http://www.rspo.org/file/CSPOUptake&Production-Charts-MAR.pdf.
[17] RA website, Certified Sustainable Coffee Grows Rapidly as More Companies Commit to Sourcing (2013), online available at http://www.rainforest-alliance.org/newsroom/news/sustainable-coffee-grows.
[18] *P*ersonal communication with Rainforest Alliance, 2013.
[19] Personal communication with Rainforest Alliance, 2013 (2012 figures are an estimate).
[20] www.cotton-made-in-africa.com
[21] Cert ID (2011) -Certified non-gm soybean meal and other soy products: volumes available from South America and Worldwide
[22] FLO, personal communication, 2013.
[23] Ibid.
[24] Ibid.
[25] Ferrigno and Monday, forthcoming. *The economic impact of sustainability standards in the cotton sector in Africa*. Prepared for GIZ.
[26] Calculations based on 2010 data and 2011 areal growth, confirmed as valid estimate through personal communication with FiBL
[27] ICCO data, 2011
[28] Ferrigno and Monday, forthcoming. *The economic impact of sustainability standards in the cotton sector in Africa*. Prepared for GIZ.
[29] 4C Annual report 2012 (2013).
[30] SustainAbility (2011). *Signed, Sealed…Delivered? Behind Certifications and Beyond Labels*. SustainAbility.
[31]See for more details: Hospes, O., Van der Valk, O. and Van der Mheen-Sluijer, J. (2012). *Parallel Development of Five Partnerships to Promote Sustainable Soy in Brazil: Solution or Part of Wicked*

Problems? International Food and Agribusiness Management Review Volume 15, Special Issue B, p. 39-62.

[32] Komives. K. and Doherty, P. (2011). *Stepwise Approaches as a Strategy for Scaling Up*, ISEAL Alliance, London.

[33] ISEAL Alliance & AccountAbility (2010). *Top 10 Trends: Presenting the Challenges and Opportunities for the Sustainability Standards Movement*.

[34] SustainAbility (2011). *Signed, Sealed…Delivered? Behind Certifications and Beyond Labels*. SustainAbility.

[35] ISEAL Alliance & AccountAbility (2011). *Scaling Up Strategy: A Strategy for Scaling Up the Impacts of Voluntary Standards*.

[36] ISEAL Alliance (2011). *The ISEAL 100 Survey: Business and Certification Beyond the Tipping Point*. ISEAL Alliance, London.

[37] Steering Committee of the State-of-Knowledge Assessment of Standards and Certification (2012). *Toward sustainability: The roles and limitations of certification.* RESOLVE Inc., Washington DC.

[38] UNFSS (2013). *Voluntary Sustainability Standards: Today's landscape of issues & initiatives to achieve public policy objectives.* UN Forum on Sustainability Standards.

[39] Steering Committee of the State-of-Knowledge Assessment of Standards and Certification (2012). *Toward sustainability: The roles and limitations of certification.* RESOLVE Inc., Washington DC.

[40] Ibid.

[41] Ibid.

[42] SustainAbility (2011). *Signed, Sealed…Delivered? Behind Certifications and Beyond Labels*.

[43] Ibid.

[44] ISEAL Alliance (2011). *The ISEAL 100 Survey: Business and Certification Beyond the Tipping Point*, ISEAL Alliance, London.

[45] KPMG (2013). *Sustainable Insight: A roadmap to responsible soy: Approaches to increase certification and reduce risk.* KPMG, Amsterdam.

[46] KPMG (2012). *Cocoa Certification. Study on the costs, advantages and disadvantages of cocoa certification*. Study for International Cocoa Organization (ICCO).

[47] ISEAL Alliance & AccountAbility (2011). *Scaling Up Strategy: A Strategy for Scaling Up the Impacts of Voluntary Standards*. ISEAL Alliance, London.

[48] TCC (2012). *Coffee Barometer 2012.*

[49] TCC (2012). *Cocoa Barometer 2012.*

[50] SustainAbility (2011). *Signed, Sealed…Delivered? Behind Certifications and Beyond Labels*. SustainAbility.

[51] ISEAL Alliance (2010), *Challenges of scaling up business models*, October 2010

[52] See the work of the International Task Force on Harmonization and Equivalence in Organic Agriculture at www.goma-organic.org

[53] www.socialhotspot.org (consulted June 2013).

[54] www.sedexglobal.com (consulted June 2013).

[55] www.geotraceability.com (consulted June 2013).

[56] Cool Farm Tool (www.coolfarmtool.org).

[57] www.apparelcoalition.org/higgindex (consulted June 2013)

[58] UNFSS (2013). *Voluntary Sustainability Standards: Today's landscape of issues & initiatives to achieve public policy objectives.* UN Forum on Sustainability Standards.

[59] See for a discussion on the potential of soil carbon schemes see Leu, A. (2013) Mitigating Climate Change with Soil Organic Matter in Organic Production Systems in *Trade and Environment Report 2013: Wake up before it is too late: Make agriculture truly sustainable now for food security in a changing climate*, UNCTAD, Geneva, 2013, p22-33.

[60] Porras, I. and Nanthumbo, I. (2013). *Intermediaries and the promotion of small-scale provision of Ecosystem Services in PES/REDD+.* IIED, London.

[61] FAO (2011). *Payments for Ecosystem Services and Food Security.* FAO, Rome: p171-189. Landscape labelling Approaches to PES: Bundling services, products and stewards.

[62] RT-REDD. *Slowing Climate Change through Better Farming*. 2012.

[63] Steering Committee of the State-of-Knowledge Assessment of Standards and Certification (2012). *Toward sustainability: The roles and limitations of certification*. RESOLVE Inc., Washington DC.
[64] www.illegal-logging.info/approach.php?a_id=119 (consulted June 2013).
[65] Putzel, L. (2009). *Upside-down: Global forestry politics reverses directions of ownership in Peru-China timber commodity chains*. Paper presented at the XIII World Forestry Congress Buenos Aires, Argentina.
[66] www.proforest.net (consulted June 2013).
[67] Buhmann, K. and Nathan, I. (2012) *Plentiful forests, happy people? The EU's FLEGT approach and its impact on human rights and private forestry sustainability schemes.* Nordic Environmental Law Journal 2012:2, p53-82.
[68] www.cocoainitiative.org/en/reports/policy-updates/105-icis-participation-in-the-third-meeting-of-the-european-committee-for-standardization-cen- (consulted June 2013).
[69] Gale, F. and Haward, M. (2011). *Global Commodity Governance: State Responses to Sustainable Forest and Fisheries Certification*. International Political Economy Series. Palgrave-Macmillan, New York.
[70] Ibid.
[71] ISEAL (2008). *Governmental Use of Voluntary Standards: Innovation in Sustainability Governance.* ISEAL Alliance, London.
[72] Leopold, A. (2010) *TEEB case: Agroecological Zoning, Brazil*. TEEB Case studies.
[73] Austin, K., Sheppard, S., and Stolle, F. (2012). *Indonesia's Moratorium on New Forest Concessions: key findings and next steps*. World Resources Institute Working Paper. WRI, Washington DC.
[74] Rudorff BFT et all. The Soy Moratorium in the Amazon Biome Monitored by Remote Sensing Images in *Remote Sensing* 2011, 3, p. 185-202 & Soy Moratorium (2012) *Mapping and monitoring soybean in the Amazon biome – 5th year.*
[75] Arima F. et all. (2011) Statistical confirmation of indirect land use change in the Brazilian Amazon in *Environmental Research Letters* 6 (April-June 2011)
[76] Rueda, X. and Lambin, E.F. (2013). *Linking Globalization to local Land Uses: How Eco-consumers and Gourmands are Changing the Colombian Coffee Landscapes*. World Development 41, p286–301.
[77] Bentley JW and Peter S. Baker PS (2000). The Colombian Coffee Growers' Federation: organised, successful smallholder farmers for 70 years. ODI Agricultural Research & Extension Network (AgREN) Network Paper No. 100, January 2000.
[78] Deshpandé, R (2010). *Café de Colombia*. Prepared for Global MBA Programme, Global Environment of Business, Tulane University.
[79] Gabre-Madhin, E. (2012). *A Market for Abdu: Creating a Commodity Exchange in Ethiopia.* International Food Policy Research Institute, Washington DC.
[80] Vorley, B., Cotula, L., and Chan, M.K. (2012). *Tipping the Balance: Policies to shape agricultural investments and markets in favour of small-scale farmers.* Oxfam GB, Oxford; IIED, London.
[81] Dalberg, City Foundation and skoll Foundation (2012). *Catalyzing Smallholder Agriculture Finance*. Dalberg Global Development Advisors, New York City.