Impact of international voluntary standards on smallholder market participation in developing countries

A review of the literature
Impact of international voluntary standards on smallholder market participation in developing countries

A review of the literature

Allison Loconto
and
Cora Dankers

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS
Rome, 2014
Contents

PREFACE v
ACKNOWLEDGEMENTS vi
EXECUTIVE SUMMARY vii
ABSTRACT xi
ABOUT THE AUTHORS xii
ACRONYMS xiii

CHAPTER 1
Introduction 1
  1.1 Background 1
  1.2 Purpose and scope of the study 2
  1.3 Existing FAO studies on the impact of voluntary standards 2

CHAPTER 2
Methodology 5
  2.1 Attributing impact and constructing the evidence base 7
  2.2 Descriptive statistics of the evidence base 9
  2.3 Impact pathways 11

CHAPTER 3
Overview of standards and certification systems 15
  3.1 The key functions of standards, certification and labelling 15
  3.2 Summary of voluntary standards systems 20
  3.3 Trends in standards requirements and their certification systems 30

CHAPTER 4
Results of the literature review 33
  4.1 Other recent literature reviews 33
  4.2 Antecedent variables 36
  4.3 Costs and benefits for participating farmers: smallholders experience increases in both 44
  4.4 Evidence of smallholder market participation 50

CHAPTER 5
Conclusions and strategic recommendations for FAO 55
  5.1 The evidence of the impact of international voluntary standards is relatively weak 56
5.2 The impact of voluntary standards on smallholders is case-specific 58
5.3 Smallholders need to be organized to be able to participate in certified value chains 59
5.4 Governments can provide services that make participation easier 60
5.5 Lessons and ways forward 61

ANNEX 1
Potential objectives of impact assessment 63

ANNEX 2
Concepts and approaches used in the literature 65

ANNEX 3
Evidence base 67

ANNEX 4
FAO publications containing information on impacts of standards 75
Other research, unpublished 77
Other FAO references used in the text 77

ANNEX 5
References (not FAO) 79

TABLES
1. Most cited studies 6
2. Validity and reliability of empirical studies 9
3. Standards systems characteristics 16
4. Country shares of world coffee production and of three types of certified coffee 2009 42

FIGURES
1. Evidence base by year and rigour 10
2. Studies by sector or commodity 11
3. Geographic distribution of cases 12
4. Proposed generic framework for analysis by FAO of the impact of voluntary standards on the participation of smallholders in the chain 13
5. Standards systems 17
6. Number of cases by standard 20
7. Correlation between standard and adoption determinants at farmer level 37
8. The importance of group membership – 51 cases 39
9. Importance of institutional context (63 cases) 41
10. Costs and Benefits (29 highly rigorous cases) 45
11. Smallholder market participation (49 cases) 51
Preface

Over the last two decades global markets have seen a growing supply and demand for food and other agricultural products that possess specific quality characteristics linked to composition, origin, production method or terms of trade. Originally emerging from consumer concerns over food safety, unfair trade practices and environmental degradation, the global agrifood system has developed complex value chains that coordinate this supply and demand through the use of voluntary standards, labels and regulations. Often, though, these standards are stricter than mandatory regulations and concerns have been raised by FAO member states as to the exclusionary nature of these standards, particularly for small-scale producers.

The fate of small-scale producers in highly standardized value chains is of particular concern given their important role in domestic and international markets. Smallholders are recognized worldwide as key producers of food and other agricultural products and are the main providers of certified products in some export countries. At the same time, it is in rural areas and the smallholder sector where high indices of poverty prevail. Therefore, as part of FAO’s mandate of achieving food security for all, particularly through inclusive and efficient value chains, it is imperative to add to the body of knowledge that shows how smallholder’s ability to participate in markets is affected by voluntary standards.

This publication contributes to the achievement of FAO’s Strategic Objective Four: Enable inclusive and efficient agricultural and food systems. It sheds light on the determinants of smallholder participation in markets, in particular differentiating between enabling institutional factors and those related to on-farm conditions and value chain contexts. To this aim the study relies on evidence from the most recent empirical literature.

The results of this report will serve to assist policy-makers and practitioners in their decision-making. FAO is confident that this report will contribute to furthering the debate on a topic where mixed results are very much its distinctive feature.
Acknowledgements

The authors would like to thank Florence Tartanac (Rural Infrastructure and Agro-Industries Division, FAO) for her valuable contributions to this study. They also thank the three peer-reviewers, David Neven (FAO AGS), Emilie Vandecandelaere (Food Safety Branch, FAO) and Oliver von Hagen (International Trade Centre), for their feedback and reviews. The authors would like to thank their FAO colleagues – Eva Gálvez-Nogales, Pascal Liu, Irene Hoffman, and Calvin Miller – for their constructive comments on previous drafts. Thanks also go to Larissa D’Aquilio for production coordination, Jim Collis for copy editing, Monica Umema for layout and design, and Lynette Chalk for proof-reading. Finally authors are thankful to Pilar Santacoloma for the technical oversight of the report.
Executive summary

This literature review was conducted in response to a request from FAO member countries at the Committee on Agriculture (COAG) in 2010. Member countries specifically asked to be informed of the impact of voluntary standards on the ability of smallholders to participate in markets. The objective is to present an overview of the results of empirical studies conducted by independent researchers to date in the agricultural, fisheries and forestry sectors. The contribution of this study to the literature on the impact of international voluntary standards is twofold. First, it is the most extensive review completed to date (in terms of the breadth of standards included) that focuses specifically on the issue of market access for smallholders in developing countries. Second, the conclusions and recommendations focus specifically on the role that FAO can play in ensuring that international voluntary standards are inclusive and equitable. Policy advisers, academics and practitioners will find these results of interest.

When analysing the impact of voluntary standards and the related certification systems, it is important to highlight the main function of these schemes, as they represent far more than just a written standard. Rather, they consist of a system of activities or functions that must work together to ensure that the best practices embodied in the standard can be implemented and complied with. These standards systems consist of a mix of the following components: standards and standard-setting, private conformity assessment, certification and accreditation, labelling, a premium and scheme services. These components are organized in different ways in each of the standards systems currently in use. The use of particular combinations of components depends on the market in which the standard operates, as well as the contexts of implementation and enforcement.

The evidence base for this systematic literature review consists of 101 studies containing 123 cases. This includes project reports, peer-reviewed journal articles and grey literature. Literature was disaggregated according to the type of study and methodological rigour in order to obtain a broad overview of the existing literature and to give greater weight to the highly rigorous studies. Much of the literature was found to draw upon a core set of empirical studies that focus mainly on three standards (GlobalGAP, Fairtrade and Organic). These studies concentrated on a few popular countries (Costa Rica, Kenya, Mexico, Peru and Uganda) and emerged from key long-term development or donor-funded research projects, or they were commissioned by interested non-governmental organizations. Thus, the focus of these research projects is tied closely to donor objectives. Only a small set of research projects focused on market participation by smallholders. Much of the existing independent academic literature focused on two areas that were not considered in this review: (1) environmental impacts not necessarily connected with the certification mechanism; or (2) standards and certification as systems of governance.
The literature analysis was based on the conceptual framework of an ‘impact pathway’ where an impact can be analysed in terms of immediate results after certification (outputs), short-term outcomes and long-term impact. This framework illustrates that the impact of a standard will depend on the content of the standard: on the one hand the stringency of its technical requirements for production methods and product characteristics; and on the other hand the organizational demands of the verification system. Another important factor influencing the impact of the standard is whether the standards system has inbuilt support services.

The impact of these characteristics of the standards system also depends on the context in which the standard is implemented. For example, if a producer already uses production methods that conform to the technical requirements, these technical requirements will have no impact as such. However, some impact always occurs when a producer is required to demonstrate compliance. This conceptual framework also recognizes that market participation is an intermediary impact and not a development outcome *per se*. In other words, the authors are not suggesting that market participation is the same as economic development, sustainability or food security. Market participation is just one step on the road to broader and longer-term impacts on development.

A set of variables was identified as important for understanding the impact of voluntary standards on smallholder market participation. One set of variables is adoption determinants – i.e. factors at farmer level such as farm size, household wealth, household size, education or experience, off-farm activities and distance to an urban centre or market – which influence whether farmers adopt the standard. At the farming system level, the study reviewed indicators of economies of scale, group membership and institutional contexts. Profitability outcomes were identified and data was collected on profits, price, yields, quality, knowledge or capacity-building, reputation effects, compliance and production costs.

Finally, the study discussed the way in which the following aspects of voluntary standards can condition smallholder market participation: vertical coordination, smallholder upgrading, rural employment and small farmer and exporter inclusion in certified markets.

The following trends were found in the literature:

1. There is some evidence of economies of scale in certified markets and a tendency for self-selection in these systems as farmers and exporters with the means to make the initial investments are the first to join. Some studies have shown that the ability of exporters and farmers to meet the requirements of voluntary standards depends largely on greater assets, knowledge of certification requirements and pre-existing relationships with certified value chains. Self-selection is strongly related to the evidence of exclusion found in standards that focus primarily on advanced food safety issues.

2. There is evidence that the choices made by retailers, manufacturers and importers regarding types of quality, safety and sustainability standards, as well as the producers they are willing to work with, are fundamental to the ability of voluntary standards to impact smallholder market participation positively. In other words, there is evidence that buyer preferences, pre-existing buyer–supplier relations and producer organizational structures are selection mechanisms for the adoption of standards by small-scale producers.
3. The institutional contexts within which smallholders operate are important. Recent research has begun to pay attention to institutional contexts in order to understand how standards interact with pre-existing norms of production and trade. A necessary but insufficient condition for increasing smallholder participation in markets is national institutions to support compliance by farmers with standards that reflect a market demand.

4. In most sectors and countries, compliance with standards and certification does increase costs, but also increases farmgate prices. Some evidence of increased profitability was found for Fairtrade and Organic certification, but the evidence is not conclusive.

There is evidence of rural employment in certified value chains. However, the literature suggests that this may be the result of a shift from smallholder agriculture to employed labour in certified farms. In addition, there is insufficient literature to provide an aggregate picture of the influence of certified agriculture on rural employment trends. The results of this study provide evidence for the following conclusions.

**The evidence of the impacts of voluntary standards is still weak.** Overall, there is a significant amount of repetition in recent literature reviews, with many reviews consistently drawing upon the same studies. This limits the current knowledge base and the ability to draw meaningful generalizations. There is a clear need to conduct new empirical studies in order to avoid further repetition.

**The impact of voluntary standards is very context-specific.** The differences in standards systems and the geographic, institutional and value-chain differences of each product demonstrate that the way in which standards influence smallholder market participation is extremely context-specific. It is therefore difficult to draw general conclusions about the exclusionary or inclusionary nature of a particular standard, as the literature shows evidence of both tendencies.

**Smallholders need to be organized in commercially viable arrangements to be able to participate in certified value chains.** The most strongly supported conclusion from this study is that smallholders can access certified markets only through group certification. They need to form associations or cooperatives, or be part of an outgrower scheme in a contract farming situation. Future research or interventions might seek to support these initiatives in order to achieve more equitable outcomes for smallholders.

**Governments can provide services that make participation easier.** Contrary to earlier studies, recent empirical studies and comprehensive literature reviews have recognized that there is indeed a role for governments in voluntary standards. There has been a shift in the literature from referring to voluntary standards as purely private mechanisms to a recognition of synergies and hybrid models of governance that include voluntary standards in relation to public institutions. It is suggested that the most positive impacts are to be found when public and private initiatives interact.
Based on the above conclusions, the following recommendations for FAO are proposed.
1. FAO should collaborate in ongoing efforts to improve impact assessment.
2. FAO should focus on the impact of voluntary standards by exploring the extent to which they can promote the uptake of agricultural, manufacturing and management good practices that are known to help improve market access for smallholders.
3. FAO should facilitate research and public–private interventions that focus on smallholder organization in order to achieve more equitable outcomes for smallholders in certified value chains.
4. FAO should collaborate with other United Nations organizations to provide advice to member governments on when and how to engage voluntary standards and on which services to provide to improve smallholder market participation.
5. FAO could provide an intersectoral forum where existing and new work programmes on international voluntary standards can be discussed and developed.
Abstract

Over the past twenty years, international voluntary standards have gained prominence in global trade. These standards are developed and used by both private and public actors to ensure quality, food safety, social protection and environmental conservation that go beyond mandatory regulation. Concerns have been consistently raised about the ability of international voluntary standards to increase the market access of small-scale producers and exporters in developing countries. This publication presents the results of a literature review conducted by FAO in 2012 on the impact of voluntary standards on smallholders’ ability to participate in markets. The results are based on an analysis of 101 studies containing 123 cases. Cumulatively, these cases presented evidence for 19 voluntary standards that were implemented in 14 commodity sectors and in 40 countries. Despite this broad scope, the authors find that the majority of the empirical evidence for impacts comes from studies of just three standards: GlobalGAP, Fairtrade and organic. Moreover, most studies focus on two commodities: coffee and horticulture products. While there is a decent range of geographic cover, the majority of studies focus on a handful of countries: Mexico, Kenya, Peru, Costa Rica and Uganda. This study adopts an impacts pathway model to organize and analyse the trends found in the empirical evidence. The results can be summarized as follows: first, equitable and sustainable supply chain linkages, increased access to assets, and support for cooperative development are incentives for complying with standards. Second, both public and private actors have comparative advantages for supporting voluntary standards and are most effective when combined. Finally, governments can provide services, for example infrastructure and proper legislation, which facilitate the inclusion of smallholders in certified value chains. The study concludes by making policy recommendations on how the public sector can mediate the effects of voluntary standards.
About the authors

Allison Loconto holds a Ph.D. in Sociology from Michigan State University, United States of America. She is a researcher at the French National Institute for Agricultural Research (INRA), Science in Society laboratory (INRA-SenS) and the French Institute for Research, Innovation and Society (IFRIS) at the University of Paris-Est Marne-la-Vallée. She is currently a Visiting Expert at FAO Rural Infrastructure and Agro-Industries Division.

Cora Dankers holds an M.Sc. in Tropical Agronomy from Wageningen University, The Netherlands. She has been working for FAO since 1999 on projects facilitating farmer-market linkages in the Plant Production Division, the Trade and Market Division and the Rural Infrastructure and Agro-Industries Division and also conducted research on voluntary standards for FAO. She is currently Agribusiness Economist at FAO Rural Infrastructure and Agro-Industries Division.
## Acronyms

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AOC</td>
<td><em>Appellation d’origine contrôlée</em> (controlled appellation of origin)</td>
</tr>
<tr>
<td>ASI</td>
<td>Accreditation Services International</td>
</tr>
<tr>
<td>B2B</td>
<td>Business-to-business</td>
</tr>
<tr>
<td>BCI</td>
<td>Better Cotton Initiative</td>
</tr>
<tr>
<td>BMC</td>
<td>Botswana Meat Council</td>
</tr>
<tr>
<td>BRC</td>
<td>British Retail Consortium</td>
</tr>
<tr>
<td>CAC</td>
<td>Codex Alimentarius Commission</td>
</tr>
<tr>
<td>CAFE Practices</td>
<td>Starbucks Coffee and Farmer Equity Practices</td>
</tr>
<tr>
<td>CmiA</td>
<td>Cotton made in Africa</td>
</tr>
<tr>
<td>COAG</td>
<td>Committee on Agriculture</td>
</tr>
<tr>
<td>DOCG</td>
<td><em>Denominazione di origine controllata e garantita</em> (controlled and guaranteed denomination of origin)</td>
</tr>
<tr>
<td>ENTWINED</td>
<td>Environment and Trade in a World of Interdependence</td>
</tr>
<tr>
<td>EPOPA</td>
<td>Export Promotion of Organic Products from Africa</td>
</tr>
<tr>
<td>ETI</td>
<td>Ethical Trading Initiative</td>
</tr>
<tr>
<td>FFP</td>
<td>Fair Flowers and Plants</td>
</tr>
<tr>
<td>FFV</td>
<td>Fresh fruit and vegetable sector</td>
</tr>
<tr>
<td>FLO</td>
<td>Fairtrade International</td>
</tr>
<tr>
<td>FLO-CERT</td>
<td>Fairtrade Labelling Organizations International Certification Body</td>
</tr>
<tr>
<td>FLP</td>
<td>Flower Label Programme</td>
</tr>
<tr>
<td>FMI</td>
<td>Food Marketing Institute</td>
</tr>
<tr>
<td>FSC</td>
<td>Forest Stewardship Council</td>
</tr>
<tr>
<td>GAP</td>
<td>Good Agricultural Practices</td>
</tr>
<tr>
<td>GEF</td>
<td>Global Environment Facility</td>
</tr>
<tr>
<td>GI</td>
<td>Geographical indications</td>
</tr>
<tr>
<td>GIZ</td>
<td><em>Deutsche Gesellschaft für Internationale Zusammenarbeit</em> GmbH (German Agency for International Cooperation)</td>
</tr>
<tr>
<td>HACCP</td>
<td>Hazard Analysis and Critical Control Points</td>
</tr>
<tr>
<td>Acronym</td>
<td>Full Form</td>
</tr>
<tr>
<td>---------</td>
<td>-----------</td>
</tr>
<tr>
<td>HLPE</td>
<td>High Level Panel of Experts on Food Security and Nutrition of the Committee on World Food Security</td>
</tr>
<tr>
<td>ICC</td>
<td>International Code of Conduct for Cut Flowers</td>
</tr>
<tr>
<td>ICS</td>
<td>Internal control systems</td>
</tr>
<tr>
<td>IFOAM</td>
<td>International Forum of Organic Agriculture Movements</td>
</tr>
<tr>
<td>IIED</td>
<td>International Institute for Environment and Development</td>
</tr>
<tr>
<td>IISD</td>
<td>International Institute for Sustainable Development</td>
</tr>
<tr>
<td>ILO</td>
<td>International Labour Organization</td>
</tr>
<tr>
<td>IOAS</td>
<td>International Organic Accreditation Service</td>
</tr>
<tr>
<td>IP</td>
<td>Intellectual property</td>
</tr>
<tr>
<td>ISEAL Alliance</td>
<td>International Social and Environmental Accreditation and Labelling Alliance</td>
</tr>
<tr>
<td>ISO</td>
<td>International Organization for Standardization</td>
</tr>
<tr>
<td>ITC</td>
<td>International Trade Centre</td>
</tr>
<tr>
<td>MSC</td>
<td>Marine Stewardship Council</td>
</tr>
<tr>
<td>NGO</td>
<td>Non-governmental organization</td>
</tr>
<tr>
<td>NRI</td>
<td>National Resources Institute</td>
</tr>
<tr>
<td>OECD</td>
<td>Organisation for Economic Co-operation and Development</td>
</tr>
<tr>
<td>ONAPES</td>
<td>Organisation Nationale des Producteurs – Exportateurs de Fruits et Légumes du Sénégal</td>
</tr>
<tr>
<td>PEFC</td>
<td>Programme for the Endorsement of Forest Certification</td>
</tr>
<tr>
<td>PGS</td>
<td>Participatory guarantee systems</td>
</tr>
<tr>
<td>PMO</td>
<td>Produce Marketing Organizations</td>
</tr>
<tr>
<td>RA</td>
<td>Rainforest Alliance</td>
</tr>
<tr>
<td>RSPO</td>
<td>Roundtable on Sustainable Palm Oil</td>
</tr>
<tr>
<td>SA8000</td>
<td>Social Accountability 8000 standard</td>
</tr>
<tr>
<td>SAAS</td>
<td>Social Accountability Accreditation Services</td>
</tr>
<tr>
<td>SAI</td>
<td>Social Accountability International</td>
</tr>
<tr>
<td>SAN</td>
<td>Sustainable Agriculture Network</td>
</tr>
<tr>
<td>SCS</td>
<td>Scientific Certification Systems</td>
</tr>
<tr>
<td>SEPAS</td>
<td>Sénégalaise d’Exportation de Produits Agricoles et de Services</td>
</tr>
<tr>
<td>SPP</td>
<td>Símbolo de Pequeños Productores (Small Producers’ Symbol)</td>
</tr>
<tr>
<td>SQF</td>
<td>Safe Quality Food</td>
</tr>
<tr>
<td>SQFI</td>
<td>Safe Quality Food Institute</td>
</tr>
<tr>
<td>SSI</td>
<td>State of Sustainability Initiatives</td>
</tr>
<tr>
<td>Acronym</td>
<td>Full Name</td>
</tr>
<tr>
<td>---------</td>
<td>-----------</td>
</tr>
<tr>
<td>STAP</td>
<td>Scientific and Technical Advisory Panel</td>
</tr>
<tr>
<td>UNCTAD</td>
<td>United Nations Conference on Trade and Development</td>
</tr>
<tr>
<td>UNEP</td>
<td>United Nations Environment Programme</td>
</tr>
<tr>
<td>UNIDO</td>
<td>United Nations Industrial Development Organization</td>
</tr>
<tr>
<td>VICOFA</td>
<td>Vietnamese Coffee and Cocoa Association</td>
</tr>
<tr>
<td>WHO</td>
<td>World Health Organization</td>
</tr>
<tr>
<td>WWF</td>
<td>World Wildlife Fund</td>
</tr>
</tbody>
</table>
Chapter 1

Introduction

1.1 BACKGROUND
Since the 1980s there has been growing consumer demand for food and other agricultural products with specific characteristics linked to composition, origin, production method or terms of trade. This led to the emergence of numerous voluntary standards, labels and regulations associated with such products, which impact domestic and international markets.

FAO has been providing member countries with information and technical support on a variety of voluntary standards and certification schemes for the past decade. In 2007, the 20th session of the Committee on Agriculture (COAG) stated the need for FAO to provide policy advice and capacity-building support relating to industry standards and requirements, and not only with respect to official and international standards. In response to this request, FAO officers established an informal interdepartmental contact group on voluntary standards and schemes for specific quality food and agricultural products. In 2009 the group prepared a resource paper on voluntary standards and schemes for specific quality products. Since that time, the group has not been active in a collective capacity, but its members have continued to be involved in technical and project work related to standards at department level.

At the 32nd session of the Codex Alimentarius Commission (CAC), FAO and the World Health Organization (WHO) presented a submission to CAC focusing on raising awareness and orienting discussions on private standards. One of the recommendations was that FAO engage with the organizations that establish private food safety standards and play a constructive role in ongoing debates about the legitimacy and impacts of these standards (Henson and Humphrey 2009).

More recently, the 22nd Session of COAG (June 2010) recommended that the FAO Secretariat undertake a study of the impact of private standards on smallholder market participation. Smallholders are important for the production of food and non-food products. Smallholder agriculture is considered to be the largest provider of non-marketed food and raw materials at a global level and it is also the leading source of employment in rural areas (HLPE 2012). In some key export markets for certified products, smallholders are the predominant group of producers. For example, smallholders are responsible for more than 60 percent of tea production in Kenya (Kinyili 2003) and around 70 percent of coffee worldwide is produced by smallholders (Potts et al. 2010). However, smallholders are often disadvantaged and rural poverty accounts for about 75 percent of world poverty (FAO 2012). When market conditions are favourable, the High Level Panel of Experts on Food Security and Nutrition of the Committee on World Food Security (HLPE 2012) found that smallholders can respond positively. This includes innovation, organization
for accessing new market opportunities, upgrading into processing activities and increasing their market power. Interest in how private standards impact the ability of smallholders to participate in markets is therefore important for FAO’s mandate of achieving food security for all.

1.2 PURPOSE AND SCOPE OF THE STUDY
In response to their request at COAG, the core purpose of this literature review is to inform FAO member countries about the impact of voluntary standards on smallholder market participation. This technical report helps to further understanding of the challenges that voluntary standards may pose to efficient and inclusive value chains. Its messages are targeted at policy advisers, academics and standards practitioners. The objective is to present an overview of the results of independent, empirical studies undertaken to date. A secondary objective is to identify major gaps in the current literature and areas that may be of interest for further research by FAO. Therefore this study makes a twofold contribution to the literature on the impact of international voluntary standards. First, it is the most extensive review completed to date (in terms of breadth of standards included) that focuses specifically on the issue of market access for smallholders in developing countries. Second, the conclusions and recommendations are specifically focused on the role that FAO can play in ensuring that international voluntary standards are inclusive and equitable.

The scope of the study is limited to the impact of international voluntary standards in the agricultural, fisheries and forestry sectors. Mandatory standards (regulations) are not discussed except in passing. The study is also limited to standards schemes in which compliance with the standard is determined through third-party certification or another form of verification (e.g. first- or second-party).

As with any literature review, this study has a number of limitations. First, it is limited to the availability of studies containing the keywords that the authors searched for and published in the public domain during the commissioning period of the FAO study. Second, as biases present in the original studies (e.g. sampling bias) are carried over into the aggregate study, care should be taken in making broad generalizations from these results. Third, voluntary standards schemes is a fast-moving field where stakeholders are in constant dialogue and regularly seek to improve their systems. This means that both the standards and the systems put into place to implement them have changed significantly since the first study in the authors’ dataset was commissioned in 1993. The recent move towards multi-stakeholder initiatives means that more stakeholders are gaining a voice within the standard-setting process and some of the problems encountered during implementation may be remedied over time. Nonetheless, the value of a literature review is its ability to expose the state of knowledge on how voluntary standards are affecting the market participation of smallholders and to point to future directions for both research and practice.

1.3 EXISTING FAO STUDIES ON THE IMPACT OF VOLUNTARY STANDARDS
FAO is no newcomer to work on voluntary standards. The first fairly comprehensive FAO publication on voluntary standards was probably ‘Fisheries Technical Paper No. 422: Product certification and ecolabelling for fisheries sustainability’ in
2001. Since then, FAO has published many papers and guides on voluntary standards and labelling. A list of FAO publications containing an impact analysis, which were available at the time of publication, can be found in Annex 4.

These publications are linked to regular programme-funded work as well as to specific technical assistance projects. The geographic coverage in FAO studies is quite balanced, reflecting the global scale of FAO engagement. The work on voluntary standards is carried out both independently and collaboratively between FAO departments. With regard to breadth of coverage, organic certification has received most attention in FAO documents, followed closely by good agricultural practices (GAP) and food safety standards.

As regards the type of impact analysis, the focus of the majority of FAO studies has been on conducting either empirical or theoretical cost–benefit analyses. There are only three FAO studies that investigate the impact on the value chain (structure, smallholder participation, revenue distribution): one on the banana value chain and the other two are commissioned papers providing a more general discussion of existing literature. The remaining FAO papers contain theoretical discussions of the potential impact on smallholder participation. The relevant empirical studies conducted or commissioned by FAO have been included in the results section of this literature review.
Chapter 2
Methodology

This study employed a systematic literature review method to produce both quantitative and qualitative descriptions of the knowledge base relating to voluntary standards in the agriculture, fisheries and forestry sectors in developing countries. Analysis of these data was conducted according to an ‘impact pathway’ framework, which is explained in section 2.3.

The selection of studies to be included in the evidence base was a two-step process. First, the second author used the bibliographies from recently published systematic literature reviews of the impact of voluntary standards on value chains and on producers by the International Trade Centre (ITC). This literature was re-examined from a smallholder market-access perspective. Additional literature was included in the original dataset through a snowball sampling method of looking up references for appropriate articles and by searching the internet for more literature by specific authors. Following the ITC (2011a) method, the ScienceDirect database was further searched for specific terms, such as ‘economies of scale and certification’. Applicable FAO publications were also included in the original dataset. Second, the first author reviewed the literature collected by the second author and conducted interrater reliability tests on the analysis of the documents. These tests revealed ‘almost perfect agreement’ between the two authors, which means that interpretation of the data was consistent between the two authors.1

Subsequently, the second author expanded the corpus of documents in three ways. First a number of parallel studies were conducted by international multi-stakeholder initiatives and United Nations organizations during the same period as the commissioning of the FAO study. Hence a review of the bibliographies of the ten literature reviews conducted by relevant agencies between 2003 and 2012 (seven of the ten had been conducted between 2009 and 2011) revealed additional references that were not included in the first stage of data collection, particularly grey-literature references. Comparison of these studies reveals a significant overlap, with

1 The Cohen’s Kappa = 0.89 (p <0.001) with a 95 percent confidence interval (0.803–0.971). These interrater reliability statistics illustrate ‘almost perfect agreement’ (Cohen’s Kappa range = 0.81–1.00) between the two researchers’ interpretations of the 100 variables included in the tested sample (Landis and Koch 1977). The 100 variables tested included a mix of seven antecedent variables, the seven institutional variables and the eight profitability variables found in ten studies, as not all studies contained all variables. The ‘almost perfect agreement’ is the highest range possible for interrater reliability statistics. In other words, at least 89 of the 100 variables were interpreted in exactly the same way by the two researchers. This means that even though the analysis was carried out by two different researchers, there was consistent interpretation by both researchers. This makes the coding of the data valid and reliable.
Impact of international voluntary standards on smallholder market participation

82 percent of the literature appearing in two or more studies. A few outstanding publications appeared in five or six of the ten recent literature reviews (see Table 1). This illustrates the influence of a core group of six studies on the key conclusions of recent literature reviews. This recognition of repetition points to a saturation of literature reviews and the need to conduct new empirical studies, rather than to repeat literature reviews.

Second, the keyword searches were repeated in a ScienceDirect Scopus search and Web of Science to identify articles published in 2012. Third, the websites of the main donor agencies involved in technical assistance projects that included a certification component were searched for relevant project reports on these activities. Owing to the difficulty in accessing internal evaluations and lack of detailed information for FAO project evaluations, the authors relied upon project reports and evaluations that have been published in the public domain. These searches revealed additional publications of interest for the study and resulted in an initial corpus totalling 340 documents.

Table 1

<table>
<thead>
<tr>
<th>Authors</th>
<th>Year</th>
<th>Type</th>
<th>Method</th>
<th>Rigour</th>
<th>Standard</th>
<th>Sector</th>
<th>Country</th>
<th>Freq</th>
<th>Cite</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dolan; Humphrey</td>
<td>2000</td>
<td>Journal article</td>
<td>Qualitative</td>
<td>Medium</td>
<td>GlobalGAP</td>
<td>Horticulture</td>
<td>Kenya; Zimbabwe</td>
<td>5</td>
<td>666</td>
</tr>
<tr>
<td>Bacon</td>
<td>2005</td>
<td>Journal article</td>
<td>Quantitative</td>
<td>Medium</td>
<td>Fairtrade</td>
<td>Coffee</td>
<td>Nicaragua</td>
<td>6</td>
<td>327</td>
</tr>
<tr>
<td>Raynolds; Murray; Taylor</td>
<td>2004</td>
<td>Journal article</td>
<td>Qualitative</td>
<td>High</td>
<td>Fairtrade; Organic</td>
<td>Coffee</td>
<td>Mexico; El Salvador; Guatemala</td>
<td>5</td>
<td>135</td>
</tr>
<tr>
<td>Bass; Thornber; Markopoulos; Roberts; Grieg-Gran</td>
<td>2001</td>
<td>Report</td>
<td>Qualitative</td>
<td>High</td>
<td>FSC; PEFC; ISO 14000; National Forestry Standard</td>
<td>Forestry</td>
<td>Bolivia; Brazil; Honduras; Mexico; Papua New Guinea; Zambia; South Africa</td>
<td>5</td>
<td>129</td>
</tr>
<tr>
<td>de Battisti; McGregor; Graffham</td>
<td>2009</td>
<td>Project report</td>
<td>Qualitative</td>
<td>Medium</td>
<td>GlobalGAP</td>
<td>Horticulture</td>
<td>Kenya; Uganda; Zambia</td>
<td>5</td>
<td>35</td>
</tr>
<tr>
<td>Mendoza; Bastiaensen</td>
<td>2003</td>
<td>Journal article</td>
<td>Quantitative</td>
<td>Low</td>
<td>Fairtrade</td>
<td>Coffee</td>
<td>Nicaragua</td>
<td>5</td>
<td>27</td>
</tr>
</tbody>
</table>

Source: authors

1 Frequency refers to the number of times the study appears in the recent literature reviews.

2 Cite refers to the number of times the study was cited in Google Scholar’s Citation Index as of 01/09/2012.
Chapter 2 – Methodology

Based on a review of keywords and abstracts, and the elimination of repeated citations, studies that were selected for inclusion in the evidence base provided that they met the following six criteria:

1. **Access**: full text access online from the publisher or through library bibliographic databases.
2. **Empirics**: focus on primary empirical data (*ex post* analysis) rather than *ex ante* simulation or theory-building discussions of secondary data.
3. **Sectoral focus**: agriculture, forestry, fisheries, and general (but not tourism, mining, textiles, or other industrial sectors)
4. **Impact level**: focus on production level or value chain impacts rather than on consumer demand, policy or governance aspects of the certification system.
5. **Geographical focus**: developing countries or countries in transition.
6. **No conflict of interest**: Researchers had to be independent from standards organizations, meaning that they were not employed by the organization when the study was published, nor was the study funded by a standards organization.

This resulted in a total of 138 studies. These studies were then read in their entirety and those that met the above six criteria fully, in addition to focusing specifically on the research question for this study (the impact of private standards on smallholder market participation), were selected. Studies that repeated results from the same research samples were also eliminated to reduce double reporting, with the result that 101 studies make up the evidence base in this review. Studies that did not meet the final criteria, but discuss governance issues related to standards, were used to inform the impacts framework for organizing the results.

### 2.1 ATTRIBUTING IMPACT AND CONSTRUCTING THE EVIDENCE BASE

To attribute change or differences in indicators (e.g. profitability) to the effect of the standard and certification, it is necessary to establish counterfactual evidence. Counterfactuals are evidence of what the indicator outcome would be if the farmer or chain had not been certified (Blackman and Rivera 2011). There are two ways to gather counterfactual evidence: in an experimental research design or through statistical techniques that can control for such factors. In an experimental design, two groups of farmers would be randomly selected and one group would become certified while the other group would not. This entails building a research experiment into a certification project from the outset, which has not been done to date. It also raises ethical concerns regarding the use of experiments within development projects, which has not been addressed in the literature.

In the existing literature on impact at farmer level, credible counterfactual evidence is generated by selecting a control group of non-certified farmers who have similar characteristics and comparing their results with those of the certified group. This quasi-experimental design uses *ex post* analysis and statistical controls to determine correlations between variables. Despite these similarities, certified farmers

---

3 The number of individual cases reported is 123, as some papers recorded multiple cases with different outcomes. In an attempt to reduce confusion, these cases were separated out in the analysis.
may have characteristics that increase the likelihood of them opting for certification. Factors influencing the outcome of the indicators may therefore exist that are not the result of certification but of these pre-existing characteristics.

Some researchers also note the problem of distinguishing between the effects of implementation of the production methods as prescribed by the standard and the effect of certification as a marketing or management tool. Problems may also arise because non-certified farmers employ some of the practices required by the standard and certified farmers may not apply all of the recommended practices. However, for the purpose of this study this level of disaggregation was not considered to be an important problem as FAO member countries are probably interested in the combined effects of certification and the change in production practices that certification requires. Highly reliable studies include a comparison of the combined impact with a control group.

At the level of the value chain it is more difficult to establish counterfactual evidence and attribute change to voluntary standards. It is well-nigh impossible to find a comparable non-certified ‘control chain’. Within the same country farmers may participate in both chains at the same time, and non-certified chains with a supply base in another country will operate under conditions too dissimilar to be comparable. Indeed, no study on the impact of certification on market participation of smallholders has been found to have strong counterfactual evidence, whereas there are several for the impact on the profitability of producers.

An alternative approach is to compare the situation in the same value chain pre- and post-standard implementation. However, the implementation of standards is a gradual process, starting with a small number of certified actors that gradually expands. Impact can therefore only be measured over an interval of at least five years. Global value chains are constantly evolving, even with this alternative approach, so the attribution of change to standards will be difficult. In fact, only a limited number of methodologically rigorous studies have taken this approach to date.

In recognition of these challenges to impact assessment, this study mobilizes both qualitative and quantitative studies in an attempt to obtain a broad overview of the evidence base. Therefore, this study endeavours to capture the broad range of effects and outcomes to which voluntary standards contribute, rather than focusing purely on those that can be fully attributed to standards.

To this end the authors have analysed the evidence base as a whole, using different clustering techniques. First studies that met the six criteria were grouped into two categories: (1) empirical studies; and (2) project reports. These two types of studies were evaluated as either quantitative or qualitative and were further coded according to the validity and reliability of the results based on study design and data collection methods (see Table 2).

Validity (internal and external) and reliability are essential to determining the attribution of impact. These measures give an indication of the rigour used in the study and the degree of confidence that the results of the study are valid. Measures of validity and reliability differ for quantitative and qualitative studies, given their different purposes. Quantitative methods are appropriate when seeking to understand why certain outcomes occur according to correlations between variables and to make generalizations to an entire population (Cook and Campbell 1979). Qualitative methods are appropriate for contextually understanding why some
Chapter 2 – Methodology

outcomes occur, for exploring new phenomena and understanding how certain processes occur or influence activities (Patton, 1990). While qualitative methods cannot determine causal impact, they can provide context and details that can shed light on the attribution of impact.

Given the challenges involved in evaluating the standards systems mentioned above, the authors did not attempt to analyse only studies with results that can be generalized or only studies that show causality. Rather, they relied upon the coding of the data in order to seek trends in the literature (cf. Glaser and Strauss 2007 [1967]). They coded the data according to date published, type of paper, standard, sector and country. These variables have provided descriptive statistics of the entire corpus, as well as the possibility of conducting simple cross-tabulations for correlations between two sets of variables using Excel and SPSS. Specific variables for impact were also identified and are presented in the results section of Chapter 3 of this report. The impact variables are either binary variables where the variable is either present (yes) or not present (no), or they are significance variables. Significance variables mean that the study conducted statistical (or qualitative) analysis to determine that there is a relationship (positive or negative) between the variable and the standard. No significance means that there was a non-significant relationship found in the analysis or no relationship was found at all.

### 2.2 Descriptive Statistics of the Evidence Base

The evidence base reveals that the study of the impact of standards on market participation is a rather recent development, with the first study conducted in 1993 and the largest concentration of studies conducted between 2007 and 2011 (see Figure 1). Seventy-five percent of the studies were empirical, but only 44 percent have been peer reviewed. This means that the majority of the literature (70.73 percent)
has been classified as medium- or low-rigour studies. Overall, it was most common for studies to employ a medium level of rigour in their data collection and analysis methods (42 percent). We found that only 36 studies were highly rigorous and the majority of these (n=30) were quantitative. We also found that none of the project reports employed highly rigorous methods and were mostly qualitative. In addition, methodological rigour was found to remain rather consistent during the early years of investigation, with low rigour a common feature, while medium and highly rigorous studies are more common over the past two years. Since 2005 there has been a clear shift in the quantitative literature towards more highly rigorous methods. In

Source: authors

NB: The evidence base is composed of 123 separate studies.
Figure 1, the spikes that occur between 2006 and 2010 represent the publication of a number of project reports and peer-reviewed articles that emerged following the closure of research and development projects underway during the early 2000s. The increase in studies also reflects concerns raised about the negative impacts of GlobalGAP on smallholders by earlier, highly cited studies.

Certain commodities and countries are particularly well studied, with coffee and horticulture dominating the literature (see Figure 2). This commodity bias is also reflected in the coverage of the standards where Fairtrade, Organic and GlobalGAP dominate. The reason for this becomes clear when examining the geographic distribution of the studies (see Figure 3). The most highly studied countries have been the focus of donor-funded projects for GlobalGAP (Kenya) and research projects on Fairtrade and Organic coffee (Mexico and Peru).

2.3 IMPACT PATHWAYS

The impact of voluntary standards may be analysed at the level of the producer and other chain actors, within the wider environment and on the value chain as a whole. At each level, several impact areas can be distinguished, for which the impact can be analysed in terms of immediate results after certification (outputs), short-term outcomes and long-term impact. See Annex 1 for an overview of possible impact areas.

In September 2010, the International Social and Environmental Accreditation and Labelling (ISEAL) Alliance published an Impacts Code with requirements for its members (standards systems) to help them understand the impact of their standards. Standards organizations are required to develop their theory of change or impact chain, i.e. the pathways through which the standard is likely to have certain
impacts. This framework builds on the concept of impact pathways developed for the evaluation of development projects. It suggests that when there is a variety of inputs into an activity it leads to project related outputs, broader outcomes and eventually impacts, which are either expected or unexpected changes (Roche 1999; ISEAL 2010). How each of these impact factors is defined is determined by their theory of change (Weiss 1972; 1995). In other words, what is observed depends upon the impacts sought by the standards development organizations.

In line with this evaluation trend in voluntary standards, a generic impact framework is proposed in Figure 4 for the impact of voluntary standards on smallholder market participation. This framework is the result of both the themes that emerged in the literature review and the framework for organizing the presentation of results in Chapter 4 of this report. This figure is a result of explorative discussions within FAO that started at the beginning of this project. It is a heuristic tool for understanding impact and not a behavioural model for determining causal impact. Therefore it is a way of visualizing the complex relationships between different ‘variables’ as they contribute to impacting the ability of smallholders to participate in markets.

This framework assumes that a standard’s impact will depend on the content of the standard – on the one hand, the stringency of its technical requirements for production methods and product characteristics and, on the other hand, the
organizational demands of the verification system (i.e. the standards systems variables). The way in which the standards scheme is set up in terms of auxiliary services is also an essential input into the system. Indeed, recent advances in global value chain governance theories have illustrated the power that standards and their systems of compliance can play in governing global value chains (Islam 2008; Tallontire et al. 2011). In the previous sections these characteristics for each of the standards under review. Despite this recognition, the nature of this literature review made it unfeasible to conduct an analysis based on differences in the way standards systems variables impact market participation. Indeed, this level of disaggregation is not found in the literature. Rather, specific practices, such as shade trees or price premiums, were used to differentiate between standards outcomes (e.g., Philpott et al. 2007; Barham and Weber 2012). Only a few recent studies have begun to look at specific aspects of standards schemes, such as certification,
as influencing compliance outcomes differently (e.g., McDermott 2012). This represents a clear gap in the literature.

The impact of these characteristics of the standards system itself also depends on the situation in which the standard is implemented. For example, if a producer already uses production methods that conform to the technical requirements, these technical requirements will have no impact as such. However, some impact always occurs when a producer is required to demonstrate compliance. The situations in which standards are implemented vary in many aspects, and the impact of a standard will never be the same from one country to another, or from one farmer to the next. However, some aspects have been found to have an especially important influence on the impact of a standard. These are summarized in Figure 4 under antecedent variables at farm level, at the level of the value chain and within the institutional context.

Some standard system variables influence the degree of smallholder participation directly, as explained below, mainly in terms of organizational requirements. Others influence the cost of production, yield and quality and, together with the price, this will determine the profitability of certified production. Profitability will also influence whether or not smallholders participate in certified value chains. In other words, the context variables (such as standards system variables, antecedent variables, institutional variables and supply chain organization) will influence the outcomes of the use of standards, which can potentially enable or constrain costs and benefits, as well as determine when and how smallholders will participate in certified markets.

One aspect that is not captured in Figure 4 is that the volume sold and the price received depends on various external factors, such as market demand for certified products and standards trade rules (e.g., minimum prices), as well as characteristics specific to the product, such as quality or origin. Moreover, it is important to recognize that market participation is an intermediary impact and not a development outcome per se. In other words, the authors are not suggesting that market participation is a proxy for economic development, sustainability or food security. Market participation is just one step on the road to broader and longer-term impacts on development. Indeed Figure 4 represents a heuristic tool for understanding impact rather than a normative framework for assigning causal impact.
Chapter 3
Overview of standards and certification systems

3.1 THE KEY FUNCTIONS OF STANDARDS, CERTIFICATION AND LABELLING
When analysing the impact of voluntary standards and the related certification systems, it is important to highlight the main function of these schemes, as they represent far more than just a written standard (see Figure 5). Rather, they consist of a system of activities or functions that must work together in order to ensure implementation and compliance with the best practices written into the rules of the standard. The core difference between voluntary standards and the international public standards of the CAC is the way in which these standards are created and how they are enforced. Voluntary standards are enforced mainly through a system of private conformity assessment (some public standards are voluntary), while the CAC standards are enforced through government adoption and regulation. Each standard system consists of a variety of attributes, which are explained below. These attributes are organized in different ways in each of the standards systems currently in use and the use of particular aspects depends very much on the market that the standard caters to, as well as the contexts of implementation and enforcement (see Table 3).

Standards and standard-setting
A standard is a “document, established by consensus and approved by a recognized body, that provides, for common and repeated use, rules, guidelines or characteristics for activities or their results, aimed at the achievement of the optimum degree of order in a given context” (ISO/IEC Guide 2:2004, definition 3.2).

One of the main objectives of the use of standards is to standardize certain aspects of production and trade. Often this means that all relevant actors adhere to the same procedures or product specifications to facilitate trade, ease logistical procedures, prevent consumer fraud or improve quality. For example, the standardization of weight measurements greatly facilitates trade. However, quality improvements are not an automatic result of standardization. This will only be the case when the advocated standard requirements are an improvement on common practice.

Voluntary standards may be set by governments, international public and private standard-setting bodies or inter-governmental organizations or the private sector, including producer organizations and retailers. Contrary to mandatory governmental regulations, actors are free to choose whether they adhere to voluntary standards or not, even if the voluntary standard may be de facto mandatory for access to certain market segments. For example, organic regulations are considered voluntary standards because even though adherence to the standard is obligatory if actors want to use an organic label, they are still free to choose not to use the organic label.
Certification and accreditation

Conformity assessment is a verification system for which a certificate of compliance with a standard is issued following an audit of the product, process or service that is subject to the standard. This can be conducted by a first, second or third party...
to the market transaction. First-party attestation is where the body conducting the audit is the same body that complies with the standard. This is referred to as self-assessment in voluntary standards systems. Second-party certification occurs when the body that owns the standards scheme conducts the audit on the users of the standard and determines their compliance. Second-party certification can also refer to an internal control system where the buyer or diverse stakeholders in the chain are involved in monitoring compliance with a standard. This is found in organic participatory guarantee systems and geographical indications (GIs). Third-party certification is where the inspection is carried out by an impartial and independent body with no direct interest in either the economic relationship between the supplier and the buyer or the standards scheme owner. These bodies are typically accredited for the International Organization for Standardization (ISO) 17065 standard for conformity assessment. In some cases, the third-party audit may serve only to inspect the rigour of the self-assessment or internal control system. All three types of verification are found in voluntary standards.

4 Adapted from ISO/IEC 17000, 2004. The International Organization for Standardization (ISO) uses ‘certification’ only to refer to third-party certification, while it uses the word ‘attestation’ to refer to all three types of audit. The International Social and Environmental Accreditation and Labelling (ISEAL) Alliance has used the term ‘assurance’ for all three types in its Assurance Code. Consistent with FAO terminology, the word certification has been adopted for all third-party certification activities; for second-party verification when a certificate is released and participatory guarantee systems; and attestation for first-party verification.

Accreditation is the confirmation by an independent oversight body that a certifier is capable of conducting credible and reliable audits. The use of accreditation in voluntary standards has risen dramatically over the past ten years as many standards have adopted the third-party certification model (Hatanaka et al. 2005). There have been a number of claims that voluntary standards have failed to achieve the expected impacts because of conflicts of interest or ineffective certification audits (i.e. the auditors are not detecting non-compliance) (McDermott 2012; Starobin and Weinthal 2010). As a result, standards systems have been experimenting with alternative forms of verification, including participatory audits, which are found in some of the more recently developed standards (Auret and Barrientos 2004).

**Labelling**

Product attributes may be classified as search, experience or credence attributes. Search attributes are characteristics that consumers can examine before purchasing the product, such as price, size and colour. Experience attributes, such as taste, can be evaluated after purchasing the product (Nelson 1970). Credence attributes are the aspects of products that consumers cannot evaluate either before or after purchase (Darby and Karni 1973). Environmentally friendly production methods or other process-related attributes, such as ethical or fair trade, are examples of credence goods. Consumers are likely to be more sceptical about a supplier claim regarding credence attributes because they know they are not in a position to control its validity even after purchase. The role of recognized and trusted labels or quality signs for consumer information purposes is to turn credence attributes into search attributes (Caswell 1998).

Labels can be used for communicating any type of information. ‘Label’ is a generic term. Certification labels, which are owned by the standard-setters, and can only be used after compliance with the standard has been verified, communicate that the production process complied with a certain standard. The reputation of the standard owner and verification system will determine whether such certification labels are trusted by consumers and used by leading firms (ISEAL 2011). The reputation of the firm, and its brands, is also important for increasing the visibility of standards. Reputation is closely linked to impact evidence but this evidence has not been disaggregated to determine correlations between brands, labels and the reputation of standards and firms.

However, labels and the standards systems that use them cannot be equated and should be viewed as two different strategies within the system (Delmas and Grant 2010). For example, not all the standards systems discussed in this study use labels to communicate to the consumer compliance with the standard. Some standards are considered business-to-business (B2B) standards, which serve mainly to assure the buyer of compliance with the standard through the supplier’s certificate. GlobalGAP and Starbucks CAFE Practices are examples of B2B systems.

---

6 The standard-setter, and thus the owner of the label, could be a non-governmental organization, certification body, producer organization or government agency. There are different categories of labels for each type of standard.
**Premium**

As certification labels communicate to consumers that a product complies with a certain standard, they may be willing to pay a higher price for the product, and consequently, intermediary buyers may also pay a higher price to their suppliers. In the case of ethical standards, such as environmental or Fairtrade standards, the label was developed with the intention of creating a premium for farmers. The logic here is that conventional production has external costs (externalities), for example in the form of environmental damage, which are passed on to society as a whole. When adhering to the standard, producers internalize part of these costs by applying more expensive but less damaging production methods. According to this rationale, farmers would need to be paid a higher price in compensation, which is the premium.

For the purpose of this study, the certification price premium is understood to be the difference between the price of a certified product and the price of the same product without certification. In practice, it is difficult to measure the real price premium as prices may differ between certified and non-certified products owing to other product attributes, such as quality. Most of the impact studies have measured the price of the product and from here a premium is calculated. The assignment of a premium to a standard (as shown in Table 3) is based on whether the standard development organization or producers in a specific study reported that premiums are received for certified products. Specific to the Fairtrade standards is a different kind of premium, which is considered to be a social premium. It is an additional amount paid by the buyer that is not linked to the price of the product. It is deposited in a separate fund used exclusively for community projects. In this study, this premium was not considered to be a price premium as it does not contribute to individual farmer income.

**Scheme services**

Many standards systems also provide a range of services to their clients, including capacity-building, market linkages and financing opportunities. The recognition that this is part of a standards system is a quite recent development. As standards schemes have matured, services have begun to be recognized as an essential part of the standards package, particularly in sectors dominated by smallholders. Most of these services are provided through external donor-funded projects, but some organizations have begun to internalize them or to sell them as additional services. For example, Fairtrade Labelling International (FLO) has a large network of liaison officers who provide support to certified producers and Fairtrade International Certification Body (FLO-CERT) offers additional value chain services to prospective clients. However, given the recent recognition of these services, in many instances they have not been taken into account when evaluating the impact of these systems, despite their importance in achieving sustainability outcomes.
3.2 SUMMARY OF VOLUNTARY STANDARDS SYSTEMS

This section presents an overview of the standards systems that are most frequently cited in the literature (see Figure 6), providing information on the purpose of the standard, its technical content and the way the certification system is organized. As illustrated in the results section, these characteristics influence the standard’s impact on smallholder participation. For a more exhaustive overview of voluntary standards and detailed information about the standard requirements and certification systems, please visit the ITC standards map website.

Social welfare and equity standards

**Fairtrade**

Fair trade initiatives seek to achieve greater equity in international trade, offer better trading conditions to disadvantaged producers and secure the rights of workers. Fair

---

7 The following standards are included in the graph but are not explained in detail owing to their limited occurrence in the literature (only one paper): International Code of Conduct for Cut Flowers (ICC), Flower Label Programme (FLP), Fair Flowers and Plants (FFP) and Programme for the Endorsement of Forest Certification (PEFC).

8 [http://www.standardsmap.org](http://www.standardsmap.org) [not all voluntary standards are included, i.e. geographical indications]

9 Fair trade refers to the generic concept and diverse initiatives that try “to provide better market access and better trading conditions for small-scale farmers” (FAO 2003). Fairtrade refers specifically to the standard owned by Fairtrade International.
trade has a long history (since the 1940s) of promoting ‘trade not aid’ practices based on direct relationships between small-scale producers and consumers in developed countries. In the early 1980s, prices for many primary agricultural commodities collapsed. As a response, a fair trade initiative in the Netherlands collaborated with coffee cooperatives in Mexico to develop a certification system coupled with a fair trade label. The purpose was to enable the sale of fair trade products in supermarkets and increase the impact of this initiative (VanderHoff Boersma 2009). Similar initiatives in other countries followed and, in 1997, they jointly set up the Fairtrade International (FLO), which is based in Bonn, Germany.10

FLO established a framework of generic standards, differentiated for smallholder production and plantations, complemented by product-specific criteria where appropriate. For smallholder production, standards for farmers’ associations and cooperatives set criteria for a democratic participative structure. For plantations and cooperatives employing workers, labour standards include freedom of association, criteria for wages and accommodation, occupational health and safety standards and a ban on child and forced labour. Trading standards stipulate that traders have to: pay the FLO minimum price plus the Fairtrade premium; agree to partial pre-financing for certain crops if producers ask for it; and commit to a long-term trade relationship. Environmental criteria are included in the product specific standards.

Certification is done by FLO-Cert, which is an ISO 17065 accredited certifier, while inspection is carried out by local auditors, many of whom also work for organic certification bodies. FLO-certified products are labelled ‘Fairtrade’, which is a trademark protected name. FLO members (i.e. National Fairtrade Labelling Initiatives) grant licences, for a fee, to traders of Fairtrade labelled products.

FLO sets a minimum floor price and a social premium, which is different from the price premiums discussed above. The market price can be higher than the floor price, in which case the Fairtrade price paid would be the market price plus the social premium. However, as the social premium is paid to the cooperative, it is not included in the farmgate price. Nevertheless, Fairtrade buyers often pay higher prices than the market price, even when the market price is above the minimum price, with the result that a farmer may actually receive a premium as a result of participating in Fairtrade certified markets. The social premium is used at the discretion of the cooperative or workers’ committee to invest in community projects. FLO also provides producer support and has involved producers in the governance of the FLO system.

A recent initiative from within the Fairtrade movement is the emergence of a new label: the Small Producers’ Symbol (Símbolo de los Pequeños Productores, SPP).11 In 2006, the Latin American and Caribbean Coordination of Fair Trade Small Producers, consisting of 300 organizations in 21 Latin American countries,12 decided to create their own label. SPP is intended to be an initiative by and for small producers and under their control. The focus is the redefinition of ‘fair trade’ based on social equity and a local economy. The system employs local third-party certification, it provides local services through participating cooperatives and there is a consumer

10 http://www.fairtrade.net [as of 2009 the official name was changed to Fairtrade International]
11 http://www.tusimbolo.org
12 http://clac-comerciojusto.org/paises-y-productos
label for certified products. Only smallholder producers can become certified, while traders and retailers must also be certified. The initiative is still in its infancy and to date little research has been conducted on the effects of this new standard.

**Ethical Trading Initiative**

Ethical trade emerged in the United Kingdom in the 1990s as a response to allegations of poor working conditions in factories supplying multinational companies. Ethical Trading Initiative (ETI) is a member-based initiative that includes large retailers, brands and suppliers among its members. Members commit to compliance with the ETI Base Code of labour practice, which is based on the standards of the International Labour Organization (ILO). The purpose of this initiative is to improve working conditions for suppliers and ensure that companies are employing responsible sourcing practices throughout their supply chains. ETI has been applied in the coffee, cocoa and tea sectors and has developed a specific standard to address the needs of smallholder farmers in the agrifood sector (Blowfield 2004).

ETI is a B2B standard, for which there are neither consumer labels nor certification audits. ETI is a second-party certification system as its members report their progress in fulfilling their membership obligations on an annual basis and annual random audits are conducted on a minimum of 20 percent of reporting members. ETI has a robust disciplinary procedure for companies that fail to make progress in implementing the ETI code. There is no price premium for ethical products but ETI invests heavily in scheme services. They create linkages between suppliers and buyers and develop and implement training that helps their members to bring ETI policies into effect. ETI receives funds from members’ fees and from the United Kingdom Department for International Development.

**SA8000**

The Social Accountability Standard (SA8000) is a workplace standard developed in 1996 by the advisory board of Social Accountability International (SAI), based in New York. The SAI advisory board includes experts from trade unions, business and non-governmental organizations (NGOs). The standards translate into verifiable indicators ILO conventions covering social justice and working conditions, so that compliance can be audited and certified. The standard criteria include a ban on child and forced labour, enforcement of safe and healthy working environments, rights to freedom of association and to collective bargaining and criteria for working hours, wages, freedom from discrimination and the requirement for a social management system. The standards were developed for the manufacturing industry and approved for use in the agriculture sector in 2000. As workplace standards, they are not adapted to (and were never meant for) smallholder production situations. Only a limited number of plantations have been certified.

Social Accountability Accreditation Services (SAAS) accredits certification bodies for auditing production facilities for compliance with the SA8000 standard.

---

13 http://www.ethicaltrade.org  
14 http://www.sa-intl.org  
15 http://www.saasaccreditation.org
SAAS complies with ISO standards for accreditation bodies. Buyers that source substantial quantities of products from certified facilities can join the signatory member programme. The SA8000 label may be used by certified facilities and signatory members in their public communications but may not be used on products. There are no required price premiums for certified products. SAI provides training on its standards, as well as on how to build internal systems to manage social performance, for a fee.

**Cotton made in Africa**

Cotton made in Africa (CmiA), a recent German initiative established in 2005 by the Aid for Trade Foundation, received support from the German Agency for International Cooperation (GIZ). The focus of the standard is on linking sustainable farming practices by smallholder cotton farmers in Africa with ginning mills that protect workers’ rights and responsible companies willing to invest in community programmes. The standard contains exclusion criteria (slavery, trafficking, child labour, harmful pesticides) and sustainability indicators. This is achieved through the application of a standard and a verification system developed jointly with Wageningen University and PricewaterhouseCoopers.

CmiA uses a consumer label and third-party certifiers to check compliance but certification costs are lower than in other systems. Currently the two certification bodies are EcoCert and AfriCert, which are both ISO 17065 accredited. CMiA does not provide any price premiums; instead, the licence fee paid to the Aid by Trade Foundation reverts to farmers in the form of agricultural training courses and community projects. The plan is also to distribute profits to smallholder farmers. Projects have typically included improvements to social infrastructure, such as education programmes.16

**Environmental standards**

**Organic guarantee systems**

Organic agriculture is defined as “a holistic production management system which promotes and enhances agro-ecosystem health, including biodiversity, biological cycles, and soil biological activity” (Codex Alimentarius Commission, 1999).

Between the 1920s and 1940s, farmers themselves developed organic farming methods on a learning-by-doing basis in reaction to increasing input use in conventional farming in Europe and North America. As the organic sector developed, organic farmers’ associations were formed, writing their own standards and communicating what they were doing to other farmers and to their customers. On-site inspection did not commence until the mid-1970s, when farmer associations started to develop verification systems serving their own members. In time, to avoid conflicts of interests and to boost confidence among the growing group of consumers, more and more of whom came to be situated further from the farm and reached through intermediary traders, these verification units became independent certification bodies with their private organic labels.

---

As supply lagged behind growing demand, substantial price premiums provided an incentive to cheat. In response, many countries have developed national organic regulations. As of 2010, there were 74 countries with national standards and 27 countries that were in the process of drafting organic legislation (Willer and Kilcher 2011). Currently, organic markets are governed by public regulations and private standards. For example, any product sold in Europe as organic has to comply with the European Union regulation and be certified as such. However, if a producer wants to sell the product with an additional private organic label, the product also has to comply with the private organic standard, which may be more stringent.

In general, certification is carried out by certification bodies that are accredited by the owner of the organic standard for which they are assuring compliance (e.g. government national accreditation bodies). Certification bodies can be accredited for various standards. In this paper, no distinction is made between the various organic certification standards, as the difference between them is minimal compared with the difference between organic certification and conventional production.

The growth of the organic market also created demand for organic tropical products. European and American certification bodies then started to certify producers in developing countries. This led to a process of adaptation of organic standards to other climatic conditions and adaptation of the certification system itself. Now all organic certification systems provide the possibility of group certification for smallholders. Groups are required to have an internal control system, which provides for inspection of all farmers, suspends membership of farmers where necessary and keeps records. The certification inspection concentrates on verifying whether the internal inspection system is effective, and reinspects only a sample of all member farmers. Alternative methods of certification, such as participatory guarantee systems (PGS) are being promoted by the International Forum of Organic Agriculture Movements (IFOAM). These are based on second-party verification of compliance rather than third-party inspection of the internal control system. This type of certification is not yet recognized within the legal organic regulations, except in Brazil, Bolivia and New Zealand.

Each organic scheme is organized differently in terms of the services it provides. For example, the Soil Association or Demeter will provide additional services, while government regulations may provide subsidies to promote its use. In developing countries these services are usually linked to donor-funded development projects and are not necessarily part of the system.

Forest Stewardship Council

The Forest Stewardship Council (FSC) is an international NGO formed in 1993 by environmentalists, researchers, wood producers, trade unionists, forest product traders and representatives of traditional populations. FSC created the first multistakeholder governance arrangement for the development of its standards under which three chambers represent the organization’s economic, social and

---

17 http://www.ifoam.org
18 http://www.ifoam.org/about_ifoam/standards/pgs/PGS_FAQs.html
19 http://www.fsc.org
environmental interests. These chambers are subdivided into members of developed countries and members of developing countries. This chamber system is designed to provide equity in decision-making processes.

The FSC Principles and Criteria for Forest Stewardship consist of ten principles, including compliance with laws and FSC principles: tenure and use rights and responsibilities; indigenous peoples’ rights; community relations and worker’s rights; benefits from the forest; environmental impact; monitoring and assessment; maintenance of high conservation value forests; and that plantations shall be planned and managed in accordance with all of the Principles and Criteria. There are three types of certification within the FSC system: (1) Forest Management certification for management practices that meet the requirements of the FSC Principles and Criteria; (2) Chain of Custody certification that verifies the use of FSC certified material along the value chain; and (3) Controlled Wood. Individual operators in the trade, processing and retail sectors that handle products from certified forests can apply for Chain of Custody certification and for use of the FSC logo. The logo varies according to the percentage of FSC certified wood within the product. There are no guaranteed price premiums.

Certification is carried out by third-party certification bodies accredited by Accreditation Services International (ASI). The Rainforest Alliance Smartwood programme is accredited for the FSC standards and helps smaller producers to prepare for full FSC certification. In this case, FSC certified businesses may also use the Rainforest Alliance certified seal in conjunction with the FSC logo. FSC has also begun to work with FLO to develop specific standards and services for small, low intensity and community forest operations.

Overall, FSC is one of the most highly studied certification systems (SKASC 2012). However, most of the certified forests are found in North America and Europe, and studies that address the market participation of smallholders within these systems are not included in this study.

**Rainforest Alliance/Sustainable Agriculture Network**

The Rainforest Alliance is an international conservation organization with its origins in the United States. Together with conservation-oriented NGOs in the Americas it formed the Sustainable Agriculture Network (SAN), which developed product-specific standards for bananas, coffee, cocoa, fruits, flowers and more recently for tea, vegetables and cattle. The standards include requirements for the management system, ecosystem conservation, wildlife protection, water conservation, working conditions, occupational health and safety, community relations, integrated crop management, soil conservation and integrated waste management.

Certification is carried out by SAN members or, in some countries, by the certification body Sustainable Farm Certification International Ltd, a subsidiary of the Rainforest Alliance. In 2012, SAN began using third-party certifiers (e.g. Africert) accredited by the International Organic Accreditation Service (IOAS). Smallholders may organize an internal management system and seek certification as a group, thus

---

20 [http://rainforest-alliance.org](http://rainforest-alliance.org)
reducing auditing and administrative costs. Products containing at least 30 percent Rainforest Alliance certified content may carry the label but, if certified content is less than 90 percent, the amount of certified content must be specified on the packaging.\(^{21}\) To use the seal, businesses must sign a licence agreement and comply with traceability requirements. However, some companies prefer to use the label only in publicity campaigns and not directly on the product. Scheme services have also begun to be more common as the Rainforest Alliance has moved into new markets dominated by smallholders, notably in collaboration with Unilever in Kenyan tea production (Ochieng et al. 2013).

**Marine Stewardship Council**

The Marine Stewardship Council (MSC) was established in 1996 as a joint initiative of the World Wildlife Fund (WWF) and Unilever.\(^{22}\) The idea behind MSC is to award sustainably managed fisheries certification and a label, so that consumers can choose the labelled product over the unlabelled product. At the catch level, certification is awarded to a fishery\(^{23}\) at national level and not to individual operators. The standard defines requirements for three aspects: (1) impact on the status of the target fish stock; (2) impact on the ecosystem; and (3) performance of the fishery management system.

Individual operators in the trade, processing and retail sectors that handle fish from certified fisheries can apply for Chain of Custody certification and for use of the MSC logo. Certification of fisheries and Chain of Custody are carried out by third-party certification bodies accredited by ASI, which is also the accreditor for FSC and the Aquaculture Stewardship Council. Each audit report is additionally checked by MSC before the release of the certificate.

Certification begins with a confidential pre-assessment of the fishery for a client – usually associations of fishing operators that catch and handle one or more species in a specific area. If the client decides to go ahead, the certification body appoints an expert team to develop performance indicators and scoring guide points. Stakeholders can provide feedback on the suitability of these indicators. The inspection consists of checking the scoring against these indicators, which are aggregated to obtain a score for the three aspects mentioned above. Certified fisheries are subject to annual audits and must go through the full assessment procedure every five years.

Only three fisheries in developing countries are currently certified and the MSC standard has not yet been fully accommodated to deal with small-scale fisheries (Pérez-Ramírez et al. 2012). For these reasons the MSC standard is not well represented in this literature review.


\(^{22}\) http://www.msc.org

\(^{23}\) A ‘fishery’, as defined by the Marine Stewardship Council (MSC) programme, includes one or more ‘units of certification’. A unit of certification is usually defined by reference to the following: (1) target fish species and stock; (2) geographic area of fishing; (3) fishing method, gear, practice and/or vessel type. See http://www.msc.org/track-a-fishery/what-is-a-fishery. An example of a certified fishery is the Argentine anchovy fishery.
Food safety and quality standards

GlobalGAP

Leading supermarket chains in Europe formed the Euro-Retailer Produce Association (EUREP), which in 1999 developed the EUREP Good Agriculture Practices (EurepGAP) standard for fruit and vegetables with the aim of increasing consumer confidence in the safety of food. The standard includes requirements for a management system, seeds and shoots, soil and water management, fertilizer, pesticides, harvest and post-harvest treatments including hygienic practices, waste management, worker safety and environmental management.

In 2007, the name of the standard was changed to GlobalGAP. GlobalGAP standards now exist for crops, livestock and aquaculture, each with specific product standards. Standards are developed and revised by technical committees together with representatives from the retail sector and producers, mainly from Europe. Since 2002, voluntary national Technical Working Groups (nTWGs) may draw up national interpretation guidelines that can be submitted to GlobalGAP for review and approval with the possibility of being benchmarked.

The GlobalGAP secretariat is hosted by FoodPLUS GmbH in Germany, a company that is the legal owner of the standard. Certification bodies wishing to certify against GlobalGAP need to be accredited by FoodPLUS. Farmer associations, cooperative and outgrower schemes may obtain group certification under the Produce Marketing Organizations (PMO) option, for which they must have an internal control system. Other standards schemes with third-party verification can benchmark the scheme against GlobalGAP. If the scheme is accepted as equivalent and accredited, an audit for the scheme can also serve as an audit for GlobalGAP. This option has been used by ChileGAP.

GlobalGAP is a B2B standard; there is no product label. In the past, some supermarkets have indicated that they will require all suppliers to become certified, or that certification is a prerequisite for becoming a preferred supplier. However, there is considerable uncertainty about the degree of flexibility in implementation schedules. Although a number of development projects have provided producer support for achieving GlobalGAP certification, there is no formal support services package within the GlobalGAP system.

British Retail Consortium Global Standard

The British Retail Consortium (BRC) is a trade association representing 90 percent of the retail sector in the United Kingdom. It has developed the BRC Global Standard, which includes a hazard analysis and critical control points (HACCP) system, quality management, factory environment standards and product and process control. The standard is meant for food service companies and food manufacturers. Certification is performed by accredited certification bodies. It is a B2B standard with no product label. Exporters who sell to the United Kingdom may be required by their buyers to certify their handling and packaging facilities against the BRC standard.

24 http://www.globalgap.org
25 http://www.brc.org.uk
Starbucks CAFE Practices
Starbucks Coffee Company initiated CAFE (Coffee and Farmer Equity) Practices in 2004 as an internal company standard that rewarded producers of high-quality, sustainably grown coffee.26 CAFE Practices is a coffee sourcing guideline developed in collaboration with Scientific Certification Systems (SCS), a third-party evaluation and certification firm, and Conservation International. The CAFE Practices guidelines define economic, social and environmental criteria that are inspected against an audit scorecard. The inspections are carried out by verifiers approved by SCS. There is a specific scorecard for smallholder producers.

CAFE Practices is an internal control standard used solely by Starbucks in its supply chain and thus there is no consumer label. There are no mandatory price premiums but transparency is sought in financial reporting, so that premiums can be tracked when they are paid. Starbucks also provides additional services to its preferred suppliers through its corporate social responsibility programmes. An ongoing project with Conservation International is investing in and supporting coffee-growing communities that engage in climate-friendly activities.

Safe Quality Food
The Safe Quality Food (SQF) Program is a food safety and quality management protocol developed by the Safe Quality Food Institute (SQFI), located in Australia, but now owned by the Food Marketing Institute (FMI) in the United States.27 The SQFI Technical Committee is composed of technical experts from the food industry (mainly in the United States), academic institutions and others, and is the body in charge of reviewing SQF standards.

The SQF Program is based on Codex Alimentarius HACCP Principles. There are two sets of standards: SQF 1000 for producers, combining good agricultural practices with food safety and food quality plans; and SQF 2000 for processors.

Certification of compliance with SQF standards is conducted by certification bodies licensed by SQFI. SQF standards are structured into a three-tier system of compliance, with only businesses reaching Level 3 authorized to use the SQF trademark, which can be used on products generated by an SQF-certified business.

ISO 14000/9000
The International Organization for Standardization (ISO) is composed of representatives from member governments.28 Typically these representatives are the national standard-setting bodies, which can be either public or private entities. The ISO 14000 (environmental management) and ISO 9000 (quality management) series of standards are generic process standards that companies can follow to implement an effective environmental management or quality management system in their company. Other standards in the system focus on specific environmental aspects, such as life cycle analysis, communication and auditing. There are product labels associated with these ISO standards and companies regularly post these labels on

26 http://www.starbucks.com/responsibility/sourcing/coffee
27 http://www.sqfi.com
28 http://www.iso.org
their websites. All ISO standards are third-party certified by ISO 17065 accredited certifiers. There are no premiums or services linked to these standards.

**UTZ Certified**

UTZ Certified (originally UTZ Kapeh) was launched for coffee in 1997 by the Dutch Ahold Coffee Company with Guatemalan coffee producers. The focus of the standard is on transparency and sustainability along the supply chain. In 2002, UTZ became an independent organization and now includes additional commodities (cocoa, tea, palm oil). The original UTZ Kapeh criteria were based on an expanded version of the GlobalGAP criteria and the focus is on responsible farm management. UTZ provides traceability services for the Roundtable on Sustainable Palm Oil (RSPO) certified sustainable palm oil, and the Better Cotton Initiative (BCI), both of which are multistakeholder roundtables that develop commodity-specific standards.

While premiums are not mandatory, there is a requirement for traders to provide information about premiums that have been paid for UTZ certified products, which are then aggregated and made available as averages to producers. UTZ utilizes third-party certification bodies that are accredited to ISO 17065 standards. UTZ, with a number of its corporate partners, has been involved in preparing smallholder farmers for certification, notably in cocoa with Mars and Solidaridad, a Dutch NGO.

**Specific product attributes**

**Geographical indications**

A registered geographical indication (GI) is a voluntary standard for the production methods of a product in a specific geographic region, usually developed by a producers’ group or a local government authority and registered with a national body in charge of protecting the GI. This national body could be the ministry or institution in charge of intellectual property (IP) or an Institute or Ministry of Agriculture, depending on the country. Registration is based on an assessment of the conformity of the link between the product and the geographical origin. Geographical indications are defined and protected by the 1994 Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPs) of the World Trade Organization. They are “indications which identify a good as originating in the territory of a member, or a region or locality in that territory, where a given quality, reputation or other characteristic of the good is essentially attributable to its geographical origin” (FAO, 2010, p. 35). Appellation of origin (e.g. the French AOC or the Italian DOCG) is a more restrictive category of GI, protected by the Lisbon agreement of 1958. The GI is a designation of product origin where the quality and characteristics are “due exclusively or essentially to the geographical environment, including both natural and human factors” (FAO, 2010, p. 35).

Thus each GI has its own standard, or code of practice, which normally includes a description of the product, the ingredients or inputs and production process, a definition of the production area, labelling rules and the verification system. The 

http://www.utzcertified.org
requirements focus on the elements that give the product its typical character and that justify the link between the product and the territory. GI registration rules may also differ from country to country and various legal tools can be used to protect the GI.

GI labels identify the origin and differentiate the product, indicating distinctive and specific quality characteristics and a reputation that are attributable to its origin. While these labels are product-specific, in some countries, depending on the legislation, a governmental label also certifies products with origin-linked characteristics. Generally, these characteristics were already recognized to some extent by consumers at local, national or even international level before the GI labelling was initiated. There are different labels for GIs in different countries and some products may include a mandatory price premium. Typically, significant support is provided either by the cooperatives managing the GI or through government assistance for territorial development. Examples of GIs are Parmigiano Reggiano cheese in Italy and Darjeeling tea in India.

GIs are quite different from the other voluntary standards included in this study and are the reason why the evidence base contains only a few studies of GIs. First, GIs are geographically and culturally specific, making it difficult to perform an aggregated analysis of the impact of the standard or certification on price, environment or value chain, as it is nearly impossible to establish a credible counterfactual. Second, GIs are often considered as a public good (e.g., culinary heritage, link with specific landscape, rural development policy) by authorities that strongly support their development. This separates GIs from other voluntary standards, even public standards like Organic or National GAP initiatives, as GIs receive significant public and institutional support. Third, GIs are producer-driven and their value chains are very specific to a region within a country; thus economies of scale, vertical coordination, and some of the other value chain indicators are not always applicable or particularly explicative of the dynamics found in GI systems.

3.3 TRENDS IN STANDARDS REQUIREMENTS AND THEIR CERTIFICATION SYSTEMS

Two comprehensive studies were published in 2009 and 2010 that compare standards and their corresponding certification systems. These studies evaluate standards in agriculture (specifically on the major tropical commodities of coffee, tea, bananas and cocoa), forestry and fisheries.

The State of Sustainability Initiatives Review 2010 (SSI) was published by the International Institute for Sustainable Development (IISD), the International Institute for Environment and Development (IIED), AidenvIRONMENT, United Nations Conference on Trade and Development (UNCTAD) and Environment and Trade in a World of Interdependence (ENTWINED) (Potts et al. 2010). This review focuses on the conformity assessment, traceability systems, governance, transparency and content criteria of the most mature voluntary standards systems in the forestry, coffee, tea, cocoa and banana sectors. The report concludes that these initiatives have been successful in making decision-making more inclusive of stakeholders along global supply chains and strengthening supply chain management. The majority of these initiatives are member-based organizations (70 percent) with NGOs dominating their boards. Developing country representation has improved across
most standards systems. The majority of these systems (70 percent) use third-party, accredited certification and there has been an increase in the use of Chain of Custody certifications that facilitate traceability and promote best practices beyond the farm level to the management of the value chain.

In 2009, the World Wildlife Fund (WWF) commissioned a study by Accenture Development Partners that assessed the range of “on-pack, wild-capture seafood sustainability certification programmes and seafood ecolabels” (Accenture 2009). Using the WWF’s Best Practice Criteria as a baseline for comparison (the Best Practice Criteria are based on the FAO 2005 guidelines for ecolabelling, the ISEAL Standards Code and elements of WWF’s framework for ecosystem-based management of marine fisheries), this study found that, despite a number of good practices in each of the seven standards systems assessed, these practices are not applied consistently across all performance criteria. Thus, none of the seven standards analysed comply fully with the criteria identified and defined by WWF. They conclude that MSC is the only ecolabel that contains enough compatible criteria to be considered close to compliant with the WWF criteria.
Chapter 4
Results of the literature review

This section presents the results of the review of the literature. First there are short summaries of the findings of the most recent reviews of the literature (4.1). Next are the results of a close analysis of the literature, looking specifically at how standards have influenced smallholder market participation. These results are presented in accordance with the impacts pathway, explained in section 2.5. The sections are divided according to findings related to antecedent variables (4.2), profitability for participating farmers (4.3) and degree of smallholder participation (4.4).

4.1 OTHER RECENT LITERATURE REVIEWS
Over the past four years (2009–2012), eight literature reviews of voluntary standards have been published by international multistakeholder initiatives, NGOs and United Nations Organizations. The focus of each of these literature reviews has been slightly different (e.g. fair trade, forestry governance, food safety standards, trade facilitation) and none of these literature reviews focused specifically on the question of smallholder market participation across the range of standards. What follows is a brief summary of the main conclusions of these studies.

In 2009, IISD published a background paper exploring the impacts of sustainability standards on the distribution of economic benefits along global value chains (Sexsmith and Potts, 2009). The authors conclude that producer-level price premiums are consistently found in the coffee sector, while they are less frequent in certified fisheries and forest markets. They find that the costs of certification and indirect compliance costs act as a barrier to small and resource-poor groups. However they also found that increased market access and security was a common outcome of certification.

In 2009, the Fairtrade Foundation commissioned an independent literature review of the impact of Fairtrade certification over the preceding ten years. This review, carried out by the National Resources Institute (NRI), found that most studies examined the impacts of certified coffee in Latin America (Nelson and Pound, 2009). In this context, Fairtrade certification had delivered positive economic outcomes. The five most frequently cited benefits were: (1) a guaranteed minimum price leading to improved income; (2) improved economic stability; (3) improved access to credit, prefinancing and greater creditworthiness; (4) facilitation of the transition to organic; and (5) access to export markets. Market access had been found in lucrative niche markets where a variety of factors were considered important, such as higher product quality, improved confidence and business skills, level of exposure to potential export partners and/or access to market information. There was also evidence that the organizational and management capacity in which Fairtrade schemes invest have produced spillover effects on conventional markets in terms of competitive pricing and labour conditions.
In 2010, the United Nations Industrial Development Organization (UNIDO) published the first Trade Standards Compliance report, providing an overview of current and emerging trade compliance challenges faced by developing countries when exporting to major international markets (UNIDO 2010). The input to this report on food and agriculture standards was provided by FAO. It was noted that one challenge is the recent emergence of environmental, social, labour, equality and resource–sustainability issues as drivers for the development of trade standards and the resulting certification requirements. One conclusion is that trade standards-related infrastructural capacity (e.g. laboratory testing facilities, cold chains) and services are weak in many developing countries. These weaknesses can hinder the establishment or expansion of agrifood exports and fail to protect local consumers.

After concluding that “market access begins at home” (ITC, 2010, p. iii), in 2010 ITC published the first of an annual series on market access issues. The review focuses on Fairtrade standards and concludes that, overall, there is a lack of credible evidence showing conclusively when and how certification is an efficient and effective tool for sustainable development or livelihood improvement. The study shows that voluntary standards can be beneficial when they provide opportunities for integration into global value chains, enhance income predictability and provide upgrading opportunities. They suggest that while retailers, manufacturers and importers are fundamental to the success of voluntary standards, the ability of exporters to meet requirements set by voluntary standards depends largely on the ability of their suppliers to meet standards requirements and demonstrate compliance.

Also in 2010, the Scientific and Technical Advisory Panel (STAP) of the Global Environment Facility (GEF), administered by the United Nations Environment Programme (UNEP), released an advisory document based on a literature review of voluntary standards in agricultural commodities, forestry, fisheries and tourism. The analysis was also released as a Resources for the Future discussion paper and was subsequently published in the highly ranked academic journal Conservation Biology in 2011 (Blackman and Rivera, 2011). The evidence base was limited to studies that used a credible counterfactual (i.e. a way of ascertaining what the effect would have been without certification) and found that only 5 out of 14 studies showed positive socio-economic outcomes. The authors concluded that there are four threats to the effectiveness of standards: (1) weak certification standards; (2) non-compliance with certification standards; (3) limited participation, which can stem from supply-side or demand-side factors; and (4) adverse self-selection, whereby actors already engaged in, or intending to engage in, innovative or environmentally friendly practices participate in the programme disproportionately (GEF STAP, 2010, p. iii).

In 2011, the World Bank published a synthesis report of the major findings from a collaborative research programme involving the World Bank (WB), University of Guelph, University of Ghana, University of Makerere, University of Nairobi, University of Zambia and Institute of Development Studies (Jaffee et al., 2011, p. xxii). The focus of this programme and the corresponding report was the extent to which emerging standards pose barriers for trade or are catalysts for smallholder upgrading, which can improve welfare and competitiveness. The study was based on evidence from GlobalGAP compliance in the fresh fruit and vegetable (FFV) sector of sub-Saharan Africa. This report shows ample evidence to support both claims: that standards are barriers to trade and are catalysts for smallholder upgrading. This
is because different circumstances have yielded diverse outcomes. In the successful cases, the prior strength and capabilities of lead firms facilitated smallholder access and upgrading. Thus, both the structure and maturity of the industry, as well as the ‘proximity’ of the improved standards to the prevailing practices and capabilities of farmers, service providers and commodity buyers, are important for achieving positive outcomes. Moreover, they find that in very few cases do African smallholders with any commercial orientation see standards as technical barriers to quality or market requirements: financial constraints or inadequate economic incentives more readily explain exclusion. Finally they suggest that while standards and certification can help smallholder market integration, they must be seen as a continuum of improvements towards long-term competitiveness rather than as an immediate one-time boost to production.

ITC released a four-volume series of impact studies in 2011–2012 (ITC 2011a, 2011b, 2011c, 2012). These studies accompanied the release of the ITC Standards Map, which is an online tool designed to provide access to information and research results on voluntary standards. This project was a comprehensive review across the agriculture, forestry and fisheries sectors following the STAP model of focusing on counterfactual evidence and a systematic literature review. This set of reviews finds that there is a lack of consistent quantitative data on voluntary standards that would allow for standard- or product-specific conclusions. However, the ITC study puts forward a few lessons for smallholder market participation. First, standards may facilitate or demand vertical coordination of value chains, but there is relatively little evidence of standards facilitating smallholder upgrading. Second, while there is evidence that participating in certified value chains incurs increased costs, whether or not this creates a barrier to smallholder entry is highly context-specific. Third, producers have seen positive results in terms of higher prices received for products and profitability. Fourth, indirect positive effects can be more important than direct financial gains from private standards. Finally, all four studies presented evidence that comprehensive programmes that include technical support, training and prefinancing were consistently linked with positive outcomes for producers. These findings are very much in line with this report’s findings.

2012 marked the release of the final report of a two-year multistakeholder review of the state of knowledge on sustainability certification, commissioned by the Walton Family Foundation, David and Lucile Packard Foundation, and Mars, Inc. The multistakeholder steering committee consisted of experts from industry (e.g. Marks & Spencer, Mars, Unilever), NGOs (ISEAL Alliance, WWF, Soil Association, Rainforest Alliance) and academia (Yale University, London School of Economics, Chang Mai University, University of Michigan, Vanderbilt University). The project consisted of a comprehensive literature review of voluntary standards in agriculture, forestry and fisheries. The review found evidence of improvements in social, environmental and economic practices, as well as unintended positive and negative effects. The most common economic outcome was reported to be better access to markets and other business opportunities. However, it was noted that small producers faced challenges in meeting certification standards, which in some cases resulted in market exclusion. The report also argues that voluntary standards and certification are most effective as part of “a suite of integrated public and private sustainability tools” where firms use them to support their supplier’s performance
Impact of international voluntary standards on smallholder market participation

(SKASC 2012). This report also points to the broader regulatory role of standards, which is seen as a way to fill regulatory gaps and introduce mechanisms for adapting to technological and social change.

4.2 ANTECEDENT VARIABLES

The antecedent variables identified in the literature are of three types. The first set relates to farm-level variables such as farm size, household wealth, household size, education or experience, off-farm activities and distance to urban centre. The second set relates to the relationship between smallholders and their value chains (economies of scale and group membership) and the third set relates to the institutional context and factors at national level.

Adoption determinants at farmer level: certified farms start off with more assets

A rather small number of studies (28 out of 123) examined impacts based on an attribution of farmer-level determinants. Nineteen studies tested the relationship between farm size and impacts, 18 of which were empirical studies, the majority of medium or high rigour, and one was a journal article based on a project report (Asfaw et al. 2010). Even fewer studies tested for the other variables: 9 for household wealth, 11 for household size, 16 for education or experience, 8 for off-farm activities and 7 for distance to an urban centre or market.

The theoretical linkage between antecedent variables and impact is linked to the way in which innovations are thought to be taken up and diffused across society (Rogers 1983 [1962]). Factors that influence whether farmers adopt the innovation – in this case the standard – are called “adoption determinants”. In an adoption decision model, potential adoption determinants can be tested for statistical significance. In this approach, a large random sample is taken in which certified producers are identified only at the time of interview. This was the approach followed by Asfaw, Mithöfer and Waibel (2010) and Chemnitz (2007). For GlobalGAP in Kenya, Asfaw, Mithöfer and Waibel (2010) randomly sampled 439 smallholders with less than 5 acres of land under horticulture to produce export vegetables. Of this sample, 34 percent had adopted the GlobalGAP protocol and 17 percent were certified. GlobalGAP adopters had relatively smaller land size, which is explained by the fact that larger farmers tend to focus on tea or coffee as their main cash crop. Other studies in the group focused on profitability and used antecedent variables as controls on selection bias (e.g., Ruben et al. 2009). The low number of studies and diversity of methods used in the studies mean that conclusive generalizations cannot be drawn. However, the data does show some trends (see Figure 5).

First, education and off-farm activities generally show no significant relationship with certification. While off-farm employment was found to be more common among Organic–FLO certified producers, in the two positive instances found in the authors’ dataset, this was not a major source of income (Beuchelt and Zeller 2011). Household size was not significant for certification more frequently than positively significant. This illustrates a slight trend linking bigger households with certification. Second, distance to market was negatively correlated with certification. This means that those living farther from the market were less likely to be certified (Ruben et al. 2009). This suggests that social pressure to adopt certification
may be being exerted on farmers who are physically closer and part of common communication networks. It also points to the importance of group membership, as discussed in the next section.

Third, farm size is often positively correlated with certification. This finding was not conclusive for the Fairtrade, GlobalGAP or BRC cases; however it was predominantly the case for Organic, Rainforest Alliance (1 case), CAFE practices (1 case) and ISO standards (1 case). However, the small number of cases that measured this variable limits definitive conclusions. Finally, a majority of the studies that investigated initial wealth and assets of farmers found that these were positively correlated with certification. This consistent correlation between assets, farm size and adoption hints at the importance of farmers’ capacity to make the initial investments required for certification (Beuchelt and Zeller 2011). Some of the studies noted that this was more pronounced for early adopters (Eyhorn et al. 2005), in line with innovation adoption theory that early adopters are in a position to take more risks. However, early adoption can also be influenced by other factors, such as economies of scale achieved through smallholder collective action, as occurred with the early adopters of organic and Fairtrade in Mexican coffee, cocoa and sesame (Gómez Tovar et al. 2005).
Economies of scale: the importance of organizing smallholders into larger groups

The importance of farm size suggests that a potential adoption determinant is scale, regarding not only certification but also other investments necessary to comply with the standard. Indeed, of the 11 studies (2 project reports and 9 empirical studies) that made reference to economies of scale, all found economies of scale to be important for smallholder access to certification. Economies of scale can reduce compliance costs in two ways: either by spreading the costs among a number of smallholders, reducing individual upfront investment; or by inducing processes of consolidation and concentration as larger producers have greater access to resources that can assist in meeting compliance costs (FAO 2011b; Melo and Wolf 2007; Mausch et al. 2009; Dolan and Humphrey 2000; Cubbage et al. 2009; de Battisti et al. 2009; Maertens and Swinnen 2009; Henson and Humphrey 2009). This further confirms the presumption that individual certification of smallholders is not a viable option, nor is it promoted by the standards systems.

In other words, membership of a group is de facto mandatory for smallholder participation in certified markets. There were no studies that found smallholder participation without smallholders being organized into a group. In some standards (e.g. Fairtrade and some GIs) smallholder participation in a producer organization is compulsory for inclusion in the standards scheme. Figure 8 shows clearly that, despite the rigour of the study, membership of a group has been consistently correlated positively with certification. More rigorous studies found a more nuanced picture of group membership, often picking up on some of the difficulties sometimes found in the collaboration requirements of Fairtrade. Difficulties noted included administrative failures (Sáenz-Segura and Zúñiga-Arias 2008), particularly regarding the negative correlation between the size of the cooperative and price, which may be linked to problems of oversupply and the difficulties for cooperatives in selling proportions of their products on certified markets (Barham and Weber 2012). Oversupply often results from an excess supply of a certified product in a market with limited demand. Many producers of certified coffee report that they are unable to sell their entire production on the terms of certified trade (Jaffee 2007).

Interestingly, the rigorous study that compared Rainforest Alliance, CAFE practices, Fairtrade and Organic found that group membership was not significant for the first two standards (Ruben and Zuniga 2011). Indeed these cases illustrated a different relationship between farmers and certified value chains. There are two main organizational models under which smallholder farmers can gain access to certification. The first is through a cooperative or other type of farmer organization that manages an internal control system and pays for certification. The second model is an outgrower scheme under contract farming arrangements, with the buyer organizing the internal control system and

---

30 In this context, a group means a collection of individuals. It does not necessarily imply that a formal organization must be established.
paying for certification. These two different organizational arrangements have not been addressed fully in the literature.

As such, voluntary standards do have a direct effect on the way smallholders can participate in certified value chains, excluding ad hoc sales to exporters and other uncoordinated trade relationships. Indeed, the consensus in the literature is that, although these standards are considered market-driven, reflecting consumer preference, corporate buyers and supply chain captains are the drivers of the expansion of both production and consumption, as well as the gatekeepers for inclusion in certified value chains (Gibbon and Ponte 2005). Thus the impact of voluntary standards partly overlaps with the impact of these organizational arrangements.\(^{31}\) However, the effects of these organizational forms cannot always be attributed to voluntary standards because product characteristics and other aspects, such as quality or historical trading agreements, may also favour cooperatives or contract farming arrangements.

\(^{31}\) See DaSilva (FAO, 2005) for an overview of the advantages and disadvantages of contract farming for farmers and agribusiness firms.
Maertens and Swinnen (2009) provide a good example of how this might work in practice. They observe that the seven largest fruit and vegetable exporters in Senegal founded the organization ONAPES in 1999, with one of their specific aims being to become GlobalGAP certified. ONAPES exporting companies agreed among themselves that each member should seek to process at least 200 tonnes each season, at least 50 percent of which should originate from the companies’ own estates. From the research sample of nine exporters, four were ONAPES members and certified or in the process of being certified for GlobalGAP. By 2008, three of these firms had already substantially reduced the share of procurement through contract farming and these companies cited quality to be the reason for this change. The other five firms in the sample were members of SEPAS (another exporter organization) and were not undertaking particular investments in the context of certification. Only one of them had reduced the share of smallholder suppliers, the other three sourced 100 percent of supplies from smallholders. This example shows that traders are often seeking to fulfil quality and quantity requirements for certified export and these requirements can influence contract farming relations with smallholders.

**Institutional contexts: smallholders need institutional support from both private and public actors in order to thrive in certified markets**

The relationship between value chain organization, farm level adoption determinants and standards systems are mediated by institutional contexts and intermediaries at national, international and local level. In coding the data for this study, the authors created a binary variable for institutions when the study mentioned the role played by national regulations, subsidies or preferential trade arrangements. They also coded studies that noted support provided by donors or value chain partners to facilitate certification compliance. Many of the value chain relations are linked to the examples provided in the preceding section on the advantages gained through economies of scale. Half the studies in this review made some mention of the institutional context (see Figure 9); all the project reports were coded in this manner, reflecting the role of the project in the study. This is reflected in the FLO, Organic and GlobalGAP bars, as the majority of project reports focused on projects related to these three standards. Moreover, the large number of studies linking institutional context to Organic can be explained by the fact that Organic is a nationally legislated standard in many countries, including the largest consumer markets (United States and European Union). No differences were found between studies of different methodological rigour.

Recent research has begun to pay attention to the institutional contexts within which voluntary standards are used. This is important for understanding how standards interact with pre-existing norms of production and trade. This recognition also suggests that there are many more variables involved in determining impact than often taken into consideration in impact studies, thus making attribution more difficult. The following are examples, drawn from the highly rigorous studies, of how

---

32 The authors follow Douglass North’s (1991) definition of institutions as “humanly devised constraints that structure political, economic and social interactions” (p. 97).
in institutional context plays an important role in the way that voluntary standards can influence smallholder market participation.

Manning et al. (2012) suggest the national context influences the uptake of sustainability standards in the coffee sector. They argue that the share of certified coffee produced in a particular country does not reflect the share of total world production, as the largest global producers of coffee are not always the largest producers of certified coffee (Table 4).

In part, this can be explained by label and origin preferences in consuming countries. For example, in the United Kingdom, where the Fairtrade label has a strong market position, consumers prefer Colombian coffee. Sara Lee, the biggest roaster in the Netherlands, sells mainly UTZ certified coffee, while a large part of the coffee sold in the Dutch market is sourced from Brazil. Other factors include producer characteristics. As Fairtrade targets organized small producers, it is likely to be prevalent in countries with many smallholder cooperatives, such as Colombia, Mexico and Peru. In Brazil, many farms are medium-size or large, which makes them the target of UTZ. This may explain why Sara Lee opted to commit to buying UTZ certified coffee rather than Fairtrade certified coffee. Thus, buyer preferences, pre-existing buyer-supplier relations and producer structures have become selection mechanisms for standards (Manning et al. 2012).

33 This study does not appear in the evidence base because it does not focus specifically on smallholder participation.
National or project specific subsidies were the most often cited instance of institutional support for infrastructure. Donor-funded projects provided significant support to help smallholders make the initial compliance investments (Naqvi and Echeverría 2010; Asfaw et al. 2010; de Battisti et al. 2009; Damiani 2003; FAO 2009; Giovannucci 2005; Ramm et al. 2008). However, projects linked with GlobalGAP and Organic also noted that, once the projects are phased out, many smallholders became decertified, allegedly because of the recurring compliance costs and uncertainty of price premiums (Van Elzakker and Leijdens 2000; de Battisti et al. 2009). National subsidy programmes were also shown to be beneficial in helping farmers reallocate resources to investments in voluntary standards. For example, Barham et al. (2011) found that government subsidies in Mexico, led by the Progresa/Oportunidades programme, matched net coffee income levels for the average household. A similar situation was found by another study, also in Mexico (Calo and Wise 2005). The importance of subsidies or other types of assistance by institutional and value chain actors is hinted at in the literature but not fully explored. This is addressed further in the conclusions.

National intermediaries may also play an important role in standard adoption. For example, the Vietnamese Coffee and Cocoa Association (VICOFA) became a founding member of the 4C Association after participating in a number of public–private partnership projects with GTZ, Neumann Group, Sara Lee, Kraft and other partners (Manning et al. 2012). Today, VICOFA plays an important role in implementing the 4C standard in Vietnam. Similarly, the National Federation of Coffee Growers of Colombia plays an important role in standard adoption in Colombia (Grieg-Gran 2005). Ponte (2008) looked at motivations for adoption in South Africa, where MSC certification was pushed by two big companies. The other smaller companies had much less interest in MSC certification as their main markets (domestic, Spain and Italy) did not ask for it. In addition, these big companies that had acquired a dominant position under the apartheid regime used MSC certification to prevent opening up of the industry to new entrants, with the argument that it is easier to manage the resource and police catch levels when there are few players. The Marine and Coastal Management (MCM) standard adopted this argument in its own policy and no new entrants were assigned quotas.

Ransom (2011) looked at why the Botswana beef industry, unlike that of Namibia, did not pursue organic niche marketing, despite having an abundance of grassfed, organically produced beef and the necessary institutions and facilities to implement

### Table 4

<table>
<thead>
<tr>
<th>Country</th>
<th>Share of global coffee production</th>
<th>Share of Fairtrade coffee</th>
<th>Share of UTZ certified coffee</th>
<th>Share of 4C certified coffee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brazil</td>
<td>33%</td>
<td>18%</td>
<td>38%</td>
<td>11%</td>
</tr>
<tr>
<td>Vietnam</td>
<td>15%</td>
<td>0%</td>
<td>22%</td>
<td>29%</td>
</tr>
<tr>
<td>Indonesia</td>
<td>9%</td>
<td>17%</td>
<td>3%</td>
<td>1%</td>
</tr>
<tr>
<td>Colombia</td>
<td>8%</td>
<td>26%</td>
<td>12%</td>
<td>44%</td>
</tr>
</tbody>
</table>

Source: 1(ICO 2009); 2(Manning et al. 2012)
a certification system. The Botswana Meat Council (BMC) is a parastatal company operating two abattoirs and has a monopoly on beef exports, which are marketed in Europe through its United Kingdom subsidiary. The BMC has had a reactive attitude in response to European food safety standards and has not taken any initiative to capitalize on the organic niche market potential. Namibia broke away from its participation in the BMC’s marketing arrangement in 2008 and began niche-marketing beef through its own parastatal company. Ransom (2011) explains that these different marketing strategies of the two parastatal companies result from the different combination of cultural groups and production systems at work within the national context.

Henson, Masakure and Cranfield, (2011) analysed GlobalGAP adoption determinants of fresh produce exporting firms in ten African countries. Surprisingly the procurement system, i.e. the degree of sourcing from smallholders, had no effect on whether firms were certified, or on the proportion sold to wholesalers or supermarkets. Firms that had been asked by their buyers to become certified were more likely to have done so than firms that had not been asked. Seventy-nine percent of the firms in their sample had been asked by their buyers to become certified and 58 percent of those asked became certified. Moreover, 94 percent of those who were found to be certified had been asked to become certified by their buyers. Significant effects were found for internal capacity (i.e. firms that had experienced problems meeting other market requirements were less likely to be certified), for technical and/or financial assistance and for the size of the country’s horticultural sector. This points to the importance of having support services and infrastructure available in the country that can easily provide the support needed to achieve growth in the agricultural sector. Firms that were certified saw a large positive effect in terms of growth in the value of export sales, especially for early adopters. On average, they sourced 32 percent of their produce from outgrowers. This growth has probably also benefited smallholders and perhaps created rural employment effects, as seen in Senegal (Maertens and Swinnen 2009). These results also highlight the challenges for countries that are later entrants to fresh produce export markets, for which GlobalGAP may be an additional entrance barrier.

The need for national level institutions that can support standards implementation is further supported by research from Argentina. Espach (2005) illustrates that market demand is a necessary but insufficient condition for standards system effectiveness. Rather, supply-side factors such as industry characteristics, public policies and the institutional culture of firms influence programme implementation significantly. This is also supported by a study from Fairtrade certified tea in Tanzania where it is shown that historical and contemporary company policies have influenced smallholder perceptions of inclusion and empowerment (Loconto and Simbua 2012). For example, companies that have historically relied upon more equitable benefit-sharing relationships with smallholders were perceived as not doing enough for farmer empowerment. However, smallholders supplying companies that do not invest much in smallholder services viewed the Fairtrade premium funds as an effort by the company to be more inclusive. Ruben and Zuniga (2011) also show that structural factors influence both the likelihood that smallholders will find a market outlet and their choice of the standards system to join.

Even when constraints internal to the producer/farm, such as human/physical capital and finance needed to comply with voluntary standards, can be relaxed,
numerous constraints external to the producer/farm may remain. These include the general public infrastructure and services at the macro and sector level, such as transportation and telecommunications systems, energy supplies and testing facilities. To the extent that these limit the effective capacity of producers/exporters to meet commercial export demands, they also impede market access. These may be particularly binding constraints for small and medium producers, who cannot use their private resources to overcome these systemic constraints (OECD 2007). Similar observations have been made by Aloui and Kenny (2004) regarding adoption of the BRC standard in Morocco. Établissement Autonome de Contrôle et de Coordination des Exportations (EACCE) is a public institution offering laboratory analysis for free. However, producers cannot ask for additional or specific analyses, not even at their own expense, as EACCE is not allowed to offer services for a fee. As a consequence, for some analyses required by the BRC standard, samples have to be sent to Europe, which is time-consuming and costly.

As these brief examples illustrate, institutional frameworks are an important means through which smallholders are able to participate in certified markets. The institutional arrangements are diverse and vary from one context to the next. Although a few studies have recognized these influences and are beginning to analyse when and how these contexts can work in favour of smallholder producers, this research is very much in its infancy.

4.3 COSTS AND BENEFITS FOR PARTICIPATING FARMERS: SMALLHOLDERS EXPERIENCE INCREASES IN BOTH

There is a growing body of literature on the costs and benefits of certified production and on the resulting income for participating farmers.

Of the papers in the authors’ database: 50 noted profits; 85 reported price outcomes; 50 looked at yields; 15 related to quality; 28 noted knowledge or capacity-building; 11 reported reputation effects; 35 mentioned compliance costs; and 49 reported on production costs. Overall, the literature shows increases in all these indicators. In other words, the general trend is towards increases in both benefits and costs. However, there was significant variation in data collection and analysis techniques, as well as reporting on these indicators. Not a single study reported on all these indicators; two to three indicators were usually tested together for significance in relation to voluntary standards (e.g. price, yield and costs; price, costs, profitability).

Moreover, some of the papers looked only at operational profitability, not taking into account fixed costs. Most papers failed to include certification costs in the equation. Certification costs were often reported to be borne by the exporter or cooperative, so this was already reflected in the price paid to the farmer. All papers based profitability on the actual income received from the certified crop. This therefore takes into account the fact that, in many cases, part of the harvest is sold as conventional produce for conventional prices, or is rejected for export altogether and is sold in domestic markets. Finally, there are significant cost differences between standards schemes.

As a result of these caveats, the authors present only those studies that were rated as highly rigorous in the summaries below for each standard (Figure 10). This limits the data that is presented to only 27 percent of the database, but upon comparison
Chapter 4 – Results of the literature review

of the trends across all levels of methodological rigour it shows that these studies reflect the general trends. There is a slightly higher ratio of negative effects in the less rigorous studies; however the most rigorous studies show a higher ratio of non-significance, which may offer a better explanation of these effects.

Given the variety of results found on costs and benefits, it is difficult to explain general trends for voluntary standards. Instead, we discuss the costs and benefits in relation to each individual standard. In general, the most consistently profitable standards for smallholder farmers are the Fairtrade and Organic standards. Specific explanations and examples are provided in the following subsections.

FIGURE 10
Costs and benefits (29 highly rigorous cases)

Source: authors
Legend: Profit refers to profitability per hectare or per kg of the commodity. Price refers to the price received by the producer. Yield refers to yields per hectare or per hour of labour. Quality refers to the desirable physical qualities of the product. Knowhow refers to the knowledge and capacity of the producer or exporter related to farm or business management. Repute refers to how the standard contributed to company image, recognition or reputation. C Costs stand for compliance costs and P costs stand for production costs.

Key: The symbols refer to the reported changes in the variable owing to adoption of the standard. + means an increase, - means a decrease and X means no change or neutrality owing to the evening out of positive and negative changes.

NB: The numbers in the Table refer to individual variables and thus are greater than the total number of cases cited.
**Fairtrade**

Fairtrade has been studied the most in terms of costs and benefits. There is consistent evidence that Fairtrade commands, on average, a higher price for its products, yet profitability is less apparent, with more than half of the studies showing either no significant effect from certification or a negative effect. This is of particular interest because so few studies have found costs to significantly affect Fairtrade producers. This may be explained by the use of group certification and costs being sponsored by the cooperative or external donors. In the authors’ dataset, Fairtrade is highly cross-certified with Organic, which is very common in Latin American production systems. According to Ruben, Fort and Zúñiga-Arias, (2009), the most substantial income gains are achieved in the organic production sector, while the additional income from Fairtrade is relatively modest. They found that either the non-certified producers reaped greater benefits or the differences were statistically insignificant.

Three of the non-organic Fairtrade cases in the overview are coffee cases, the other two are for bananas. This is important for two reasons. In coffee, the impact of Fairtrade on profitability is usually quite limited as, in many cases, only a small percentage of the total product volume is sold as Fairtrade and the rest is sold in the conventional market. According to Kilian et al. (2006), in 2002 only about 21,000 tonnes out of a total 63,000 tonnes of certified coffee were sold as Fairtrade coffee. Furthermore, with the rise in commodity prices in recent years, the price difference has reduced significantly, with the result that the Fairtrade social premium is sometimes the only remaining difference. Unlike the Fairtrade price, the Fairtrade social premium is not normally paid to farmers but is used collectively by the farmer cooperative. The impact of the social premium may therefore be more important if it is used well by the farmer organization.

A couple studies have shown that profitability is more often linked to greater yields than to higher prices (Valkila 2009; Barham et al. 2011), however these data do not show consistently that greater yields are linked significantly to Fairtrade. The same is true for quality. However, benefits related to reputation and knowledge-building have been found to be positively significant with Fairtrade certification.

**Organic**

In general, Organic certification has a significant positive impact on the profitability of the certified crops and farms (10 of the 14 cases). The adoption of Organic certification brought with it increased production costs in 8 out of 13 cases, caused by shifts from input costs to labour costs, and increases in compliance costs in two out of three cases. Reputation and knowledge were seen to increase in four cases and the evidence linking Organic to quality is inconclusive. The biggest debate in the literature on organic is between yields and prices. In three out of seven cases where organic farms were compared with similar, high-input conventional farms, yields were lower, but this was offset by higher prices. Bolwig, Gibbon and Jones, (2009) found that the positive revenue effects were greater for the certification component than for organic practices.

Even where profitability was found to be higher for converted high-input farms (six out of seven), these farms often experience an initial yield decline during the years in conversion when they do not yet receive the organic premium. It is there-
fore important to consider the break-even year. Based on yield, cost and price data from various studies, Rieple and Singh (2010) estimated that organic cotton farms would be profitable from the first year of conversion but that, considering initial decline in profits as ‘loss’, they would not break even until the sixth year. This transition period has often been discussed in the literature as it is recognized as a time when organic farmers often suffer losses because of the need to make investments during a period when price premiums are not available. Although some have suggested using donor funds during this period, the EPOPA project report noted that it might be better to stimulate productivity gains through improved knowledge of market opportunities for certified products, which would provide better incentives for farmer and exporter investment (Van Elzakker and Leijdens 2000). Others have suggested contract farming. Using an endogenous switching regression model to assess the profitability of organic contract farms compared with conventional farms in Lao PDR, Setboonsarng et al. (2008) found that organic farmers under contract earn significantly higher profits than conventional farmers. They also saw the greatest income increases for farmers with below average productivity performance.

One study found that a reduction in yields is not a necessary outcome of organic practices (Lyngbæk et al. 2001). Much of the field research on organic farming comes from northern countries and these studies show that variation is rampant between yields and production costs, depending on the type of farm management employed. However, the studies from developing countries do show that higher yields and higher prices are possible (FAO, 2009b), especially when farmers transition from low-input systems to more intensive organic systems.

**Rainforest Alliance/CAFE Practices**

One study examined cost–benefit indicators for Rainforest Alliance and Starbucks CAFE Practices standards (Ruben and Zuniga 2011). In a rigorous study, Ruben and Zuniga (2011) matched 315 coffee farmers in northern Nicaragua to compare Fair Trade, Rainforest Alliance and CAFE Practices labels with each other and with non-certified farmers. They found higher yields for farmers certified against Rainforest Alliance and CAFE Practices compared with Fairtrade. Only CAFE Practices certified farmers had higher yields than conventional farmers; however prices did not differ significantly between the different groups. These standards also had a larger segment of producers with higher quality performance, which the authors link to the greater application of GAP at farm level.

**GlobalGAP, SQF 1000**

Although much has been written about GlobalGAP’s perceived exclusion of smallholders, only one rigorous study measured cost and benefit indicators, finding increased compliance costs for fruit and vegetable exporters in South Africa (Henson et al. 2011). A separate report looked at SQF 1000 certification in the Pangasius value chain in Vietnam and found insignificant price premiums (Khiem et al. 2010).

---

34 Although this reference is not in the authors’ evidence base because it does not focus specifically on smallholder access, it was in the full corpus.
Two additional studies of medium rigour are worth reporting here because they help to nuance the cost–benefit ratio of the private food safety standards cited above. The highly cited reports (Asfaw et al. 2010; de Battisti et al. 2009; Dolan and Humphrey 2000; Roy and Thorat 2008) from the GlobalGAP project in the Kenyan horticulture sector found that 60 percent of the smallholders in Kenya included in the project had been dropped by their exporter partner. The main reasons given for dropping out of GlobalGAP compliance were high investment and running costs and lack of, or inadequate, price premiums for certified crops. The commonest cause of individual grower withdrawal from GlobalGAP was inability to deal with the complexities of the standard and the high costs associated with compliance. Even growers linked to large export companies have lost out, as the high costs associated with testing for pesticide residues on every farm site and farm, or plot-level traceability systems for very small production volumes, can make continued procurement from smallholders unattractive.

One empirical study investigated GlobalGAP’s impact on the profitability of participating farmers, again for the Kenyan vegetable case (Roy and Thorat 2008). This study found that, for farmers who managed to become certified, the higher price they received (compared with selling to buyers who do not require certification) offsets the increased production costs. Quality was also shown to be important for horticulture crops, and was often a barrier to entry into these higher value markets (Asfaw et al. 2010; Roy and Thorat 2008).

**Forest certification (FSC, PEFC, ISO 14000)**

The results from this literature review support claims that forest certification only rarely generate a price premium that covers the cost of compliance and certification (Bass et al. 2001). The two case studies with counterfactual evidence show neutral results for profitability and price and higher or neutral production and compliance costs. Reputation effects were found to be positive for forest managers who adopted any of the three labels (Louman et al. 2005; Bass et al. 2001). A slightly less rigorous study found some positive price premiums for FSC certified products (Nebel et al. 2005).

**Geographical indications**

The one rigorous study of GIs examines Basmati rice in India (Jena and Grote 2010). The use of the name Basmati is protected for certain geographic origins. The case compares farmers growing Basmati rice with farmers in the same region growing other rice varieties. The study found that the higher price of Basmati rice offsets the lower yields when compared with higher yielding rice varieties in the study area. Quality is also a very common feature of GI systems and was shown to be significant for GI certification in this case.

In this section, the authors have illustrated some of the diverse cost and benefit outcomes that found to be significantly attributable to voluntary standards. Overall there seems to be a positive trend in prices, while increased profits are not guaranteed. The above results should, however, be interpreted with caution as some studies noted the difficulty of separating the premium received for certification from that received for quality. Indeed, most of the standards studied herein do not require a price premium, nor do they have a very good system of tracking premiums when
they are received. Kilian et al. (2006) noted that, for regular quality coffees, the certification premium was fairly important but that, for high quality coffees, the quality premium was as important and, for specialty coffees, the price was almost entirely determined by quality with only a small top-up for certification.

Conversely, the quality premium itself may be a result of the standard implementation and certification system. The implementation of improved farming practices, as required by the standard, may improve quality, and training on standard requirements often goes hand in hand with training on quality requirements. The inability of most studies to elaborate on the relationship between physical and organoleptic quality and standards is a gap that remains in the literature.

**How is revenue distributed along the chain? An unanswered question on the equity of certified value chains**

One final question relating to positive cost and benefit outcomes of standards is how revenue is distributed along the value chain. Increased revenues for smallholders may also be achieved by redistributing revenue along the chain, rather than purely through increases in producer prices. However, relatively few studies have examined this issue. The small number of studies on this question points again to the difficulty of disaggregating prices. For example, it is not always obvious with which conventional prices the certified product price should be compared. For example, visible product quality differences and origin mixes (as in conventional coffee blends) command different prices in both conventional and certified markets, meaning that differences between conventional and certified prices along the value chain may result from these horizontal differences. In other words, there are different prices in different chains and more revenue for producers in certified chains does not necessarily stem from certification, but perhaps from other chain factors, such as quality, quantity and logistics. Another problem is the availability and reliability of statistical data for export and import volumes and value needed to calculate unit values as a proxy for prices at different points of exchange along the value chain. Despite these limitations, four studies are worth noting.

The FAO report by Pascal Liu (2008) on the banana chain investigates different combinations of organic origins (Dominican Republic and Peru) and destination markets (France/Europe and the United States). This study mainly shows the impact of the European quota system, which artificially increases banana prices in Europe in general. This effect is even larger for organic bananas, as organic (and Fairtrade) bananas are handled mainly by new exporters without historic quota rights, and this increased artificial scarcity results in higher importer margins for organic bananas.

In the case of Fairtrade, the result is very sensitive to fluctuations in world market prices. The minimum price means that the producer share may increase significantly when world market prices are well below this minimum, but the Fairtrade retail premium may be captured mainly downstream when world market prices are high and the producer receives only the Fairtrade social premium on top of the conventional price (cf. Valkila et al. 2010).

Neilson (2008) argues that in Indonesia, voluntary standards may increase transaction costs along the value chain and exert an overall downward pressure on farmgate prices. He found these effects to be an unintended consequence of
the structural changes in farmer organization, trader–farmer relationships, and increased upstream penetration of multinational trading companies into coffee-producing areas across Indonesia. In contrast, this was not found to be the case for small-scale organic pineapple producers in Ghana, as a study by Kleeman (2011) shows that smallholders collect a fair share of the price premium at the retail level.

The main limitation of these types of studies is that whereas compliance costs for producers can be relatively easily investigated, importers and retailers do not usually share revenue distribution information. Also importers, wholesalers and retailers create extra costs for certified products because of the relatively small volumes and extra paperwork. At the retail level, the percentage of unsold products may also differ from conventional products. The evidence in this review of the distribution of the price premium along the chain says little about the profit margins of individual chain actors, or about how changes in revenue distribution might influence smallholder participation. Nonetheless, this is an important issue from the consumer point of view and for the credibility of sustainability labels, especially Fairtrade, which claims to be fostering more equitable trade. Empirical studies that are able to capture these relationships would greatly enhance knowledge about the inclusivity of certified sustainable value chains.

4.4 Evidence of Smallholder Market Participation

As explored in the previous sections, the degree of market participation is mediated by a number of factors and can manifest itself in a variety of ways. Thirty-six percent of the studies reviewed highlight the ways that smallholders are either included or excluded from participation. First, a number of authors look at the impact on market access of being certified. It is self-evident that certified farmers have access to markets that require certification, whereas non-certified farmers have no such access. When looking at market access as a more general opportunity to sell products or as business opportunities, certified farmers may have better access to market information and credit, which would also enable them to sell higher volumes in markets that do not require certification. This approach attempts to capture the different ways in which smallholders are brought into markets through vertical coordination or integration, upgrading or rural employment.

The second approach is to look at whether markets that require certification have an effect on the composition of their supplier base, for example whether the percentage of smallholders is lower or higher than for similar markets that do not require certification. The second approach covers studies that investigate specifically whether smallholders are excluded from the overall value chain. Most of these studies looked at changes over time in the total number or share of smallholders in a particular chain, seeking to determine whether smallholder farmers and exporters are excluded from markets.

While these are degree variables, meaning that it is important to learn ‘to what degree’ one phenomenon happens compared with another, it was not possible to conduct this type of analysis of the literature reviewed. Therefore, indicators were created based on whether or not the reviewed cases reported evidence of the phenomenon. Similar trends were found across all three levels of methodological rigour, with the least rigorous studies showing a greater ratio of smallholder inclusion, reflecting the predominance of project reports found in this category. Figure 11
Chapter 4 – Results of the literature review

presents the results of this analysis but does not differentiate between levels of rigour because of the high degree of consistency found in their results.

**Vertical coordination, smallholder upgrading and rural employment**

The studies covered in this review show evidence of vertical coordination across most of the standards studied. The ITC (2011a) study showed that there are two components of increased vertical coordination in value chains that can have broader impacts on value chain governance. First, vertical coordination puts additional demands on producers and exporters, requiring organizational and financial strength or support from other actors (inside or outside the chain). Indeed, the general belief is that certification programmes cannot be implemented in uncoordinated value chains that are governed through open markets (Giovannucci and Ponte 2005). In the literature, this type of vertical coordination was found to be linked to tight contractual relationships, as discussed in section 4.2. For example, Raynolds and Nggwangu (2010) found that a high degree of buyer involvement in a relational coordination role increases the degree of change at the production level towards reaching the standards’ objectives.

There have been some exceptions to this rule, notably the sale of Fairtrade tea through the Mombasa tea auction (Dolan 2010) and a new cut flower standard operating in Dutch flower auctions (Riisgaard 2009). However, further research by Riisgaard shows that the international flower standards (ICC, FLP, and FPP) do have tendencies towards vertical coordination (Riisgaard and Hammer 2011).
The second aspect is that vertical coordination enables producers with the requisite capacity to carry out value-addition activities and increase revenues. This is what is meant by value chain upgrading, where smallholders begin to gain strategic positioning within higher value-added stages in the value chain—often the processing and trading stages. Jaffee and Masakure (2005) argue that, to succeed in entering the processing stage, substantial investments must be made. According to the evidence in this review, initial investments are difficult for smallholders. Indeed, Figure 11 shows very mixed results regarding whether or not voluntary standards are enabling smallholder upgrading, with 14 cases showing that upgrading was not present and 12 cases claiming that upgrading had occurred.

In contrast, there is evidence (100 percent of the 14 studies that included this variable) that rural employment is linked to voluntary standards. The relationship between the observed vertical coordination and rural employment may be explained by Maertens and Swinnen’s (2009) conclusions from Senegal where consolidation during the restructuring of the Senegalese green bean export sector, reflecting increased backward vertical integration of the larger exporters, created employment opportunities for poorer households. However, this case does show that the increased employment results in a smaller number of smallholder farmers, as smallholders switched from being outgrowers to being employees on the certified farm. From a systems perspective, it is necessary to look at how increased employment in certified farms influences smallholder production and other jobs that may be shed as certified farms push out non-certified farms. Knowledge of how these dynamics work in specific rural economies would be extremely helpful in understanding the net effect of voluntary standards on rural employment. Studies published hitherto provide too little evidence to draw such conclusions.

**Small exporter and small farmer inclusion**

Thus the above-mentioned dynamics of when and how smallholders might participate in certified markets influence whether or not voluntary standards can be considered inclusive or exclusive. Although few studies make any claims about small exporter inclusion (eight cases), the results show that there were slightly more responses suggesting that voluntary standards exclude small exporters. No definitive conclusion can be drawn about the inclusionary nature of voluntary standards because relatively few studies focus on impacts beyond the farm level and into the value chain. Also, the standards that did not report inclusion (GlobalGAP, Fairtrade, Organic, Rainforest Alliance and UTZ) show the need for economies of scale at the export level and a predominance of preferred-supplier contracts (Neilson 2008; Maertens and Swinnen 2009; Dolan and Humphrey 2000; de Battisti et al. 2009).

Thirty-two cases commented on smallholder inclusion, with mixed results (15 claiming exclusion and 22 claiming inclusion). Some standards are predominantly referred to as exclusive and others as inclusive (see Figure 11). The results for each standard are summarized briefly below.

**Fairtrade standards**

FLO Fairtrade standards have been developed specifically to provide smallholders with the opportunity to participate in export value chains. The literature shows that Fairtrade has been predominantly smallholder inclusive. Some papers reflect
on the effect of the introduction of Fairtrade standards for hired labour situations, which makes certification of plantations possible, and on the effect of mainstreaming efforts involving major traders. However, these papers compare the ‘new Fairtrade situation’ with the ‘old smallholder-only Fairtrade situation’ rather than with the conventional non-certified situation. The two papers that found Fairtrade to be exclusionary noted that the obligatory organization of farmers into cooperatives could exclude smallholder farmers from participating (Calo and Wise 2005; Ramm et al. 2008).

Organic standards
No specific empirical study on the degree of smallholder participation in certified organic trade was found. Several studies comparing organic with conventional smallholder groups found correlations between organic certification and larger farm size (see paragraph on adoption determinants for references). On the other hand, in the banana sector it has been observed that conventional bananas are normally sourced from plantations, whereas the share of smallholder production in organic banana production is substantial (FAO 2008).

Food safety standards
Several authors argue that increasingly stringent food standards, including regulations, supermarkets’ own codes of practice and voluntary standards, have led to smallholder exclusion. The majority of the studies focused on GlobalGAP, predominantly in Kenya. Dolan and Humphrey (2000) claimed that, whereas in 1992 close to 75 percent of fresh fruit and vegetables were grown by smallholders, by 1998 four of the five largest exporters in Kenya sourced only 18 percent of produce from smallholders. However, this was contested by Jensen (2003) who estimated that smallholders accounted for some 50 percent of exported fruits and vegetables in the late 1990s, and by Jaffee (2003), who found that, although the share of exported vegetables sourced from smallholders had dropped from 45 percent in the mid-1980s to 27 percent in 2001/02, the volume of vegetables sourced from smallholders had stayed the same. He explained that most of the export growth had been for new crops for which smallholders had no comparative advantage, whereas smallholders had maintained their dominance in green bean exports. However, Graffham (2007 in de Battisti et al. 2009) confirmed the exclusion of small exporters and small producers from the Kenya vegetable export sector, this time related specifically to the effects of GlobalGAP. In a review of GlobalGAP projects, Diaz Rios et al. (2009) argue that GlobalGAP projects paid too much attention to standards compliance issues, rather than focusing on the more fundamental infrastructural constraints that hindered participation in the industry in general.

Rainforest Alliance, UTZ Certified and CAFE Practices
The data on smallholder exclusion for Rainforest Alliance and C.A.F.E Practices are very limited (one study each), while there are no data related to UTZ Certified. However, the study that examined Rainforest Alliance and CAFE Practices found these standards systems to be inclusive for Nicaraguan smallholder coffee producers (Ruben and Zuniga 2011).
**Forest certification**

Although forest certification was originally an alternative to consumer boycotts of tropical hardwood, more than 80 percent of the certified forest area is now in the United States, Canada, and Europe, with only 10 percent in tropical countries. Most certified forests are publicly owned, about 35 percent are private, and only 3 percent of the area of certified forests is community owned, while the community share of the global forest estate is significant: about 25 percent in developing countries, and growing (Rametsteiner and Simula 2003; Molnar 2003; cited in Klooster 2005). De Lima et al. (2008) found that certified community producers experienced difficulty in both access to markets for certified wood and to gaining aggregated value for certified wood. However, community producers were aware of greater consumer acceptance of certified wood.

**Fisheries certification**

Ponte (2008) observes that, by 2006, only four developing country fisheries were certified as compliant with the MSC standard and two were undergoing certification. They were all in middle-income countries (South Africa, Mexico, Argentina and Chile.) Ponte concludes that developing country fisheries, and small-scale, data-poor ones in particular, have been marginalized in the MSC system. This is confirmed by Pérez-Ramírez et al. (2012) in their overview of certification in developing country fisheries.

**Geographical indications**

GIs are a fundamentally different type of standard as they can be seen as an effort to construct a producer-driven chain based upon a geographically limited brand creating an entry barrier to producers outside the geographical location. In other words, geographical exclusion of producers is a characteristic of the standard. As the standards (code of practice) are set by the producer group or local stakeholder group in which the producers play a major part, the question about the inclusionary potential of the standard focuses on whether smallholders are sufficiently represented in these local standard-setting processes. Boucher (2006) presents a series of examples of GIs developed for dairy products (specifically cheese) in Latin America and illustrates how heavily involved smallholders were in constructing the standards and local agrifood systems based on products of designated origin.
Chapter 5
Conclusions and strategic recommendations for FAO

The results of this literature review point to a mixed picture in terms of aggregate smallholder market participation. However, the results do highlight a number of trends, as follows.

1. There is some evidence of economies of scale in certified markets and a tendency for self-selection in these systems as farmers and exporters who have the means to make the initial investments are the first to join. Some studies have shown that the ability of exporters and farmers to meet requirements set by voluntary standards largely depends on greater financial, environmental, physical and human capabilities at farm level. Self-selection is strongly related to the evidence of exclusion found in standards that focus primarily on good agricultural practice and general food safety.

2. There is evidence that the choices made by retailers, manufacturers and importers on the types of quality, safety and sustainability standards and the producers that they are willing to work with are fundamental to the ability of voluntary standards to positively impact smallholder market participation. In other words, there is evidence that buyer preferences, pre-existing buyer–supplier relations and producer organizational structures are selection mechanisms for the adoption of standards by small-scale producers.

3. The institutional contexts within which smallholders operate are important. Recent research has begun to pay attention to institutional contexts in order to understand how standards interact with pre-existing norms of production and trade. National institutions to support farmers’ compliance with standards that have a market demand is a necessary, but insufficient, condition for increasing smallholder participation in markets.

4. In most sectors and countries, compliance with standards and certification does increase costs but also increases farmgate prices. Some evidence of increased profitability was found for Fairtrade and Organic certification, but the evidence is not conclusive.

5. There is evidence of rural employment in certified value chains. However, the literature suggests that this may be caused by a shift from smallholder agriculture to employed labour in certified farms. The literature is also insufficient to provide an aggregate picture of the influence of certified agriculture on rural employment trends.

These trends suggest four broad conclusions based on existing knowledge of the impact of standards on smallholder market participation. These conclusions meet
the objectives of this study, which are to present an overview of the results of independent, empirical studies that have been undertaken to date on the issue of smallholder market participation and to identify major gaps in the current literature. The conclusions are used as a basis to provide recommendations on how FAO can strategically engage in the debate concerning international voluntary standards.

5.1 THE EVIDENCE OF THE IMPACT OF INTERNATIONAL VOLUNTARY STANDARDS IS RELATIVELY WEAK

Although this study found and explored a rather large number of studies on the impact of standards on smallholder market participation, much of the literature draws upon a core set of empirical studies focusing mainly on three standards (GlobalGAP, Fairtrade and Organic). These studies have been consolidated in a few popular countries (Kenya, Mexico, Peru, Costa Rica and Uganda) and have emerged from key long-term development or donor-funded research projects, or they have been commissioned by interested NGOs. This ties research results closely to donor objectives and thus the evidence collected about market participation by smallholders has been the focus of only a small set of research projects. There is a significant body of independent academic literature that focuses on the impact of international voluntary standards in several areas that were not considered in this review because they were not within the study parameters: (1) environmental impacts that are not necessarily connected with the certification mechanism; (2) standards and certification as systems of governance; (3) impacts on large-scale producers or producers in high income countries; and (4) private standards as part of procurement system modernization. Consequently, the evidence on the causal impact of international voluntary standards on market participation by small-scale producers in developing countries is still relatively weak. Nonetheless, the literature review method is saturated and the evidence base should be strengthened with new, rigorous empirical research in under-studied countries.

Clear gaps remain in the literature. First, rigorous studies addressing the relationships between international voluntary standards and the full set of variables identified in this review have not been conducted. As explained in the text, most studies focus on just a selection of these variables and do not look at their interactions from a systems perspective. As a result, no meaningful conclusions can be drawn on important issues, such as rural employment or revenue distribution, as there are simply not enough studies that show consistent results. Moreover, the influence of support services and subsidies, standards systems variables or quality on cost–benefit and participation outcomes for smallholders in developing countries remain to be explored. Second, the studies to date have focused primarily on coffee and horticulture. There is little research on international voluntary standards in other export crops, food crops or biofuel crops. Existing research on the interactions between local, national and international standards in non-export crops should be extended and integrated with the literature cited in this study. Third, only a handful

---

35 There is a body of literature on modern channel adoption or agrifood industry transformation that examines these questions from a systemic perspective. Owing to the limitations of this study, the breadth of this literature is not included in the current review.
of studies have examined third-generation multistakeholder initiatives (soy, palm oil, beef, biofuels, etc.) (see Djama et al. 2011). As these more recent initiatives are becoming increasingly influential in the post-2015 agenda, it is important to understand how these new partnerships and standards are influencing smallholders’ ability to participate in certified value chains.

It is clear from the literature reviewed that a wide range of qualitative and quantitative methods have been used to measure impact, each with its strengths and weaknesses. It is also clear from the literature that understanding the complex relationships between standards, value chains, outcomes and impacts calls for a mixed-method systems perspective founded on rigorous qualitative and quantitative data collection and analysis. Specifically, the two core questions that must be resolved remain: What impacts emerge? and How do they occur?

The above conclusion shows that there is a need for consistent impact methodology that can provide comparable results at different levels of aggregation (household, enterprise, community, national, and international). A number of different initiatives have been launched and FAO would do well to stay informed of their progress.

The ISEAL Alliance has created a standard for measuring the impact of its members’ standards. One of the requirements of this standard is to create a monitoring and evaluation programme for each standard system, which will create data that can be used to measure impact. This activity should make future external evaluations of standards activities easier to conduct as there will be greater volumes of data and more transparency.

A major ongoing research initiative is the Committee on Sustainability Assessment (COSA™), a non-profit global consortium of institutions developing and applying an independent measurement tool to analyse the distinct social, environmental and economic impacts of many agricultural practices, particularly those associated with the implementation of specific sustainability programmes. COSA is hosted by IISD and supported by UNCTAD, IFAD, ITC and the World Bank, as well as other organizations.

COSA is developing a globally consistent and scientifically rigorous methodology and indicators for different crops. COSA plans to secure data on tens of thousands of farms across a number of commodity producing countries. This methodology focuses on impact at the producer and farm level and will not include impact at the value chain level. COSA started by focusing on the coffee sector but is now expanding into cocoa and other agricultural products. COSA's first publication giving preliminary results in the coffee sector did not allow the results to be linked to the specific standards because their farm model was anonymous. Therefore its conclusions could not be used in this overview. However, this type of impact data is much needed for examining impacts beyond market participation. Particularly useful is COSA's approach to looking at a comprehensive set of indicators from a risk perspective.

Recommendation 1: FAO should collaborate with ongoing efforts to improve impact assessment.
5.2 The Impact of Voluntary Standards on Smallholders Is Case-Specific

The differences in the results of the cited studies demonstrate how geographic, institutional and value chain differences influence the impact of standards systems. Thus, how standards influence smallholder market participation is extremely context-specific.

As illustrated in the literature related to vertical coordination and national level adoption determinants, the structure and influence of value chains and multilevel institutional contexts are important determinants of the extent to which smallholders are included in certified value chains and the resulting impacts. It is therefore very difficult to draw general conclusions about the exclusionary or inclusionary nature of a particular standard. This conclusion concurs with similar conclusions drawn by recently published literature reviews and by aggregate studies of food safety standards (Henson and Jaffee 2008; Henson and Humphrey 2010).

Evidence from the project reports and a handful of studies suggests that there is a relationship between certification and the additional services (management training, information transmission and extension services) required for joining certified systems. In some cases, these are provided as part of the standard package, while in others this is not the case and these services are organized through alternative public (extension) or private means (consultancy, donor projects). There is a gap in the literature on this issue, as virtually no studies have examined the linkages between these services and social, economic or environmental impact indicators. Likewise, given the increasing changes being made to standards systems, including alternative approaches to verification and certification, it is important to understand how third-party audits impact smallholder inclusion in markets and whether or not alternative verification methods contribute to positive inclusion of smallholders.

There has been some discussion in the literature regarding the trade-offs between yields and prices. A few studies compared certified products with non-certified (mainly organic) products and found that, in most cases, yields have remained the same or decreased, while prices have increased (e.g., Daviron and Ponte 2005; FAO 2009; FAO 2007b; Ruben et al. 2009; Jena and Grote 2010; Kilian et al. 2006). In cases that found higher profitability for certified farmers, many gains had come from increases in productivity, rather than from price premiums alone or reductions in production costs (Barham et al. 2011; Barham and Weber 2012; Beuchelt and Zeller 2011; Bolwig et al. 2009; Eyhorn et al. 2005; Roy and Thorat 2008). Therefore the relationship between productivity, prices and profitability is unclear, as the literature is extremely diverse. It has been suggested that more careful examination of the relationship between the best practices outlined in the standards and the changes observed in productivity is needed to understand whether productivity improvements can carve a path to higher incomes and sustainable outcomes rather than focusing primarily on prices, as has been common in standards systems (Barham and Weber 2012). In other words, there needs to be a better understanding of the cumulative effects of participating in a standards system and the improved agricultural practices that this system promotes.

Overall there seems to be a positive trend in prices. However, some studies have noted the difficulty of separating the premium received for certification from that received for quality. Conversely, the quality premium itself may be a result
of the standard implementation and certification system. Implementing improved farming practices as required by the standard may improve the quality, and training on standard requirements often goes hand in hand with training on quality requirements. The inability of most studies to elaborate on the relationship between physical and organoleptic quality and standards is a continuing gap that remains in the literature. The policy implication of this is that there are public programs that focus on quality and safety for the purposes of consumer protection, whereas the programs that assist producers to comply with standards are of a private nature. Exploring the relationship between quality and standards could help to provide information to policy-makers that can facilitate decision-making around supporting quality improvement programs through standards or though alternative means.

This poses additional empirical and policy questions. To date, there is scant literature that examines the linkages between the agriculture practices detailed in the standards and the market advantages of voluntary standards. Most studies have taken the standards systems as a type of value chain or purely as a market, rather than examining the specific practices that are put into place to comply with and maintain the system. The majority of the benefits provided by the standards studied are related to the efficiencies gained through management practices (i.e., farm, environmental, risk and business management) rather than to the introduction of new agricultural technologies (i.e., improved seeds, mechanization, etc). A greater disaggregation of the components of the standards systems would help to identify how individual management practices are linked to market advantages through the mechanism of voluntary standards. However, it is also important to realize that standards are increasingly used as a part of a technological ‘package’ that cumulatively have impacts on smallholder market access. Therefore, it remains important to develop methods that can adequately assess the impact of the entire package and not solely individual practices. These approaches towards impact measurement has been proposed by ISEAL Alliance members and thus results may be forthcoming (SKASC 2012). These types of impact evidence can better inform policy decisions related to agricultural and trade practices.

**Recommendation 2:** FAO should focus on the impact of voluntary standards by exploring the extent to which they can promote the uptake of good practices (agricultural, manufacturing and management) that are known to contribute to improved market access for smallholders.

### 5.3 Smallholders Need to Be Organized to Be Able to Participate in Certified Value Chains

The most strongly supported conclusion from this study is that smallholders can access certified markets only through group certification. They thus need to form associations or cooperatives, or be part of an outgrower scheme in a contract farming situation. This conclusion is linked to the importance of economies of scale and the tendencies towards vertical coordination found in certified value chains. Vertical coordination puts additional demands on producers and exporters requiring organizational and financial strength or support from other actors (inside or outside the chain). For example, there is evidence that the organizational and management capacity that Fairtrade schemes invest in have produced spill-over
effects on conventional markets in terms of competitive pricing and labour conditions. Spill-over effects deserve more attention as certified farmers may also have better access to market information and to credit, which would enable them to sell higher volumes also in markets that do not require the certification. The literature reviewed in this study shows that standards and certification can help smallholder market integration, but they must be seen as a continuum of improvements towards long-term competitiveness rather than an immediate one-time boost to sales. Investing in support to producer organizations and contract farming schemes contribute to this long-term goal.

Recommendation 3: FAO should facilitate research and public-private interventions that focus on smallholder organization so to achieve more equitable outcomes for smallholders in value chains.

5.4 Governments CAN PROVIDE SERVICES THAT MAKE PARTICIPATION EASIER

Contrary to earlier studies, recent empirical studies and comprehensive literature reviews have recognized that there is indeed a role for governments in voluntary standards. There has been a shift in the literature from referring to voluntary standards as purely private mechanisms to recognition of synergies and hybrid models of governance whereby voluntary standards interact with public institutions (SKASC 2012). It is suggested that the most positive impacts are to be found in these interactions between public and private initiatives. The literature reviewed in this study illustrates three core roles for governments:

First, governments act as ‘enablers’ where they can foster the conditions that facilitate and encourage the private sector to create smallholder inclusive value chains. One consistent conclusion from this study is that institutional frameworks are an important means through which smallholders are able to participate in certified markets. The institutional arrangements are diverse and vary from one context to the next; however a few studies have recognized these influences and are beginning to analyse when and how these contexts can work in favour of smallholder producers. Nonetheless, this research is very much in its infancy and should be further developed. Thus, it is important to recognize that government policy and institutional frameworks create enabling policy environments for investment in certification (Henson and Jaffee 2008). For example, to lower implementation costs, and thereby ease adoption and increase the chance that the net result is profitable, governments may invest in the provision of support services such as testing labs. It was found that trade standards-related infrastructural capacity (e.g. laboratory testing facilities, cold chains) and services are weak in many developing countries. These weaknesses can hinder the establishment or expansion of agrifood exports and fail to protect local consumers. Although every country takes a different approach to promoting this enabling environment based on national priorities and capacities, hybrid models of public–private partnerships for providing these types of services are increasingly common. Additionally, extension officers in areas where cash crops are grown should know about relevant standards and certification procedures. For example, some countries require international certification bodies wishing to operate in the country to open an office there. This policy ensures that improved services
are delivered to the farmers, particularly in terms of greater reach into rural areas and the hiring of local auditors who know local languages and customs. Finally, proper legislation governing farmer associations, cooperatives and outgrower schemes is also needed. This type of legislation sets out the legal and financial requirements for formal organizations and provides provisions for contract enforcement.

Second, some governments and national level producers’ associations have taken the lead from private standards initiatives to create national standards that are harmonized with international standards. Currently 17 countries have national GAP programmes recognized as equivalent to GlobalGAP. A number of studies have explored individual situations of this type (e.g. ChileGAP, KenyaGAP, Indonesian forestry, Malaysian forestry, Aquaculture, Organic, GIs). UNCTAD implemented a project in 2005 entitled ‘Reflecting National Circumstances and Development Priorities in National Codes on Good Agricultural Practices that can be Benchmarked to EurepGAP’. This project produced national level suggestions for a selection of countries in Africa, Asia and Latin America. However, the focus was specifically on the FFV sector and on national GAP strategies. It may be of interest to collaborate with UNCTAD to expand this type of project to include some of the more recent national initiatives that have been emerging, with a specific focus on improving food quality and safety and increasing smallholder market access. This type of study may provide significant insights into national level impact determinants and the roles of policy-makers.

Third, there is currently a movement towards encouraging governments to be consumers of certified products. That is, promoting the growth of certified markets by mandating their use in public procurement programmes. This was part of the GIZ Blue Angel initiative and is currently being explored by SECO. However, caution is required, as these attempts to increase demand may fail to address some of the issues that may be adding to smallholder exclusion in current value chains.

**Recommendation 4: FAO should collaborate with other UN organizations to provide advice to member governments on when and how to engage voluntary standards in order to improve smallholder market participation.**

### 5.5 Lessons and Ways Forward

In general, little is known conclusively about certification impacts and how to design programmes to maximize them. However, the lessons learned to date point to ways in which future studies should be conducted in order to create more usable knowledge.

First, the focus should be less on costs and prices and more on how and when certification can have spillover effects and longer-term impacts. It may be more fruitful to understand the relationships between certification and the adoption of good practices by producers, processors and others along value chains.

Second, there should be a transparent attempt to reflect on lessons learned within FAO projects and programmes to see where and how the use of standards and certification have brought about beneficial outcomes, and attempts should be made to improve the evaluation of project impacts related to standards and certifications. From this starting point, programmatic thinking can design the kind of interventions in capacity-building, value chain financing or contract farming that will best
benefit smallholder farmers. As many voluntary standards are not sector specific, it is important to adopt an intersectoral focus.

Third, given the evolving nature of voluntary standards, new questions are constantly emerging regarding their role in broader innovation trends in the agrifood sector. New technological developments make product labelling seem quite an old-fashioned way of trying to communicate with the consumer about the social, environmental and food safety attributes of products. For example, cell phone ‘apps’ are already being marketed that allow consumers to look up the product they are about to buy and receive instant information about the product’s social and environmental impact relative to other brands (United States Environmental Protection Agency 2013). It therefore remains important to be able to understand when and how the changes that are made to voluntary standards systems are improving smallholder market participation.

*Recommendation 5: Within the Organization’s new strategic orientations, FAO could provide an intersectoral forum where current and new work programmes on international voluntary standards can be discussed and developed.*
Annex 1

Potential objectives of impact assessment

Potential impact areas at producer level:
- knowledge and skills;
- profitability (yield, costs, price);
- business opportunities (market access, access to credit);
- labour conditions;
- overall standard of living;
- ecosystem services.

Potential impact areas at producer organization level:
- knowledge and skills, including managerial skills;
- organizational structure, member participation in decision-making, gender;
- profitability of the collective enterprise (costs, price);
- business opportunities (market access, access to credit);
- labour conditions.

Potential impact areas at the wider environment level (outcome and impact level):
- community development;
- environmental: pollution, biodiversity, etc.

Potential impact areas at consumer level:
- food safety, public health;
- consumer satisfaction.

Potential impact areas at the entire value chain level:
- impact on chain structure and the degree of vertical coordination and integration;
- impact on non-vertical governance mechanisms in the chain, such as on the development and/or implementation of official regulations and intergovernmental standards;
- impact on the extent of participation by small producers in the chain;
- impact on revenue distribution along the chain.
The characteristics of the value chain in terms of the coordination model and the number of small producers may also affect the extent of adoption of voluntary standards. Impact analysis could therefore also focus on the factors and elements favouring smallholder participation in chains governed by voluntary standards that lead to positive impacts on smallholder producers. Apart from the characteristics of the value chain, such factors could include the availability of governmental and business services and value chain finance.
Annex 2

Concepts and approaches used in the literature

Through the literature review, it became apparent that the studies were drawing upon a common theoretical basis for understanding the role of standards in value chains. It seems opportune to provide a short summary of the theoretical assumptions embedded in the results presented in this study.

First, the theoretical basis for the majority of research on the impacts of voluntary standards comes from new institutional economics and economic and organizational sociology. The most widely used perspectives in analytical papers on the impact of voluntary standards are the global commodity chain, originally introduced by Hopkins and Wallerstein (1986), and the value chain, originally developed by Porter (1990). These approaches draw upon sociology and management theories to characterize the linkages between different actors in commodity systems and value chains (Bair 2009). For the purposes of this paper, value chains are defined as the full range of activities and actors and the interrelations required to bring a product or service from conception to the final consumer (Kaplinsky and Morris 2002).

From within the new institutional economics, transaction cost theory – specifically the transaction costs related to information asymmetry (Akerlof 1970) – led to the development of the concept of credence attributes (see Chapter 3 – Labelling). Other transaction cost concepts such as asset specificity, or the non-redeployable investment made by one party in their partnership (Williamson 1985) and economies of scale (Debertin 1986), are also important in understanding the impact of standards. Even if research papers do not discuss these concepts explicitly, they often use them implicitly.

From rural sociology, the ‘adoption and diffusion of innovation theory’ examines how innovations are adopted and spread among users. Rogers (1983 [1962]) identifies five characteristics of an innovation that affect adoption decisions, namely: (1) relative advantage; (2) compatibility; (3) complexity; (4) trialability; and (5) observability, or the degree to which the results are visible. The main argument of this theory is that early adopters benefit most from innovations. The ability of early adopters to gain access to innovation is based on socio-economic factors that favour their ability to make investments and adopt new technologies before those who are unable to do so. This is often referred to as self-selection bias. These considerations have been taken into account in a number of empirical studies that attempt to understand adoption determinants for standards and have developed sampling methods and statistical analytical methods to control for selection bias.

Gereffi and Korzeniewicz (1994) identified three key dimensions to the analysis of relationships in global value chains: (1) their input–output structure and geo-
graphical coverage; (2) their form of governance; and (3) their institutional framework. The input–output structure and the geographical coverage of global value chains have been used mainly descriptively to outline the configuration of specific chains. The institutional framework is used to delineate the conditions under which ‘key’ or ‘lead’ actors incorporate subordinate actors through their control of market access and of information (both technological and market) (Jessop 1998). The governance structure introduced the key concepts of barriers to entry and chain coordination to the analytical framework.

Gereffi, Humphrey and Sturgeon (2005) propose five types of global value chain (GVC) governance – hierarchy, captive, relational, modular and market – which range from high to low levels of power asymmetry. These five types of GVC governance arise from ascribing different values to the three key variables: (1) complexity of inter-firm transactions; (2) degree to which this complexity can be mitigated through codification; and (3) extent to which suppliers have the necessary capabilities to meet the buyers’ requirements (Gereffi et al. 2005).

This has led to the identification of three main trends in GVC governance: producer-driven (Gereffi and Korzeniewicz, 1994; Raikes et al., 2000); buyer-driven (Gereffi and Korzeniewicz, 1994; Raikes et al., 2000; Gereffi, Humphrey and Sturgeon, 2005; Conroy, 2007; Dolan and Humphrey, 2000; Schmitz and Knorninga, 2000; Fold and Larsen, 2008); and, more recently, twin-driven (Islam 2008), where a lead firm (usually a buyer) governs supply chain transactions, while regulatory aspects, such as food safety, labour and environmental standards, are governed by third parties. These third parties include NGOs, standards development organizations and certification agencies. Private food safety standards are seen as tools for buyers to communicate their conditions and specifications in buyer-driven chains, whereas GIs can be seen as an effort to construct a producer-driven chain.

While these typologies of ‘drivenness’ focus on economic power within the organization of value chains, cultural power is vital to their governance (Dixon, 1999; Freidberg, 2004), particularly with respect to notions about quality (Gibbon and Ponte, 2005; Ponte and Gibbon, 2005) and stakeholder preference (cf. Pirsch et al., 2007; Ochieng, 2008). Thus there is renewed interest in exploring how governance is linked to institutional frameworks (Tallontire et al. 2011; Neilson and Pritchard 2009).
# Annex 3

## Evidence base

<table>
<thead>
<tr>
<th>Authors</th>
<th>Date</th>
<th>Cited</th>
<th>Type</th>
<th>Method</th>
<th>Rigour</th>
<th>Standard</th>
<th>Crop</th>
<th>Country</th>
</tr>
</thead>
<tbody>
<tr>
<td>Akyoo; Lazaro</td>
<td>2008</td>
<td>3</td>
<td>Emp</td>
<td>Quant</td>
<td>Med</td>
<td>Organic</td>
<td>Spices</td>
<td>Tanzania</td>
</tr>
<tr>
<td>Aloui; Kenny</td>
<td>2004</td>
<td>49</td>
<td>Emp</td>
<td>Quant</td>
<td>Low</td>
<td>GlobalGAP, BRC, ISO</td>
<td>Horticulture</td>
<td>Morocco</td>
</tr>
<tr>
<td>Andersen; Smaribas</td>
<td>2003</td>
<td>4</td>
<td>Emp</td>
<td>Quant</td>
<td>Low</td>
<td>Organic, RA/SAN, ISO</td>
<td>Horticulture</td>
<td>Costa Rica</td>
</tr>
<tr>
<td>Arnould; Plastina; Ball</td>
<td>2009</td>
<td>32</td>
<td>Emp</td>
<td>Quant</td>
<td>High</td>
<td>FLO</td>
<td>Coffee</td>
<td>Guatemala, Nicaragua, Peru</td>
</tr>
<tr>
<td>Araujo; Kant; Couto</td>
<td>2009</td>
<td>8</td>
<td>Emp</td>
<td>Quant</td>
<td>Med</td>
<td>FSC</td>
<td>Forestry</td>
<td>Brazil</td>
</tr>
<tr>
<td>Asfaw; Mithofer; Waibel</td>
<td>2008</td>
<td>26</td>
<td>Proj</td>
<td>Quant</td>
<td>Med</td>
<td>GlobalGAP</td>
<td>Horticulture</td>
<td>Kenya</td>
</tr>
<tr>
<td>Bacon</td>
<td>2005</td>
<td>327</td>
<td>Emp</td>
<td>Quant</td>
<td>Med</td>
<td>FLO</td>
<td>Coffee</td>
<td>Nicaragua</td>
</tr>
<tr>
<td>Bain</td>
<td>2010</td>
<td>3</td>
<td>Emp</td>
<td>Qual</td>
<td>Med</td>
<td>GlobalGAP</td>
<td>Horticulture</td>
<td>Chile</td>
</tr>
<tr>
<td>Barham; Callenes; Glitter; Lewis; Weber</td>
<td>2011</td>
<td>11</td>
<td>Emp</td>
<td>Quant</td>
<td>High</td>
<td>FLO, Organic</td>
<td>Coffee</td>
<td>Mexico</td>
</tr>
<tr>
<td>Barham; Weber</td>
<td>2012</td>
<td>1</td>
<td>Emp</td>
<td>Quant</td>
<td>Med</td>
<td>FLO, Organic</td>
<td>Coffee</td>
<td>Mexico, Peru</td>
</tr>
<tr>
<td>Bass; Thornber; Markopoulos; Roberts; Grieg-Gran</td>
<td>2001</td>
<td>129</td>
<td>Emp</td>
<td>Quant</td>
<td>High</td>
<td>ISO, FSC, PEFC</td>
<td>Forestry</td>
<td>Brazil, Burkina Faso, Honduras, Mexico, Peru, South Africa, Zambia</td>
</tr>
<tr>
<td>Bassett</td>
<td>2010</td>
<td>32</td>
<td>Emp</td>
<td>Qual</td>
<td>Med</td>
<td>FLO, Organic</td>
<td>Cotton</td>
<td>Burkina Faso, Mali</td>
</tr>
<tr>
<td>Becchetti; Costantino</td>
<td>2008</td>
<td>23</td>
<td>Emp</td>
<td>Quant</td>
<td>High</td>
<td>FLO, Organic</td>
<td>Horticulture</td>
<td>Kenya</td>
</tr>
<tr>
<td>Beuchelt; Zeller</td>
<td>2011</td>
<td>11</td>
<td>Emp</td>
<td>Quant</td>
<td>High</td>
<td>Organic</td>
<td>Coffee</td>
<td>Nicaragua</td>
</tr>
<tr>
<td>Beuchelt; Zeller</td>
<td>2011</td>
<td>11</td>
<td>Emp</td>
<td>Quant</td>
<td>High</td>
<td>FLO, Organic</td>
<td>Coffee</td>
<td>Nicaragua</td>
</tr>
</tbody>
</table>

1. ‘Cited’ refers to the number of times the study has been cited in Google Scholar’s Citation Index in 2012.
2. ‘Type’ refers to an empirical study (Emp) or a Project Report (Proj).
3. The method refers to a Quantitative (Quant) or Qualitative (Qual) study.
<table>
<thead>
<tr>
<th>Authors</th>
<th>Date</th>
<th>Cited</th>
<th>Type</th>
<th>Method</th>
<th>Rigour</th>
<th>Standard</th>
<th>Crop</th>
<th>Country</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bieri; Nygren</td>
<td>2011</td>
<td>0</td>
<td>Emp</td>
<td>Qual</td>
<td>Med</td>
<td>FSC</td>
<td>Forestry</td>
<td>Honduras</td>
</tr>
<tr>
<td>Vanderhoff Boersma</td>
<td>2009</td>
<td>25</td>
<td>Emp</td>
<td>Qual</td>
<td>Low</td>
<td>FLO</td>
<td>Coffee</td>
<td>Mexico</td>
</tr>
<tr>
<td>Bolwig; Gibbon; Jones</td>
<td>2009</td>
<td>66</td>
<td>Emp</td>
<td>Quant</td>
<td>High</td>
<td>Organic</td>
<td>Coffee</td>
<td>Uganda</td>
</tr>
<tr>
<td>Borot De Battisti; McGregor; Graffham</td>
<td>2009</td>
<td>35</td>
<td>Proj</td>
<td>Qual</td>
<td>Med</td>
<td>GlobalGAP</td>
<td>Horticulture</td>
<td>Kenya, Uganda, Zambia</td>
</tr>
<tr>
<td>Boucher</td>
<td>2006</td>
<td>0</td>
<td>Emp</td>
<td>Qual</td>
<td>Med</td>
<td>GI</td>
<td>Livestock</td>
<td>Costa Rica, Ecuador, Mexico, Peru</td>
</tr>
<tr>
<td>Bowen; Zapata</td>
<td>2010</td>
<td>39</td>
<td>Emp</td>
<td>Qual</td>
<td>Med</td>
<td>GI</td>
<td>Wine &amp; Spirits</td>
<td>Mexico</td>
</tr>
<tr>
<td>Calo; Wise</td>
<td>2005</td>
<td>80</td>
<td>Emp</td>
<td>Quant</td>
<td>Low</td>
<td>Organic</td>
<td>Coffee</td>
<td>Mexico</td>
</tr>
<tr>
<td>Calo; Wise</td>
<td>2005</td>
<td>80</td>
<td>Emp</td>
<td>Quant</td>
<td>Low</td>
<td>FLO</td>
<td>Coffee</td>
<td>Mexico</td>
</tr>
<tr>
<td>Carey</td>
<td>2008</td>
<td>0</td>
<td>Emp</td>
<td>Qual</td>
<td>Low</td>
<td>FSC</td>
<td>Forestry</td>
<td>Guatemala</td>
</tr>
<tr>
<td>Chemnitz</td>
<td>2007</td>
<td>10</td>
<td>Emp</td>
<td>Quant</td>
<td>Low</td>
<td>GlobalGAP, BRC</td>
<td>Horticulture</td>
<td>Morocco</td>
</tr>
<tr>
<td>Colen; Maertens; Swinnen</td>
<td>2012</td>
<td>0</td>
<td>Emp</td>
<td>Quant</td>
<td>Med</td>
<td>GlobalGAP</td>
<td>Horticulture</td>
<td>Senegal</td>
</tr>
<tr>
<td>Cubbage; Moore; Henderson; Araujo</td>
<td>2009</td>
<td>0</td>
<td>Emp</td>
<td>Quant</td>
<td>Med</td>
<td>FSC</td>
<td>Forestry</td>
<td>Colombia</td>
</tr>
<tr>
<td>Damiani</td>
<td>2001</td>
<td>0</td>
<td>Proj</td>
<td>Qual</td>
<td>Med</td>
<td>Organic</td>
<td>Horticulture</td>
<td>El Salvador</td>
</tr>
<tr>
<td>Damiani</td>
<td>2002</td>
<td>0</td>
<td>Proj</td>
<td>Qual</td>
<td>Med</td>
<td>Organic</td>
<td>Coffee</td>
<td>Guatemala</td>
</tr>
<tr>
<td>Damiani</td>
<td>2002</td>
<td>0</td>
<td>Proj</td>
<td>Qual</td>
<td>Med</td>
<td>Organic</td>
<td>Bananas</td>
<td>Dominican Republic</td>
</tr>
<tr>
<td>Daviron; Ponte</td>
<td>2005</td>
<td>268</td>
<td>Emp</td>
<td>Quant</td>
<td>High</td>
<td>FLO, Organic</td>
<td>Coffee</td>
<td>Uganda</td>
</tr>
<tr>
<td>De Lima; Novaes; Keppe; Maule; Sparovek; Corréa Alves; Maule</td>
<td>2009</td>
<td>5</td>
<td>Emp</td>
<td>Quant</td>
<td>High</td>
<td>FSC</td>
<td>Forestry</td>
<td>Brazil</td>
</tr>
<tr>
<td>Diaz Rios; Jaffee; Henson; Mugisha</td>
<td>2009</td>
<td>2</td>
<td>Emp</td>
<td>Qual</td>
<td>Med</td>
<td>GlobalGAP</td>
<td>Horticulture</td>
<td>Uganda</td>
</tr>
<tr>
<td>Dolan; Humphrey</td>
<td>2000</td>
<td>666</td>
<td>Emp</td>
<td>Qual</td>
<td>Med</td>
<td>GlobalGAP</td>
<td>Horticulture</td>
<td>Kenya, Zimbabwe</td>
</tr>
</tbody>
</table>

1 ‘Cited’ refers to the number of times the study has been cited in Google Scholar’s Citation Index in 2012.
2 ‘Type’ refers to an empirical study (Emp) or a Project Report (Proj).
3 The method refers to a Quantitative (Quant) or Qualitative (Qual) study.
### Annex 3 – Evidence base

<table>
<thead>
<tr>
<th>Authors</th>
<th>Date</th>
<th>Cited</th>
<th>Type</th>
<th>Method</th>
<th>Rigour</th>
<th>Standard</th>
<th>Crop</th>
<th>Country</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eyhorn; Mader; Ramakrishnan</td>
<td>2007</td>
<td>36</td>
<td>Emp</td>
<td>Quant</td>
<td>High</td>
<td>Organic</td>
<td>Cereals, Cotton, Horticulture, Soy</td>
<td>India</td>
</tr>
<tr>
<td>FAO</td>
<td>2007b</td>
<td>6</td>
<td>Emp</td>
<td>Quant</td>
<td>Low</td>
<td>Organic</td>
<td>Cereals</td>
<td>India</td>
</tr>
<tr>
<td>FAO</td>
<td>2007b</td>
<td>6</td>
<td>Emp</td>
<td>Quant</td>
<td>Low</td>
<td>Organic</td>
<td>Cereals</td>
<td>Thailand</td>
</tr>
<tr>
<td>FAO</td>
<td>2007b</td>
<td>6</td>
<td>Emp</td>
<td>Quant</td>
<td>Low</td>
<td>Organic</td>
<td>Horticulture</td>
<td>Brazil</td>
</tr>
<tr>
<td>FAO</td>
<td>2009</td>
<td>0</td>
<td>Proj</td>
<td>Quant</td>
<td>Low</td>
<td>FLO, Organic</td>
<td>Horticulture</td>
<td>Burkina Faso</td>
</tr>
<tr>
<td>FAO</td>
<td>2009</td>
<td>0</td>
<td>Proj</td>
<td>Quant</td>
<td>Low</td>
<td>Organic</td>
<td>Horticulture</td>
<td>Burkina Faso</td>
</tr>
<tr>
<td>FAO</td>
<td>2009</td>
<td>0</td>
<td>Proj</td>
<td>Quant</td>
<td>Low</td>
<td>Organic</td>
<td>Horticulture</td>
<td>Senegal</td>
</tr>
<tr>
<td>FAO</td>
<td>2009</td>
<td>0</td>
<td>Proj</td>
<td>Quant</td>
<td>Low</td>
<td>Organic</td>
<td>Horticulture</td>
<td>Ghana</td>
</tr>
<tr>
<td>FAO</td>
<td>2009</td>
<td>0</td>
<td>Proj</td>
<td>Quant</td>
<td>Low</td>
<td>Organic</td>
<td>Horticulture</td>
<td>Ghana</td>
</tr>
<tr>
<td>FAO</td>
<td>2009</td>
<td>0</td>
<td>Proj</td>
<td>Quant</td>
<td>Low</td>
<td>Organic</td>
<td>Horticulture</td>
<td>Cameroun</td>
</tr>
<tr>
<td>FAO</td>
<td>2009</td>
<td>0</td>
<td>Proj</td>
<td>Quant</td>
<td>Low</td>
<td>FLO, Organic</td>
<td>Cocoa</td>
<td>Sierra Leone</td>
</tr>
<tr>
<td>FAO</td>
<td>2011b</td>
<td>0</td>
<td>Emp</td>
<td>Qual</td>
<td>Med</td>
<td>GlobalGAP</td>
<td>Horticulture</td>
<td>Chile, Kenya, Malaysia, South Africa</td>
</tr>
<tr>
<td>Fort; Ruben</td>
<td>2008</td>
<td>11</td>
<td>Emp</td>
<td>Quant</td>
<td>High</td>
<td>FLO</td>
<td>Bananas</td>
<td>Peru</td>
</tr>
<tr>
<td>Fort; Ruben</td>
<td>2008</td>
<td>11</td>
<td>Emp</td>
<td>Quant</td>
<td>High</td>
<td>FLO</td>
<td>Coffee</td>
<td>Peru</td>
</tr>
<tr>
<td>Gibbon; Bolwig</td>
<td>2007</td>
<td>12</td>
<td>Emp</td>
<td>Quant</td>
<td>High</td>
<td>Organic</td>
<td>Horticulture</td>
<td>Uganda</td>
</tr>
<tr>
<td>Gibbon; Lin; Jones</td>
<td>2009</td>
<td>5</td>
<td>Emp</td>
<td>Quant</td>
<td>Med</td>
<td>Organic</td>
<td>Cocoa, Spices</td>
<td>Uganda</td>
</tr>
<tr>
<td>Giovannucci</td>
<td>2005</td>
<td>10</td>
<td>Proj</td>
<td>Qual</td>
<td>Med</td>
<td>Organic</td>
<td>Bananas, Cereals, Cotton, Horticulture, Livestock, Soy, Spices, Sugar, Tea</td>
<td>China, India</td>
</tr>
<tr>
<td>Grieg-Gran</td>
<td>2005</td>
<td>2</td>
<td>Emp</td>
<td>Qual</td>
<td>Med</td>
<td>FLO, Organic</td>
<td>Coffee</td>
<td>Brazil</td>
</tr>
<tr>
<td>Henson; Masakure; Cranfield</td>
<td>2011</td>
<td>9</td>
<td>Emp</td>
<td>Quant</td>
<td>High</td>
<td>GlobalGAP</td>
<td>Horticulture</td>
<td>Benin, Burkina Faso, Cote d'Ivoire, Ghana, Kenya, Madagascar, Mali, Senegal, Uganda, Zambia</td>
</tr>
<tr>
<td>Imhof; Lee</td>
<td>2007</td>
<td>11</td>
<td>Emp</td>
<td>Qual</td>
<td>Med</td>
<td>FLO</td>
<td>Coffee</td>
<td>Bolivia</td>
</tr>
</tbody>
</table>

1. ‘Cited’ refers to the number of times the study has been cited in Google Scholar’s Citation Index in 2012.
2. ‘Type’ refers to an empirical study (Emp) or a Project Report (Proj).
3. The method refers to a Quantitative (Quant) or Qualitative (Qual) study.
Impact of international voluntary standards on smallholder market participation

<table>
<thead>
<tr>
<th>Authors</th>
<th>Date</th>
<th>Cited</th>
<th>Type</th>
<th>Method</th>
<th>Rigour</th>
<th>Standard</th>
<th>Crop</th>
<th>Country</th>
</tr>
</thead>
<tbody>
<tr>
<td>55 Jaffee</td>
<td>2003</td>
<td>0</td>
<td>Emp</td>
<td>Quant</td>
<td>Low</td>
<td>GlobalGAP, BRC</td>
<td>Horticulture</td>
<td>Kenya</td>
</tr>
<tr>
<td>56 Jaffee</td>
<td>2008</td>
<td>8</td>
<td>Emp</td>
<td>Qual</td>
<td>High</td>
<td>FLO</td>
<td>Coffee</td>
<td>Mexico</td>
</tr>
<tr>
<td>57 Jena; Grote</td>
<td>2010</td>
<td>0</td>
<td>Emp</td>
<td>Quant</td>
<td>High</td>
<td>GI</td>
<td>Cereals</td>
<td>India</td>
</tr>
<tr>
<td>58 Kattel</td>
<td>2009</td>
<td>0</td>
<td>Emp</td>
<td>Quant</td>
<td>Low</td>
<td>Organic</td>
<td>Coffee</td>
<td>Nepal</td>
</tr>
<tr>
<td>59 Khiem; Bush; Chau; Loc</td>
<td>2010</td>
<td>5</td>
<td>Emp</td>
<td>Qual</td>
<td>High</td>
<td>SQF</td>
<td>Fisheries</td>
<td>Vietnam</td>
</tr>
<tr>
<td>60 Kilian; Jones; Pratt; Villalobos</td>
<td>2006</td>
<td>44</td>
<td>Emp</td>
<td>Quant</td>
<td>Med</td>
<td>FLO, Organic</td>
<td>Coffee</td>
<td>Costa Rica, El Salvador, Guatemala, Honduras</td>
</tr>
<tr>
<td>61 Kilian; Jones; Pratt; Villalobos</td>
<td>2005</td>
<td>1</td>
<td>Emp</td>
<td>Quant</td>
<td>Med</td>
<td>FLO, Organic</td>
<td>Bananas, Coffee</td>
<td>Costa Rica, El Salvador, Guatemala, Honduras</td>
</tr>
<tr>
<td>62 Kleeman</td>
<td>2011</td>
<td>1</td>
<td>Emp</td>
<td>Quant</td>
<td>Low</td>
<td>Organic</td>
<td>Horticulture</td>
<td>Ghana</td>
</tr>
<tr>
<td>63 Liu</td>
<td>2009</td>
<td>5</td>
<td>Proj</td>
<td>Quant</td>
<td>Low</td>
<td>FLO, Organic</td>
<td>Bananas</td>
<td>Dominican Republic, Peru</td>
</tr>
<tr>
<td>64 Loconto; Simbua</td>
<td>2012</td>
<td>0</td>
<td>Emp</td>
<td>Qual</td>
<td>High</td>
<td>FLO</td>
<td>Tea</td>
<td>Tanzania</td>
</tr>
<tr>
<td>65 Louman; Garay; Yalle; Campos; Locatelli; Villalobos; Lopez; Carrera</td>
<td>2005</td>
<td>11</td>
<td>Emp</td>
<td>Quant</td>
<td>High</td>
<td>FSC</td>
<td>Forestry</td>
<td>Costa Rica</td>
</tr>
<tr>
<td>66 Lyngbaek; Muschler; Sinclair</td>
<td>2001</td>
<td>59</td>
<td>Emp</td>
<td>Quant</td>
<td>High</td>
<td>Organic</td>
<td>Coffee</td>
<td>Costa Rica</td>
</tr>
<tr>
<td>67 Madrid; Chapela</td>
<td>2003</td>
<td>3</td>
<td>Emp</td>
<td>Qual</td>
<td>Med</td>
<td>FSC</td>
<td>Forestry</td>
<td>Mexico</td>
</tr>
<tr>
<td>68 Maertens; Swinnen</td>
<td>2009</td>
<td>142</td>
<td>Emp</td>
<td>Quant</td>
<td>Med</td>
<td>GlobalGAP</td>
<td>Horticulture</td>
<td>Senegal</td>
</tr>
<tr>
<td>69 Markopoulos</td>
<td>1998</td>
<td>40</td>
<td>Proj</td>
<td>Quant</td>
<td>Med</td>
<td>FSC</td>
<td>Forestry</td>
<td>Bolivia</td>
</tr>
<tr>
<td>70 Mausch; Mithofer; Asfaw; Waibel</td>
<td>2009</td>
<td>8</td>
<td>Emp</td>
<td>Quant</td>
<td>Med</td>
<td>GlobalGAP</td>
<td>Horticulture</td>
<td>Kenya</td>
</tr>
<tr>
<td>71 Melo; Wolf</td>
<td>2007</td>
<td>4</td>
<td>Emp</td>
<td>Quant</td>
<td>Med</td>
<td>FLO</td>
<td>Bananas</td>
<td>Ecuador</td>
</tr>
<tr>
<td>72 Mendoza; Bastiaensen</td>
<td>2003</td>
<td>27</td>
<td>Emp</td>
<td>Quant</td>
<td>Low</td>
<td>FLO</td>
<td>Coffee</td>
<td>Nicaragua</td>
</tr>
<tr>
<td>73 Millard</td>
<td>2006</td>
<td>8</td>
<td>Proj</td>
<td>Qual</td>
<td>Med</td>
<td>RA/SAN, CAFE</td>
<td>Coffee</td>
<td>Mexico</td>
</tr>
</tbody>
</table>

1 ‘Cited’ refers to the number of times the study has been cited in Google Scholar’s Citation Index in 2012.
2 ‘Type’ refers to an empirical study (Emp) or a Project Report (Proj).
3 The method refers to a Quantitative (Quant) or Qualitative (Qual) study.
<table>
<thead>
<tr>
<th>Authors</th>
<th>Date</th>
<th>Cited</th>
<th>Type</th>
<th>Method</th>
<th>Rigour</th>
<th>Standard</th>
<th>Crop</th>
<th>Country</th>
</tr>
</thead>
<tbody>
<tr>
<td>74 Naqvi; Echeverría</td>
<td>2010</td>
<td>0</td>
<td>Proj</td>
<td>Qual</td>
<td>Med</td>
<td>Organic</td>
<td>Horticulture, Spices</td>
<td>Kenya</td>
</tr>
<tr>
<td>75 Naqvi; Echeverría</td>
<td>2010</td>
<td>0</td>
<td>Proj</td>
<td>Qual</td>
<td>Med</td>
<td>Organic</td>
<td>Coffee, Horticulture</td>
<td>Tanzania</td>
</tr>
<tr>
<td>76 Naqvi; Echeverría</td>
<td>2010</td>
<td>0</td>
<td>Proj</td>
<td>Qual</td>
<td>Med</td>
<td>Organic</td>
<td>Horticulture</td>
<td>Uganda</td>
</tr>
<tr>
<td>77 Nebel; Quevedo; Bredahl Jacobsen; Helles</td>
<td>2005</td>
<td>39</td>
<td>Emp</td>
<td>Quant</td>
<td>Low</td>
<td>FSC</td>
<td>Forestry</td>
<td>Bolivia</td>
</tr>
<tr>
<td>78 Neilson</td>
<td>2008</td>
<td>24</td>
<td>Emp</td>
<td>Qual</td>
<td>Med</td>
<td>FLO, Organic, UTZ, CAFE</td>
<td>Coffee</td>
<td>Indonesia</td>
</tr>
<tr>
<td>79 Nigh</td>
<td>1997</td>
<td>79</td>
<td>Emp</td>
<td>Quant</td>
<td>Med</td>
<td>Organic</td>
<td>Coffee</td>
<td>Mexico</td>
</tr>
<tr>
<td>80 Oecd</td>
<td>2007</td>
<td>0</td>
<td>Proj</td>
<td>Qual</td>
<td>Med</td>
<td>GlobalGAP, BRC, SQF</td>
<td>Horticulture</td>
<td>Chile, Ghana, Peru, South Africa</td>
</tr>
<tr>
<td>81 Okello; Narrod; Roy</td>
<td>2007</td>
<td>18</td>
<td>Emp</td>
<td>Qual</td>
<td>Low</td>
<td>ETI, GlobalGAP, BRC</td>
<td>Horticulture</td>
<td>Kenya</td>
</tr>
<tr>
<td>82 Okello; Swinton</td>
<td>2007</td>
<td>8</td>
<td>Emp</td>
<td>Qual</td>
<td>High</td>
<td>GlobalGAP</td>
<td>Horticulture</td>
<td>Kenya</td>
</tr>
<tr>
<td>83 Paalhaar; Jansen</td>
<td>2011</td>
<td>1</td>
<td>Emp</td>
<td>Qual</td>
<td>High</td>
<td>GlobalGAP</td>
<td>Horticulture</td>
<td>Kenya</td>
</tr>
<tr>
<td>84 Perez-Ramirez; Lluch-Cota</td>
<td>2010</td>
<td>3</td>
<td>Emp</td>
<td>Qual</td>
<td>Low</td>
<td>MSC</td>
<td>Fisheries</td>
<td>Argentina</td>
</tr>
<tr>
<td>85 Perez-Ramirez; Ponce-Diaz; Lluch-Cota</td>
<td>2012</td>
<td>0</td>
<td>Emp</td>
<td>Qual</td>
<td>Low</td>
<td>MSC</td>
<td>Fisheries</td>
<td>Mexico</td>
</tr>
<tr>
<td>86 Philpott; Bichier; Rice; Greenberg</td>
<td>2007</td>
<td>55</td>
<td>Emp</td>
<td>Quant</td>
<td>Med</td>
<td>FLO, Organic</td>
<td>Coffee</td>
<td>Mexico</td>
</tr>
<tr>
<td>87 Ponte</td>
<td>2008</td>
<td>78</td>
<td>Emp</td>
<td>Qual</td>
<td>Low</td>
<td>MSC</td>
<td>Fisheries</td>
<td>South Africa</td>
</tr>
<tr>
<td>88 Pulschen; Lutzeyer</td>
<td>1993</td>
<td>7</td>
<td>Emp</td>
<td>Quant</td>
<td>Med</td>
<td>Organic</td>
<td>Coffee</td>
<td>Mexico</td>
</tr>
<tr>
<td>89 Quinlan; Barrance</td>
<td>2010</td>
<td>0</td>
<td>Proj</td>
<td>Qual</td>
<td>Med</td>
<td>RA/SAN</td>
<td>Coffee</td>
<td>Brazil, Colombia, El Salvador, Guatemala, Honduras, Peru</td>
</tr>
</tbody>
</table>

1 ‘Cited’ refers to the number of times the study has been cited in Google Scholar’s Citation Index in 2012.

2 ‘Type’ refers to an empirical study (Emp) or a Project Report (Proj).

3 The method refers to a Quantitative (Quant) or Qualitative (Qual) study.
<table>
<thead>
<tr>
<th>Authors</th>
<th>Date</th>
<th>Cited</th>
<th>Type</th>
<th>Method</th>
<th>Rigour</th>
<th>Standard</th>
<th>Crop</th>
<th>Country</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ramm; Fleischer; Künkel; Fricke</td>
<td>2008</td>
<td>0</td>
<td>Proj</td>
<td>Qual</td>
<td>Low</td>
<td>FLO</td>
<td>Coffee, Forestry</td>
<td>Brazil</td>
</tr>
<tr>
<td>Ramm; Fleischer; Künkel; Fricke</td>
<td>2008</td>
<td>0</td>
<td>Proj</td>
<td>Qual</td>
<td>Low</td>
<td>FSC</td>
<td>Forestry</td>
<td>China</td>
</tr>
<tr>
<td>Ramm; Fleischer; Künkel; Fricke</td>
<td>2008</td>
<td>0</td>
<td>Proj</td>
<td>Qual</td>
<td>Low</td>
<td>GlobalGAP</td>
<td>Horticulture</td>
<td>Kenya</td>
</tr>
<tr>
<td>Ramm; Fleischer; Künkel; Fricke</td>
<td>2008</td>
<td>0</td>
<td>Proj</td>
<td>Qual</td>
<td>Low</td>
<td>CMI A</td>
<td>Cotton</td>
<td>Zambia</td>
</tr>
<tr>
<td>Ransom</td>
<td>2011</td>
<td>0</td>
<td>Emp</td>
<td>Qual</td>
<td>High</td>
<td>Organic</td>
<td>Livestock</td>
<td>Botswana</td>
</tr>
<tr>
<td>Raynolds; Murray; Taylor</td>
<td>2004</td>
<td>135</td>
<td>Emp</td>
<td>Qual</td>
<td>High</td>
<td>FLO, Organic</td>
<td>Coffee</td>
<td>El Salvador,</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Guatemala, Mexico</td>
</tr>
<tr>
<td>Raynolds; Ngewangsu</td>
<td>2010</td>
<td>12</td>
<td>Emp</td>
<td>Qual</td>
<td>Med</td>
<td>FLO</td>
<td>Tea</td>
<td>South Africa</td>
</tr>
<tr>
<td>Riisgaard; Hammer</td>
<td>2011</td>
<td>6</td>
<td>Emp</td>
<td>Qual</td>
<td>Med</td>
<td>ETI, SAI, RA/SAN, ICC, FLP, FFP</td>
<td>Bananas</td>
<td>Kenya</td>
</tr>
<tr>
<td>Roberts; Robins; Abbot</td>
<td>1999</td>
<td>10</td>
<td>Emp</td>
<td>Qual</td>
<td>Low</td>
<td>Organic</td>
<td>Coffee</td>
<td>Venezuela, South Africa</td>
</tr>
<tr>
<td>Ronchi</td>
<td>2002</td>
<td>104</td>
<td>Emp</td>
<td>Qual</td>
<td>Med</td>
<td>FLO</td>
<td>Coffee</td>
<td>Costa Rica</td>
</tr>
<tr>
<td>Roy; Thorat</td>
<td>2008</td>
<td>23</td>
<td>Emp</td>
<td>Quant</td>
<td>Med</td>
<td>GlobalGAP</td>
<td>Horticulture</td>
<td>India</td>
</tr>
<tr>
<td>Ruben; Clercx; Cepeda; De Hopp</td>
<td>2008</td>
<td>4</td>
<td>Emp</td>
<td>Quant</td>
<td>Med</td>
<td>FLO</td>
<td>Bananas</td>
<td>Ecuador</td>
</tr>
<tr>
<td>Ruben; Fort; Zuniga-Arias</td>
<td>2009</td>
<td>16</td>
<td>Emp</td>
<td>Quant</td>
<td>High</td>
<td>Organic</td>
<td>Coffee</td>
<td>Peru</td>
</tr>
<tr>
<td>Ruben; Fort; Zuniga-Arias</td>
<td>2009</td>
<td>16</td>
<td>Emp</td>
<td>Quant</td>
<td>High</td>
<td>Organic</td>
<td>Bananas</td>
<td>Peru</td>
</tr>
<tr>
<td>Ruben; Fort; Zuniga-Arias</td>
<td>2009</td>
<td>16</td>
<td>Emp</td>
<td>Quant</td>
<td>High</td>
<td>FLO, Organic</td>
<td>Coffee</td>
<td>Peru</td>
</tr>
<tr>
<td>Ruben; Fort; Zuniga-Arias</td>
<td>2009</td>
<td>16</td>
<td>Emp</td>
<td>Quant</td>
<td>High</td>
<td>FLO, Organic</td>
<td>Bananas</td>
<td>Peru</td>
</tr>
<tr>
<td>Ruben; Fort; Zuniga-Arias</td>
<td>2009</td>
<td>16</td>
<td>Emp</td>
<td>Quant</td>
<td>High</td>
<td>FLO</td>
<td>Coffee</td>
<td>Peru</td>
</tr>
<tr>
<td>Ruben; Fort; Zuniga-Arias</td>
<td>2009</td>
<td>16</td>
<td>Emp</td>
<td>Quant</td>
<td>High</td>
<td>FLO</td>
<td>Bananas</td>
<td>Guatemala</td>
</tr>
<tr>
<td>Ruben; Fort; Zuniga-Arias</td>
<td>2009</td>
<td>16</td>
<td>Emp</td>
<td>Quant</td>
<td>High</td>
<td>FLO</td>
<td>Coffee</td>
<td>Costa Rica</td>
</tr>
</tbody>
</table>

1 ‘Cited’ refers to the number of times the study has been cited in Google Scholar’s Citation Index in 2012.
2 ‘Type’ refers to an empirical study (Emp) or a Project Report (Proj).
3 The method refers to a Quantitative (Quant) or Qualitative (Qual) study.
<table>
<thead>
<tr>
<th>Authors</th>
<th>Date</th>
<th>Cited</th>
<th>Type</th>
<th>Method</th>
<th>Rigour</th>
<th>Standard</th>
<th>Crop</th>
<th>Country</th>
</tr>
</thead>
<tbody>
<tr>
<td>109 Ruben; Zuniga</td>
<td>2011</td>
<td>3</td>
<td>Emp</td>
<td>Quant</td>
<td>High</td>
<td>FLO</td>
<td>Coffee</td>
<td>Nicaragua</td>
</tr>
<tr>
<td>110 Ruben; Zuniga</td>
<td>2011</td>
<td>3</td>
<td>Emp</td>
<td>Quant</td>
<td>High</td>
<td>CAFE, RA/SAN</td>
<td>Coffee</td>
<td>Nicaragua</td>
</tr>
<tr>
<td>111 Saes; Macchione; Martins De</td>
<td>2001</td>
<td>3</td>
<td>Proj</td>
<td>Qual</td>
<td>Low</td>
<td>Organic</td>
<td>Coffee</td>
<td>Brazil</td>
</tr>
<tr>
<td>112 Saenz Segura; Zuniga-Arias</td>
<td>2008</td>
<td>5</td>
<td>Emp</td>
<td>Quant</td>
<td>High</td>
<td>FLO</td>
<td>Coffee</td>
<td>Costa Rica</td>
</tr>
<tr>
<td>113 Sebstad; Snodgrass</td>
<td>2008</td>
<td>0</td>
<td>Proj</td>
<td>Quant</td>
<td>Med</td>
<td>GlobalGAP</td>
<td>Horticulture</td>
<td>Kenya</td>
</tr>
<tr>
<td>114 Setboonsarng; Leung; Cai</td>
<td>2006</td>
<td>24</td>
<td>Emp</td>
<td>Quant</td>
<td>Med</td>
<td>Organic</td>
<td>Cereals</td>
<td>Thailand</td>
</tr>
<tr>
<td>115 Setboonsarng; Stefan; Leung;</td>
<td>2008</td>
<td>8</td>
<td>Emp</td>
<td>Quant</td>
<td>High</td>
<td>Organic</td>
<td>Cereals</td>
<td>Laos PDR</td>
</tr>
<tr>
<td>116 Utting-Chamorro</td>
<td>2005</td>
<td>58</td>
<td>Emp</td>
<td>Qual</td>
<td>Med</td>
<td>FLO</td>
<td>Coffee</td>
<td>Nicaragua</td>
</tr>
<tr>
<td>117 Vagneron; Roquigny</td>
<td>2011</td>
<td>0</td>
<td>Emp</td>
<td>Qual</td>
<td>Med</td>
<td>FLO, Organic</td>
<td>Bananas</td>
<td>Dominican Republic</td>
</tr>
<tr>
<td>118 Valkila</td>
<td>2009</td>
<td>38</td>
<td>Emp</td>
<td>Quant</td>
<td>Med</td>
<td>FLO, Organic</td>
<td>Coffee</td>
<td>Nicaragua</td>
</tr>
<tr>
<td>119 Van Elzakker; Tulip</td>
<td>2000</td>
<td>12</td>
<td>Proj</td>
<td>Qual</td>
<td>Low</td>
<td>Organic</td>
<td>Coffee, Cocoa, Horticulture</td>
<td>Tanzania, Uganda</td>
</tr>
<tr>
<td>120 Vanderhoff Boersma</td>
<td>2009</td>
<td>25</td>
<td>Emp</td>
<td>Qual</td>
<td>Low</td>
<td>FLO</td>
<td>Coffee</td>
<td>Mexico</td>
</tr>
<tr>
<td>121 Vuurmans; Herrera; Calles</td>
<td>2011</td>
<td>0</td>
<td>Proj</td>
<td>Qual</td>
<td>Med</td>
<td>CAFE, RA/SAN</td>
<td>Coffee</td>
<td>El Salvador</td>
</tr>
<tr>
<td>122 Will</td>
<td>2007</td>
<td>0</td>
<td>Proj</td>
<td>Qual</td>
<td>Med</td>
<td>GlobalGAP</td>
<td>Horticulture</td>
<td>Ghana, Kenya, Thailand</td>
</tr>
<tr>
<td>123 Zuniga-Arias; Saenza Segura</td>
<td>2008</td>
<td>5</td>
<td>Emp</td>
<td>Quant</td>
<td>High</td>
<td>FLO</td>
<td>Bananas</td>
<td>Costa Rica</td>
</tr>
</tbody>
</table>

1 ‘Cited’ refers to the number of times the study has been cited in Google Scholar’s Citation Index in 2012.
2 ‘Type’ refers to an empirical study (Emp) or a Project Report (Proj).
3 The method refers to a Quantitative (Quant) or Qualitative (Qual) study.
Annex 4

FAO publications containing information on impacts of standards

Chronological order – publications that merely describe standards or only give market data have been left out. Some publications only give theoretical/potential impacts that are not backed up by empirical evidence. These have been included only where no other publications for the same sector or standard exist.


Contains: cases – Organic and Fairtrade Brazil nuts from Bolivia, organic shea butter from Ghana, organic devil’s claw from Namibia. Qualitative (and sometimes conceptual) only, based on very limited experience with certification at the time.

Contains: chapter with literature overview of case studies (mainly organic and Fairtrade) containing some quantitative data of effects on yields and farmer income. Variable quality of original literature.

Contains: the likely environmental and economic consequences of the conversion of a substantial portion of Croatian agricultural land to organic and low-input farming.

Contains: impact of organic as an agricultural system and less on impact of compliance with standards. Contributing papers vary from conceptual to empirical, also quality of papers varies considerably.

Contains: case studies including costs and benefits for main food chain actors (4 fragrant rice Asia, 3 vegetables Brazil + Eastern Europe).

Contains: qualitative assessment of costs and benefits.

Contains: qualitative assessment of costs and benefits.

Contains: methodology for cost benefit analysis for quality schemes such as ISO9000, HACCP, Eurepgap, SQF, BRC, GFSI, IFS and IKR.

Contains: effect of certification on price, volume sold and types of buyers.

Contains: each case study includes a section on impact (economic, environment and social sustainability) but the publication does not contain any quantitative data to back up the conclusions (may be in original case studies or in cited literature).


Contains: comparison of organic and fairtrade with conventional, estimate of distribution of revenues along the chain, using price and trade statistics from trade journals.


Contains: impact along the chain, costs for producers and processors, exclusion small farmers, consumer welfare (using data from literature, no new data collection).

Contains: each case study includes a section on impact (economic, environment and social sustainability) but the publication does not contain quantitative data to back up the conclusions and often it was too early in the implementation of geographical indications to assess, talking more about ‘potential’ or ‘anticipated’ impact (may be in original case studies or in cited literature).

Contains: sections discussing prior FAO studies and other literature on market penetration and impact on global trade and on costs and benefits for stakeholders.


OTHER RESEARCH, UNPUBLISHED

Contains: effort to assess share of the European Union market that is really certified to GlobalGAP, but no solid figures were obtained.

OTHER FAO REFERENCES USED IN THE TEXT


Annex 5

References (not FAO)


Impact of international voluntary standards on smallholder market participation in developing countries

A review of the literature

Over the past twenty years, international voluntary standards have gained prominence in global trade. These standards are developed and used by both private and public actors to ensure quality, food safety, social protection and environmental conservation that go beyond mandatory regulation. Concerns have been consistently raised about the ability of international voluntary standards to increase the market access of small-scale producers and exporters in developing countries. This publication presents the results of a literature review conducted by FAO in 2012 on the impact of voluntary standards on smallholders’ ability to participate in markets.