DRIVING DECENT WORK:

HOW EFFECTIVE ARE SUPPLY CHAIN APPROACHES IN THE AGRICULTURE SECTOR?

SECTOR REPORT
June 2024

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List of abbreviations

2SLS	Two-Stage Least Squares
DiD	Difference in Difference
GFA	Global Framework Agreement
HIC	High-Income Country
IV	Instrumental Variable
ILO	International Labour Organization
JB	Joint Body
LMIC	Low- and Middle-Income Country
NGO	Non-Governmental Organization
OHS	Occupational Health and Safety
PSM	Propensity Score Matching
RCT	Randomized Controlled Trial
SPO	Small Producer Organization
VSS	Voluntary Sustainability Standard
WC	Workers' Committee

Glossary of key terms used

Corporate codes of conduct: This refers to a company's policy statements that define their ethical or sustainability standards or rules for sourcing and procurement. The way these statements are drafted can vary greatly. Corporate codes of conduct are completely voluntary and vary extensively in design and format. They can address any issue, such as workplace issues and workers' rights. Their implementation is driven by the company concerned (ITILO, 2024).

Counterfactual: Impact evaluations provide information about the observed changes or impacts produced by a programme. They establish the cause of the observed impacts by ruling out the possibility of any influencing factors other than the programme of interest. Key to an impact evaluation is the counterfactual, which assesses what would have happened if a person or unit of observation had not participated in the programme. Estimating the counterfactual requires identifying and comparing a statistically identical treatment group and comparison group to determine the cause of the programme's outcomes. The treatment and comparison groups must have identical average characteristics in the absence of the programme, the treatment should not affect the comparison group directly or indirectly, and the outcomes of units in the control group should change in the same way as outcomes in the treatment group.

Decent work: This involves opportunities for work that are productive, deliver a fair income, workplace security, and social protection, as well as provide better prospects for personal development and social integration. It also means freedom to express concerns, power to organize and participate in important life decisions and the provision of equal opportunities and treatment for all women and men (ILO, 2024).

Double squeeze: Suppliers often face a double squeeze on their profits and sourcing practices to meet the rising demands of buyers (Anner, 2020). This double profit and sourcing squeeze can result in suppliers putting pressure on the working conditions of their workers, undermining wages, working hours, the health and safety of the environment, and increasing the risk of mistreatment and abuse. When this double squeeze is combined with informal labour arrangements and a lack of workers' protection in local labour markets, this can increase the vulnerability of workers.

Global Framework Agreement (GFA): This is an agreement between a multi-national company (typically a major buyer like Inditex) and a global union federation (such as IndustriALL) to ensure that the company's supply chain adheres to the same labour standards in every country in which it operates (Eurofound, 2024).

Key (or essential) workers: Key workers are needed for societies to function. They work in food systems, healthcare, retail, security, manual trades, cleaning and sanitation, transportation, as well as function as technicians and clerks (ILO, 2023b).

Non-counterfactual: Research methods that do not rely on constructing comparison groups with controls for confounding factors produce non-counterfactual evidence. These include research designs where the outcomes of interest of "treatment" and "control" groups are not compared (e.g. ethnography, case studies and other qualitative research designs and methods), or, research designs that cannot ensure that the only difference between the comparison groups is programme exposure.

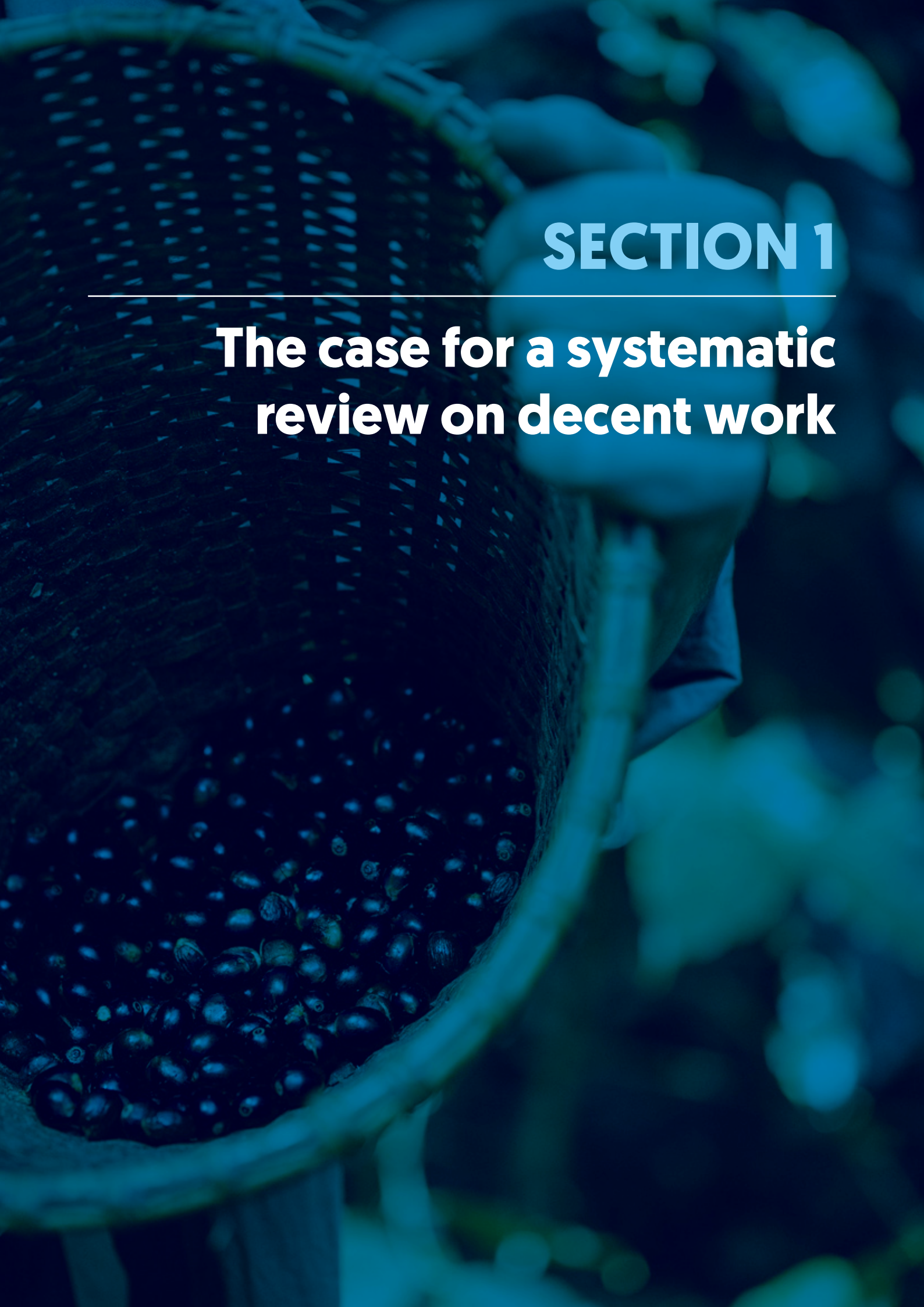
This includes before-and-after comparisons or enrolled-and-non-enrolled comparisons, without accounting for confounding factors and selection bias.

PICOS framework: This is a commonly used model for structuring systematic review questions because it captures each key element required for a focused question. PICOS stands for: Population or Problem; Intervention or exposure; Comparison or control; Outcome(s); Study Type/Design (Mssm, 2024).

PRISMA flow diagram: This depicts the flow of information through the different phases of a systematic review. It maps out the number of records identified, included and excluded from the review, and the reasons for these being excluded.

Social upgrading: This is the process of improving "the rights and entitlements of workers as social actors, which enhances the quality of their employment" (Barrientos et al 2011: 324).

Voluntary Sustainability Standards (VSS): These are private, voluntary standards that require products on the market to meet specific economic, social and environmental sustainability criteria. The requirements of such standards can refer to product quality, production and processing methods, and transportation. VSS are mostly designed and marketed by non-governmental organizations (NGOs) or private firms. They are adopted by various actors along the value chain, from farmers to retailers. Sometimes, certifications and labels are used to identify products that have successfully implemented the requirements of a VSS (UNCTAD, 2024).



SECTION 1

The case for a systematic review on decent work

The case for systematic evidence

Recent shocks in supply chains have shed light on the vulnerabilities that many workers face in global supply chains that are subject to fierce competitive pressures.

Working conditions in the agricultural sector in Low- and Middle-Income Countries (LMICs) are often inadequate, falling short of the International Labour Organization's (ILO) definition of decent work: work that provides a fair income, security in the workplace, social protection for all, better prospects for personal development and social integration, freedom to express concerns, power to organize and participate in decision-making, and equal opportunities and treatment of all women and men (ILO, 2024)[1]. Low wages, poor working conditions, systemic human rights abuses, and overall worker vulnerability are often reported in academic research and mass media. As such, achieving decent work in agriculture remains a major challenge.

These conditions reflect weak structural and associational power of workers in Global Production Networks (GPNs)[2] (Selwyn, 2013), whereby national labour policies and institutions seem insufficient to tackle the urgent need to improve working conditions, especially for the most vulnerable workers.

Social upgrading in global supply chains refers to the process of improving "the rights and entitlements of workers as social actors, which enhances the quality of their employment" (Barrientos et al 2011: 324). This includes improving labour standards in globally interconnected production systems, which requires a concerted agenda at transnational level. Several supply chain sustainability interventions focus on delivering better outcomes for workers in global supply chains. These include third-party voluntary standards and certification, Global Framework Agreements (GFAs) between trade unions and large multinational companies, international normative frameworks, other forms of voluntary supply chain actions, and transnational non-governmental organization (NGO) movements.

These interventions have emerged as key alternatives for social upgrading in the agricultural sector in LMICs, because of the weak national labour institutions in such contexts. However, the effectiveness of these different supply chain interventions is a subject of debate among researchers and industry practitioners, with many studies producing inconclusive evidence on their effectiveness on decent work outcomes.

Decent work outcomes include wages and remuneration, working terms and conditions, core labour rights and worker voice and representation.

1. According to ILO, decent work sums up the aspirations of people in their working lives. It involves opportunities for work that is productive and delivers a fair income, security in the workplace and social protection for all, better prospects for personal development and social integration, freedom for people to express their concerns, organize and participate in the decisions that affect their lives and equality of opportunity and treatment for all women and men (ILO, 2024)
2. Global Production Network (GPN) is a conceptual framework developed to analyze how global value chains interact with "a broad range of policies, institutions, and actions undertaken by various social, economic and political stakeholders" (Barrientos et al., 2011b:303). From a decent work perspective, the framework calls for examining not only the quantity of employment generated by GPNs, but also their quality. It considers issues such as "labour standards, social protection, wages, working conditions, and workers' voice" (idem: 305).

However, few efforts have been made so far to systematically review this body of literature, and to establish knowledge gaps and identify good practices.

This calls for more reliable and systematic evidence on the outcomes of these supply chain sustainability approaches and interventions on workers. A better understanding of the factors driving social upgrading in these global supply chains is also needed.

In response to this, ISEAL, IDH, Rainforest Alliance and Evidensia commissioned a systematic review to better understand the most effective supply chain sustainability approaches and interventions for improving decent work outcomes in agricultural production in LMICs, as well as grasping the key contextual, adoption and implementation dynamics affecting these interventions.

To this end, the systematic review identified and reviewed the body of relevant and credible literature to provide evidence on the effects of these approaches on a range of decent work outcomes for waged employees. This includes employees working in smallholder farms and large agribusiness companies.

The findings from the systematic review are shared in three reports. This report shares key insights and lessons on the effects of supply chain sustainability approaches on decent work outcomes in the agriculture sector. There is a second report that focuses on key findings from the apparel sector, and a third synthesis report that shares cross-sector insights and recommendations from both sectors.

Decent work in agriculture

The current dynamics of the international and local political and economic landscape have contributed to growing power asymmetries in agricultural global supply chains. These power imbalances have negative impacts on workers and can ultimately affect labour rights and conditions (Gereffi and Lee, 2016, Anner, 2020).

New trade agreements and relations have significantly increased competition among supplying countries (Anner, 2020), such as the entry of China and Vietnam into the World Trade Organization (WTO). On the other hand, lead firms often face a double squeeze on their profits and sourcing practices to meet the rising demands of buyers in a highly competitive environment (Anner, 2020). This double profit and sourcing squeeze can result in suppliers putting pressure on the working conditions of their workers, undermining wages, working hours, the health and safety of the environment, and increasing the risk of mistreatment and abuse.

Recent technological improvements, lower transport costs, and improved logistics have also contributed to these power imbalances. This has led to market concentration and increased competition, which is observable in the mergers and acquisitions of retailers and brands (such as in the cocoa or chocolate sector).

On the other hand, in supplying countries, we are seeing fragmented and geographically dispersed production, and poorly protected and underrepresented workers. This is due to weak labour laws exacerbated by poor law enforcement, poor market information systems, lack of access to markets and credit, as well as a lack of infrastructure and investment.

Given that power imbalances exist not only between lead firms and suppliers but also between suppliers and their workers, supplying firms transfer the double "squeeze" pressure onto their workers. Workers' experience this in the form of low pay, increased work intensity (e.g. expectations that a worker will produce more in the same amount of time and with the same number of resources), excessive and forced overtime to manage fluctuating orders, unsafe working spaces, and the repression of workers' rights and representation through union avoidance strategies and lack of legal protection.

In agricultural global value chains, the scarcity of decent work in High-Income Countries (HICs) and LMICs is driven by various factors:

1. The era of cheap food on a global scale has often been linked to shortfalls in decent work. These can take different forms depending on the value chain, country and local conditions. In LMICs, the current working conditions are often the result of different forms of pressure affecting those who employ workers. Poor wages, unsafe working environments, mistreatment and abuse, weak or total lack of unions, labour exploitation, and use of child labour are widely reported (Carter and Roelen, 2017; Pier, 2002; Kissi and Herzig, 2023). Even in HICs where there is more regulation and higher wages in agricultural sectors in comparison to LMICs, the reliance on often undocumented and vulnerable migrant labour is conspicuous.

The precarity of labour migrants working within intensified strawberry production in the United States and Europe is a clear example (Sanchez, 2015; Hellio, 2017; Papadopoulos and Fratsea, 2017).

2 Agricultural labour relations in LMICs are predominantly informal. This means that employment is not governed by written contracts or explicit rights, and there is often no freedom of association or presence of labour organizations to channel the needs and demands of workers. Women are disproportionately vulnerable to informal, and often forced labour due to a blend of unequal family relations, having to bear the responsibility of reproductive labour, and gendered social property relations (LeBaron and Gore, 2019; Baquero-Melo, 2023).

3 Agricultural wage labour agreements vary substantially. These can range from sharecropping agreements that can be extended from one year to another, to semi-permanent or seasonal wage labour lasting 6–8 months, to casual wage labour that is mobilized during peak times of labour shortages (Takane, 2000; Oya, 2015). What is common across these arrangements is that the normal employment pattern is not permanent work with benefits. The prevailing agreement in most agricultural labour markets in LMICs is temporary labour. This can be either seasonal or casual labour where remuneration is dependent on the number of days effectively worked. This reflects the seasonal character of much of the agricultural work in LMICs, but also the lack of regulation and conditions for a formalized agricultural labour force. This exacerbates the job insecurity that is so pervasive in agricultural employment.

4 Although much of the literature focuses on working conditions in large-scale plantation agribusinesses with hired labour, a substantial but underreported share of agricultural hired labour in LMICs occurs on smallholder farms. This type of labour is mostly seasonal or casual with highly personalized labour relations (Cramer et al., 2017; Riisgard and Okinda, 2018).

5 Work conditions in agriculture vary across countries, types of employers, value chains and end markets. This variation is driven by a complex combination of factors, including those that contribute to labour market tightening at the local level. For example, when the bargaining power of workers is enhanced by labour shortages and an increase in labour demand from multiple sources. However, in contexts where agricultural jobs are limited, workers can also struggle to claim better working conditions. Their lack of associational power - a common trend in agriculture across different contexts - compounds this vulnerability. When labour organizations are strengthened and reach out to informal agricultural workers, there is more chance of improving decent work despite unfavorable labour market trends.

6 Agricultural work by its nature is affected by multiple hazards, making Occupational Health and Safety (OHS) a major challenge for decent work. This is also why many interventions in these value chains focus on OHS through enforced legislation, compliance obligations, training and awareness campaigns.

7 Improvements in working conditions are often impaired by weak unionization and a lack of collective bargaining, resulting in limited prospects for collective action for vulnerable workers. This is particularly the case in LMICs, especially in African countries, where unionization is almost absent in the agricultural sector.

Research questions

Given these dynamics shaping the current lack of decent work in agricultural value chains, the systematic review focuses on two main research questions, which complement each other:

? Research question 1

What are the effects of corporate sustainability and multi-stakeholder approaches on decent work outcomes? In particular, wages and remuneration, working terms and conditions, core labour rights, worker voice and representation, and other intrinsic and subjective outcomes?

We refer to this as the "effectiveness" question.

? Research question 2

How effective are corporate sustainability and multi-stakeholder approaches at adopting and implementing the decent work goals they set, across contexts and sectors?

We refer to this as the "adoption and implementation" question.

To some extent this question implicitly explores the contribution of contextual factors to the implementation, adoption and effectiveness of interventions. In that sense, we also explore a range of barriers and enablers that affect the effectiveness of interventions.

SECTION 2

Research scope and approach

Pathways to social upgrading

This review focuses on understanding how positive impacts on wages and remuneration, working terms and conditions, working rights, worker voice and representation can be achieved. The review also explores other intrinsic subjective outcomes such as workers' empowerment, or job "satisfaction". Although not common, these decent work outcomes are reported in the literature and can highlight links to "extrinsic" outcomes, such as higher wages and better working conditions (Krumbiegel et al., 2017).

We use Gereffi and Lee's (2016) theory on the different pathways to social upgrading in global value chains to conceptually frame the scope of the review, as well as to make meaningful decisions about the types of interventions to include and exclude. These pathways are not mutually exclusive but are interlinked.

Key actors drive different approaches, and engage and interact at different levels across the different pathways (O'Rourke, 2006). The purpose is to identify the main trajectories for social upgrading, as well as the key driving actors and mechanisms that distinguish them from other pathways. This facilitates the formulation of clear inclusion and exclusion criteria for the review.

Six pathways to social upgrading in global value chains:

1. The **market-driven path**, where market demand for goods produced with high social standards forces supplying firms to improve labour conditions to increase their competitiveness.

2. The **public governance path**, where state actors (e.g. government, courts, labour inspectors), shape public regulation, enforce law, and resolve issues with collective action among stakeholders. This is particularly for trade unions and employers' representatives through standard tripartite collective bargaining.

These two pathways are characterized by public governance structures, as they are mainly implemented by public actors, such as governments and international organizations, as well as by bilateral or multilateral trade agreements. They involve formal rules and regulations set at local, regional, national, and international levels.

3. The **supplying firms (cluster-driven) path**, where supplying-based collective actions are undertaken to improve labour conditions. This is driven by trust and mutual dependence between closely knit supplying firms. Supplying actors provide training and information on quality and social standards in external markets. These actors include business associations, chambers of commerce, and cooperatives.

This pathway is driven by private governance structures in supplying firms. Economic transactions are regulated amongst supplying firms with their external partners. Their aim is to achieve collective efficiency in overcoming the constraints from small-sized firms, reducing compliance costs, and increasing compliance through collective monitoring and sanctions.

4. The **corporate sustainability path**, where global lead firms develop codes of conduct to avoid reputational damage and to ensure that future supply is sustained and uninterrupted. The effective implementation of such codes and their associated penalty and reward systems, result in supplying firms improving the treatment of their workers to access global markets.

This pathway is driven by private governance structures in lead or buying firms. Global value chains are regulated through private standards that dictate the types of products to be made, by whom and how.

5. The **multi-stakeholder path**, where multiple (private and non-private) stakeholders cooperate in standards setting, monitoring and sanctions, and capacity building through standardized codes and third-party accreditation.

6. The **labour-centred path**, where workers and trade unions are active agents in improving their social conditions. This happens through collective bargaining, different forms of resistance, and advocacy at the workplace at local, national, and global levels.

The last two pathways are characterized by social governance structures. Civil society actors, such as NGOs and labour unions, aim to regulate global value chains using codes of conduct that are themselves initiated by NGOs and multi-stakeholder initiatives. For example, from the Ethical Trade Initiative (ETI). These pathways can also include different forms of activism, such as boycotting, petitions, and protests, and may involve consumers in a different type of market-driven pathway.

This form of governance relies on the impact that these movements have on private firms or governments, which have direct power to enforce codes and regulations. For this reason, it often takes a multi-stakeholder form, in which public, private, and civil society actors pursue their common goals through joint action.

Our review focuses on the fourth and fifth of these pathways, which are more relevant to the approaches adopted by sustainability standards and similar systems to drive decent work. Within these two pathways, there are several supply chain sustainability approaches for social upgrading that involve different sets of interventions that vary greatly in their model of intervention and their theory of change.

Interventions that are exclusively located within the market, government, supplier, or labour pathways are beyond the scope of this review. However, we recognize that the fourth and fifth of these pathways that we are including may also be influenced and shaped by the other three pathways. In these cases, contextual and background information is considered when assessing and analyzing the evidence.

Supply chain sustainability approaches

Supply chain sustainability approaches for social upgrading can differ greatly in their modes of intervention and their theory of change. They can also encompass different types of interventions that operate in parallel or complement each other.

To deal with this challenge, we identify the supply chain sustainability approaches that are of most interest to this review. These include corporate sustainability codes, supply chain investment programmes, VSS, third-party voluntary sustainability codes of conduct, sustainability rating and performance tools, pre-competitive industry sustainability platforms, bans and boycotting, and framework agreements and initiatives. These approaches are broken down into five key intervention types: labour standards, price and contract interventions, premium-funded investments, market demand influence interventions, and the creation of alliances (Table 1). The different types of interventions are not mutually exclusive, but can be interlinked. In Table 1, we mark each intervention type that falls within a specific supply chain sustainability approach.

Table 1. Overview of the key supply chain sustainability approaches and interventions included in the systematic review.

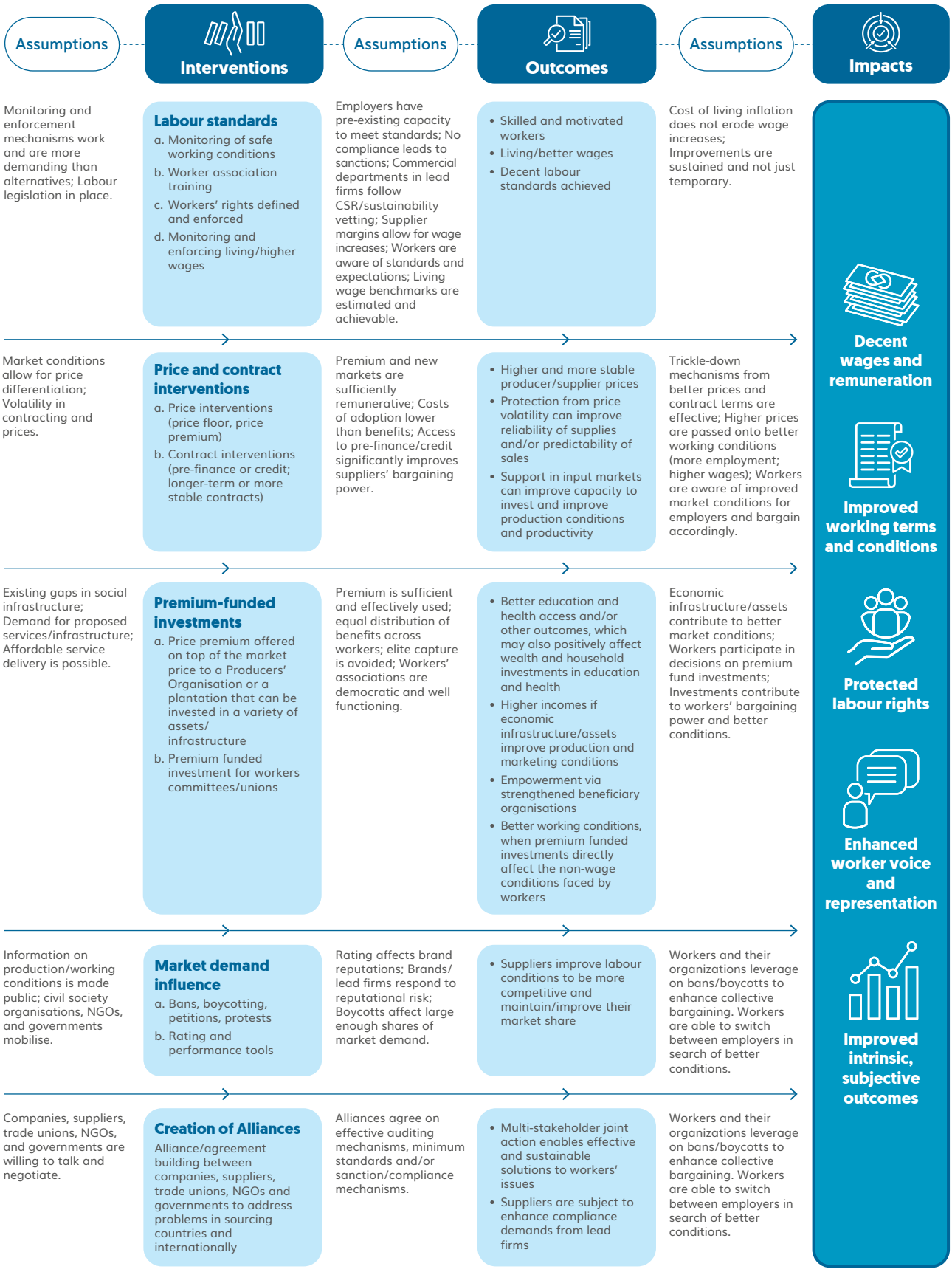
PATHWAYS	CORPORATE SUSTAINABILITY PATH		MULTI-STAKEHOLDER PATH					
APPROACHES →	Corporate Sustainability Codes	Supply chain investment programmes	Voluntary Sustainability Standards	Third party Voluntary Sustainability codes of conduct	Sustainability rating and performance tools	Pre-competitive industry/market-based sustainability platforms	Bans, boycotting, petitions, protests	Framework agreements and initiatives
INTERVENTIONS ↓								
Labour standards	X	X	X	X				X
Price, sourcing and contract-based interventions		X	X					
Premium-funded investments		X	X					
Market Demand Influence			X		X	X	X	
Creation of alliances				X		X		X

The interventions that fall within a specific supply chain sustainability approach are marked with an 'X'.

Theory of Change

Based on this, we develop a theory of change (Figure 1) to analyze the different supply chain sustainability approaches and their expected outcomes on decent work, and to explore several potential causes leading to these outcome pathways. These different causal pathways include interventions that are designed to directly impact labour standards, such as monitoring safe working conditions, worker association training, and enforcement of minimum or living wages through binding compliance audits. Other potential causal pathways also include interventions that may indirectly improve working conditions if their effects on buyers, producers or employers trickle down to workers, such as fair prices or premium-funded investments, and market influence mechanisms, like rating and performance tools.

Figure 1. Theory of change



Source: Adapted from the theory of change developed by Oya et al (2017).

To delve into this further, we illustrate how the different types of social upgrading interventions used by supply chain sustainability approaches may affect decent work outcomes (Figure 1).

Labour standards involve the establishment of clearly defined and verifiable standards. Once these are set, a key aspect of this intervention is the monitoring of safe working conditions, worker association training, the clear definition and enforcement of workers' rights, and the monitoring and enforcing of living or higher wages. These inputs are expected to result in skilled and motivated workers in the medium-term, living or better wages, safer working conditions, and enforced decent labour standards.

If these effects are sustained, they can positively impact all final decent work outcomes, from wages and remuneration to worker voice and representation, which includes working conditions and worker rights.

For this to happen, the following assumptions need to be in place:

- The standards are generally achievable in specific settings given the conditions of production, monitoring and enforcement mechanisms work.
- The standards are more demanding than alternative interventions and are coupled with effective labour legislation.
- Employers have pre-existing capacity to meet the standards.
- Cases of no compliance lead to sanctions.
- Commercial departments in lead firms follow corporate social responsibility or sustainability vetting.
- Supplier margins allow for wage increases.
- Workers are aware of the standards and their expectations.
- Living wage benchmarks are estimated and achievable.
- The cost of living inflation does not erode wage increases.
- Improvements are sustained and are not only temporary fixes.

Price and contract interventions are composed of price interventions (e.g. price floor and price premium) and contract interventions (e.g. pre-finance or credit, and longer-term or more stable contracts). This combined package of interventions is expected to result in higher and more stable producer or supplier prices, which can have indirect 'trickle-down' effects on wages and working conditions.

In the absence of direct requirements for labour standards, the effects of better prices and profit margins can trickle-down to create better working conditions. This is the key causal mechanism in this pathway. Protection from price volatility can also improve the reliability of supplies and/or the predictability of sales. This can lead to improvements in remuneration whilst minimizing work intensity and cases of excessive and forced overtime.

Finally, improved access to pre-finance or credit can strengthen the capacity of employers to invest and improve production conditions and productivity. This can lead to improved wages and working conditions for workers if the improvements in productivity are shared with workers.

The following assumptions need to hold for these interventions to be effective:

- Market conditions allow for price differentiation (e.g. commodities produced under social sustainability standards can indeed be sold at a higher price). Volatility in contracting and prices is also an issue that needs to be addressed (e.g. market prices and contract conditions can fluctuate substantially, leaving producers exposed to uncertainty).
- Premium and new markets are sufficiently remunerative.
- The benefits outweigh the costs of adoption.
- Access to pre-finance or credit significantly improves suppliers' bargaining power.
- Trickle-down mechanisms from better prices and contract terms are effective.
- Higher prices translate into better working conditions for workers, including more employment and higher wages).
- Workers are aware of the improved market conditions for employers and can bargain their conditions of work accordingly.

Premium-funded investments involve price premiums that are offered on top of the market price to a Producers' Organization or a plantation. These are offered in the form of a cumulative fund, and can be invested in various assets, infrastructure and other uses for workers' committees, unions and their households. These investments can improve education, health access and other outcomes, which can have various positive effects for workers. These include improvements to wealth and household investments in education and health, higher incomes if economic infrastructure or assets improve production and marketing conditions, empower workers through the strengthening of beneficiary organizations, and create better working conditions when premium-funded investments directly affect the non-wage working conditions faced by workers.

The necessary assumptions for this intervention to be effective include:

- There are already gaps in social infrastructure and an existing demand for new services or infrastructure, whilst service delivery is affordable and feasible.
- The price premium is sufficient and effectively used with equal distribution of benefits across workers and avoidance of elite capture, whilst workers' associations are democratic and well-functioning.
- Economic infrastructure or assets contribute to better market conditions.
- Workers participate in decisions on premium fund investments.
- Investments contribute to workers' bargaining power and better working conditions.

Market demand influence interventions include bans, boycotting, petitions and protests, and rating and performance tools. The key mechanism here is that suppliers are forced to improve labour conditions to become more competitive and maintain or improve their market share.

For this to occur, the following is assumed:

- Information on production or working conditions is made public to enable civil society organizations, NGOs, and governments to rally together.

- Ratings affect the reputation of brands and lead firms, and they respond to reputational risk.
- Boycotts affect large enough shares of market demand.
- Workers and their organizations leverage the power of bans or boycotts to enhance collective bargaining.
- Workers can switch between employers in search of better working conditions.

Creation of alliances refers to agreements that are made between companies, suppliers, trade unions, NGOs, and governments to collectively address problems in sourcing countries and at an international level. These multi-stakeholder joint alliances can lead to effective and sustainable solutions to workers' issues, whilst suppliers become subject to enhanced compliance demands from lead firms.

The following assumptions need to hold for this to happen:

- Companies, suppliers, trade unions, NGOs, and governments are able and willing to talk and negotiate on key worker issues.
- Alliances agree on effective auditing mechanisms, minimum standards, and/or sanction or compliance mechanisms.
- Sourcing by lead firms is consistent with corporate social responsibility vetting emerging from audits, whilst national-level unions are strong enough to implement agreements or auditing requirements.
- The outcomes exceed worker expectations.

Inclusion of evidence

We adopt the PICOS (Population or Problem, Intervention, Comparison, Outcome, Study Type/Design) framework to delimit the scope of the review.

The PICOS framework is commonly adopted in systematic reviews exploring the effectiveness of interventions to clearly formulate the eligibility criteria for the inclusion of relevant studies for the review. In other words, to help make standardized and consistent decisions about the types of studies to include and exclude from the systematic review, as well as the kinds of evidence to consider in the synthesis of key findings.

The inclusion and exclusion criteria for this review are as follows:

Population. The focus is placed on workers (individuals or workers' collectives) employed in smallholder or plantation production settings in LMICs in the agriculture sector. Unpaid family workers are not part of the study population. Evidence from HICs - even if the workers are of LMIC origin - or at the enterprise level (e.g. organizational, financial and productivity effects at the company level) was not considered.

Interventions. The scope of this review includes interventions occurring within the corporate sustainability and multi-stakeholder pathways. Interventions that are exclusively located within the market, government, supplier, or labour paths are beyond the scope of this review, as well as studies reporting only on these interventions. The review identifies evidence related to corporate sustainability – such as corporate sustainability codes and supply chain investment programmes - and multi-stakeholder approaches - such as VSS, third-party voluntary sustainability codes of conduct, sustainability rating and performance tools, pre-competitive industry or market -based sustainability platforms, bans, boycotting, petitions, protests, and framework agreements and initiatives.

Comparisons. Any synthesis of impact evidence needs to consider the treatment of comparisons. Treatment and control groups from experimental and quasi-experimental studies provide the standard counterfactual evidence. We consider both "with and without" intervention comparisons, as well as "before and after" intervention comparisons, as long as the study design is adequate (see below).

Outcomes. Any synthesis of impact evidence needs to consider the treatment of comparisons. Treatment and control groups from experimental and quasi-experimental studies provide the standard counterfactual evidence. We consider both "with and without" intervention comparisons, as well as "before and after" intervention comparisons, as long as the study design is adequate (see below).

Study type/design. The 'effectiveness' question – or research question 1 - is informed by counterfactual evidence produced by rigorous impact evaluation studies using a combination of experimental and quasi-experimental designs and statistical analysis methods able to control for possible validity threats. These include Randomized Controlled Trials (RCTs),

pipeline designs, panel data or before/after and with/ without comparisons. Either before/ after or with/without comparisons are also eligible, but only if these are coupled with strong methods of analysis. These can be Instrumental Variables, Propensity Score Matching, Difference in Differences, Two-Stage Least Squares, or multivariate analysis (e.g. Ordinary Least Squares regression).

Studies using only tabulation to analyze their data (e.g. descriptive statistics using t-tests) can be included if the research design was able to control for confounding factors. To assess the quality of the counterfactual evidence, we adapted a scoring tool developed by Duvendack et al. (2011:37), which considers the strength of the research design in combination with the ability of the methods of analysis to control for selection bias and other confounding factors. Evidence produced by 'with/without' or 'before /after' comparison designs in combination with tabulation analysis (e.g. descriptive statistics and t-tests) is highly vulnerable to selection bias and other confounding factors and was not considered for research question 1. Nonetheless, these studies are included in the pool of non-counterfactual evidence used to address research question 2 (see below). The results of the scoring process are presented in the Annex.

The "adoption and implementation" question – or research question 2 - is informed by relevant factual and contextual data, as well as qualitative descriptions for the cases for which counterfactual evidence is identified[3].

A case is defined by the combination of supply chain sustainability approach, value chain, and country. For agricultural products that are created by large-scale and small-scale agriculture, the scale of production is also considered.

For example, if the review identifies counterfactual evidence on VSS in banana plantation production in Costa Rica, studies that provide factual, descriptive, and contextual data on the potential implementation dynamics of VSS within the same contexts are used to complement the counterfactual evidence and address research question 2. We refer to these studies as being "linked" to the included counterfactual evidence.

Reports that meet the inclusion criteria of the review but cannot be linked to any case for which we have identified counterfactual evidence are flagged as eligible, but are not used in the analysis and synthesis of the review. Analyzing and synthesizing this data would certainly add to our understanding of the effectiveness and implementation dynamics of supply chain sustainability approaches related to decent work outcomes. However, due to limited resources, the review only focuses on the non-counterfactual evidence that is relevant in the context of the counterfactual evidence.

A matrix detailing the inclusion criteria that frame the review is provided in the Annex.

3. Snilstveit (2012) refers to such reviews as "effectiveness plus with parallel review modules". These reviews include additional sources of factual evidence linked to the 'effectiveness question', and therefore enable the review to address a broader range of questions. However, they narrow the scope of the review to the interventions, contexts and sectors for which evidence has been identified in the 'effectiveness review'. This makes the review manageable, while providing the necessary contextual and implementation information to answer the 'effectiveness' question.

Searching and screening: how was evidence found and selected?

The search is a critical step in a systematic review and is essential to determine the potential pool of sources to be included. Electronic searches for relevant literature were conducted between June and August 2023 with the support of two research assistants. Academic and non-academic databases were searched, as well as targeting the websites of public and private institutions that are engaged in supply chain sustainability approaches for improving work outcomes in the agriculture and apparel sectors. These include ILO, VSS-related organizations, and other development agencies.

Targeted or 'hand' searching is a necessity for finding non-academic sources, as they cannot be found through standard bibliographic databases. In the context of the types of interventions considered in this review, we expected a significant number of sources to be drawn from targeted searching. The ISEAL Community of sustainability systems was consulted to contribute any studies that might not be readily available on website or bibliographic databases to ensure all relevant studies were included at this stage.

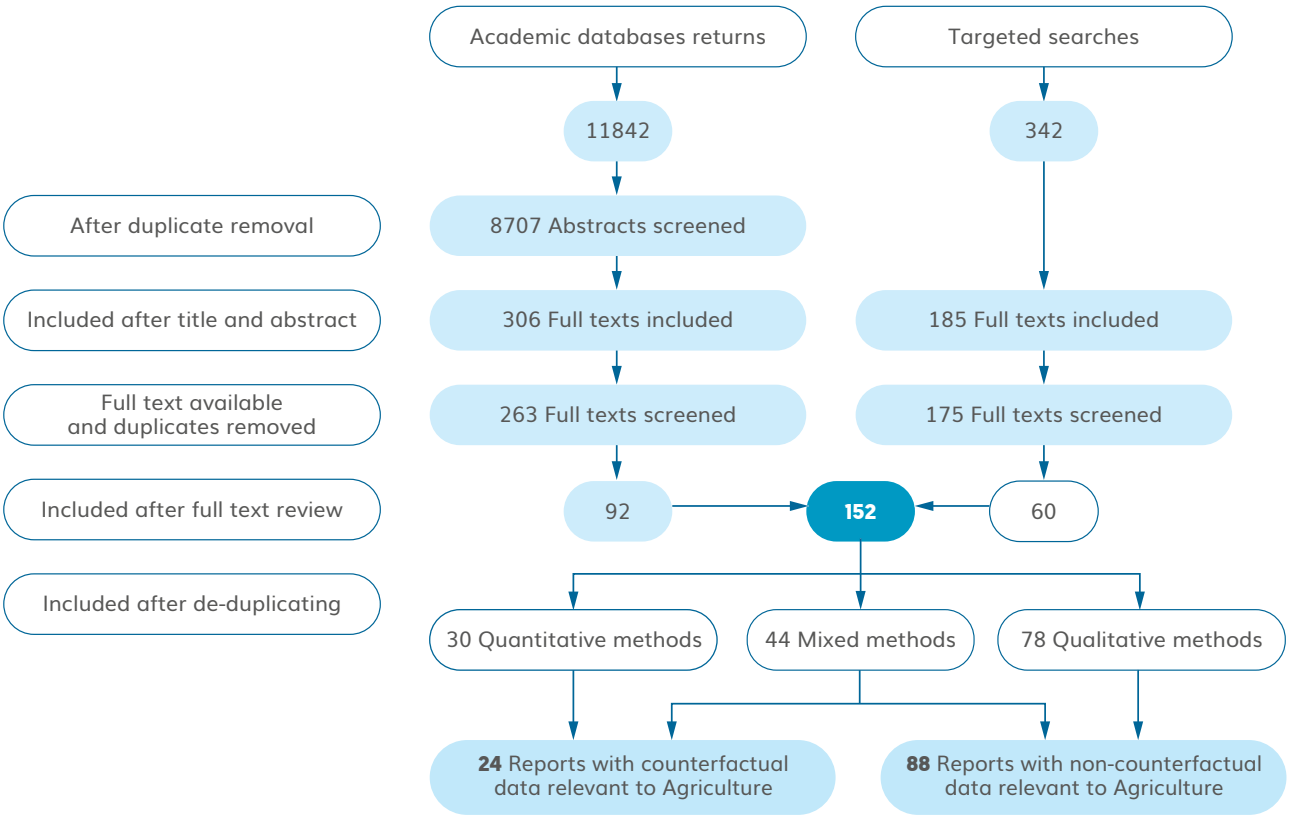
From an initial pool of over 12,000 reports, after the first stages of screening, we identified 438 reports that were screened at full text. From these reports, 152 met the inclusion criteria of the review. The reports were then coded according to the research methods used (e.g. quantitative, qualitative and mixed methods) and the type of evidence (e.g. counterfactual and non-counterfactual).

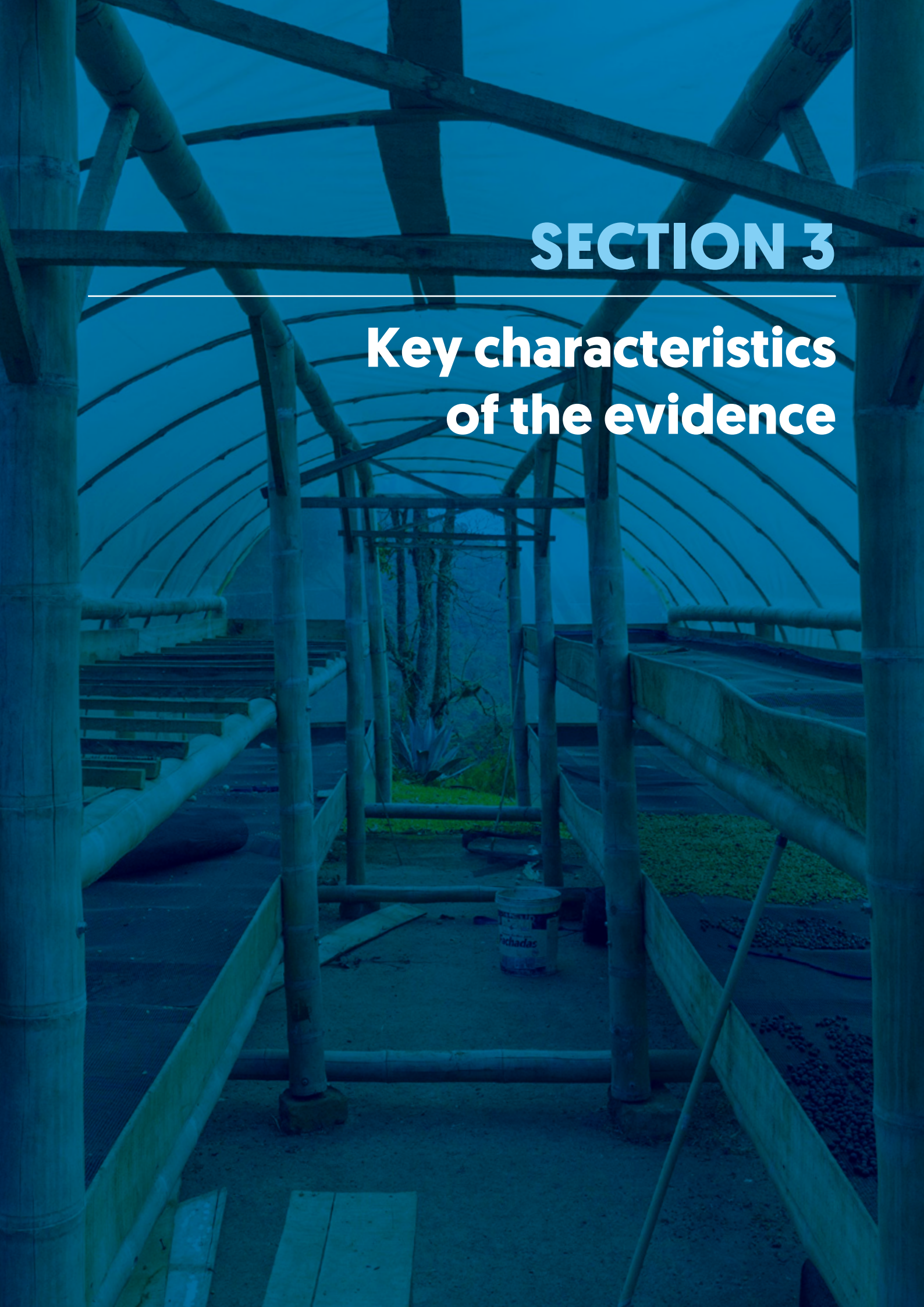
This resulted in 24 reports containing counterfactual evidence relevant to the agricultural sector. These reports were used to address research question 1. It is important to note that the counterfactual evidence does not tell us if an intervention has led to improvements. Rather, the evidence shows us whether an intervention has caused an effect in comparison to the control group, which may be due to the intervention.

There were 86 reports containing factual, descriptive and contextual data, which formed the pool of studies to address research question 2. This process is graphically represented by the PRISMA diagram (Figure 2), which depicts the flow of information through the different phases of the systematic review.

These two sets of reports and sources of evidence constitute a reasonably strong evidence base for a systematic review on the two research questions, especially given that the focus is on decent work outcomes, rather than on broader welfare indicators.

Figure 2. PRISMA flow diagram of the screening process





SECTION 3

Key characteristics of the evidence

Counterfactual evidence

The searching and screening process resulted in the inclusion of 24 reports containing 28 unique datasets with counterfactual evidence on decent work outcomes from the agricultural sector. These studies inform the 'effectiveness' question (research question 1).

We briefly summarize the main characteristics of the counterfactual evidence included in this review (see the list in Annexes A-B) and the synthesis of the agricultural sector:

- Most studies on agriculture are published by the year 2019, with one study being published after that (Figure 3).
- Coffee is the most studied product, followed by bananas. Tea, cocoa, and horticulture receive equal attention in the literature, whereas pineapple, flowers, and cotton are represented by one study each (Figure 4).
- In terms of the supply chain sustainability approaches and tools that are focused on in the reviewed literature, most studies focused on VSS (Figure 5). Within the VSS cluster, Fairtrade International is the primary tool of focus, followed by UTZ, Rainforest Alliance and GLOBALG.A.P. Two reports provide evidence on multiple tools, whilst one report focuses on Better Cotton and one on 4C Association.

Figure 3. Number of included counterfactual studies on agriculture by year of publication.

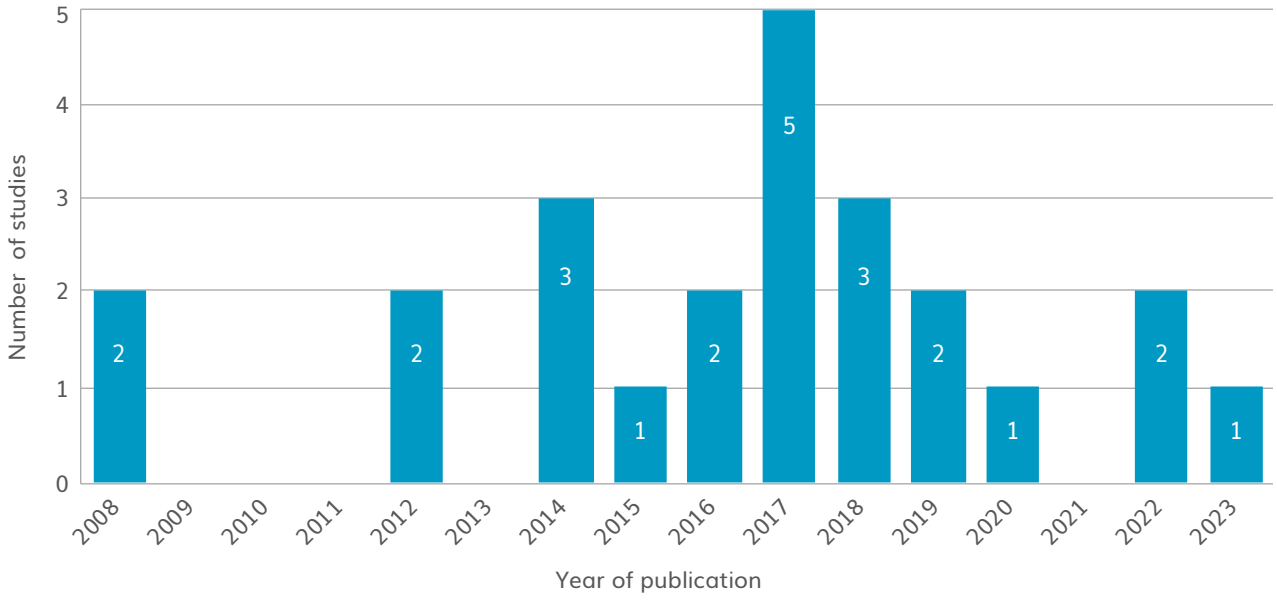


Figure 4. Percentage of the counterfactual evidence by agricultural product.

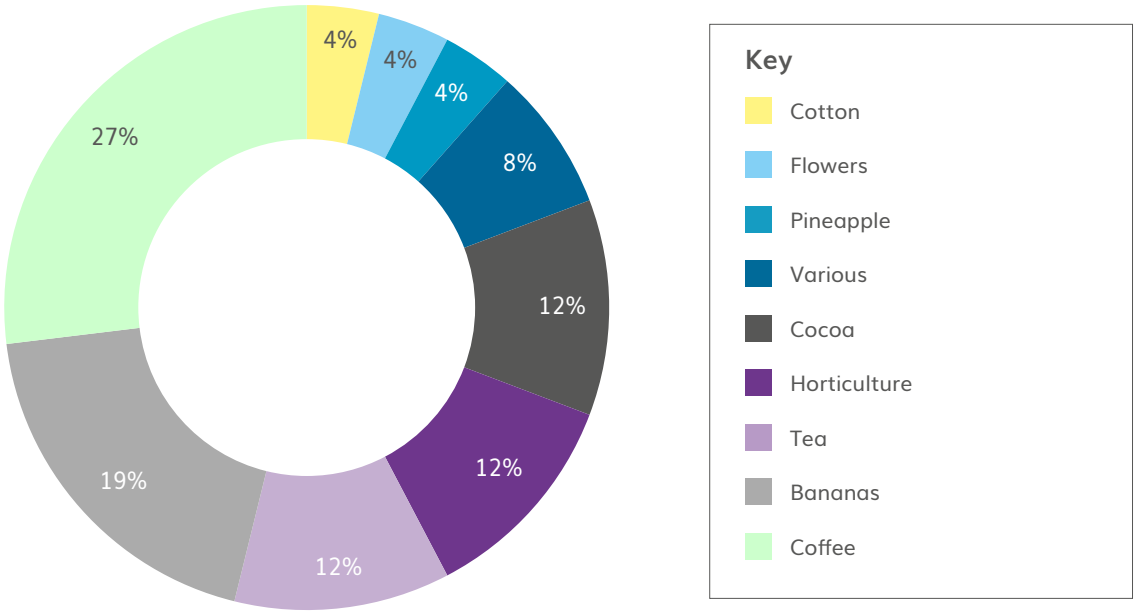
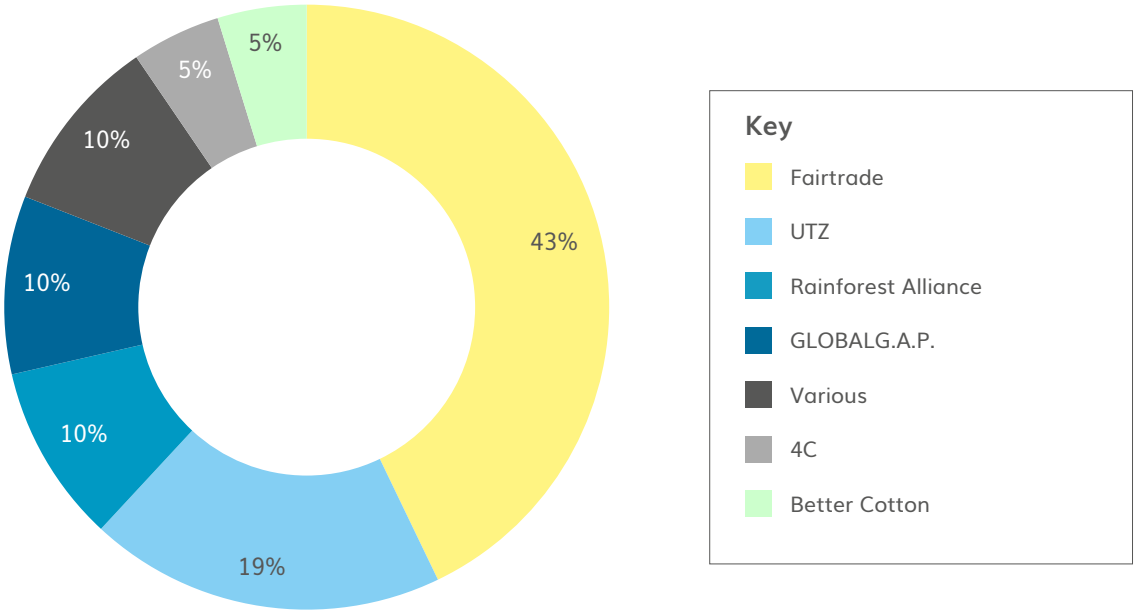


Figure 5. Percentage of counterfactual evidence by supply chain sustainability tool in the agricultural sector.



Non-counterfactual evidence

From the 86 reports that meet the review inclusion criteria for the agricultural sector but do not contain counterfactual evidence, 13 reports contain factual, descriptive, and contextual evidence that can be linked to cases where counterfactual evidence is identified. These 13 reports contain data that informs research question 2.

The remaining 73 reports contain evidence on combinations of supply chain sustainability approach, product, and country for which no counterfactual evidence was found. These reports are not included in the synthesis of this review. Nevertheless, it is important to highlight that this body of literature has already been identified and coded in terms of methods, product, country, and approach. It can be used to expand and complement the findings of this review in the future.

Overall evidence

The exercise of mapping the counterfactual and non-counterfactual evidence by supply chain sustainability approach, product, and country reveals which areas receive the most attention in the research literature. The evidence mapping also shows the areas that receive little or no research attention in terms of supply chain sustainability approaches and decent work outcomes (Tables 2-4).

These evidence maps provide systematic and visual representations of the availability of rigorous evidence on the effects of supply chain sustainability approaches and tools on decent work outcomes for a particular combination of agricultural product and country within Asia, Africa, and the Americas.

Such maps allow us to quickly observe where evidence is lacking, but also to identify possible emerging patterns in terms of the effectiveness of the sustainability approaches and tools across value chains and specific geographical regions.

For example, there are several cases where numerous non-counterfactual studies exist, but there is no counterfactual evidence. In these cases, there is limited or little understanding of the effectiveness of supply chain interventions. In the case of agricultural products, we observe the absence of counterfactual evidence in otherwise well-studied sectors, such as smallholder banana and coffee production in Central and South America (covered in seven non-counterfactual studies for each product across countries), flower production in South America (covered in seven non-counterfactual studies for Ecuador and one for Colombia), tea production in Asia (covered in five non-counterfactual studies for India and two for Sri Lanka), and several agricultural products in the case of Malawi (11 non-counterfactual studies).

In general, palm oil, sugar, wine, nuts (e.g. groundnuts and hazelnuts), and fruits and vegetables are products for which we have found a limited number of non-counterfactual studies and no counterfactual evidence. For other niches, such as the case of cotton production in Africa, or cocoa production in South America, we observe a total lack of studies - both counterfactual and non-counterfactual - on supply chain sustainability approaches and decent work outcomes.

Finally, it is worth noting the limited or absence of studies on certain approaches and tools. In the corporate sustainability path (Table 1), we observe a limited number of studies on corporate sustainability codes of conduct. These studies often do not specify which company or code of conduct is involved, or they group together the effects from different codes of conduct and supply chain approaches without differentiation (e.g. examining the effects of corporate sustainability codes of conduct and VSS together without disaggregation).

Another challenge is the lack of studies reporting on Corporate Supply Chain Investment programmes, despite some of these initiatives being multi-million investments at the frontline of global supply chain sustainability. For example, Cocoa Life - the corporate sustainability programme of Mondelez International - amounts to an investment value of $1 billion, and involves 300,000 farmers in West Africa (Mondelez International, 2023). Yet no studies were found on this programme in relation to decent work outcomes, despite its magnitude and the importance of labour issues in the sector related to child labour, sharecroppers and temporal workers.

Looking at the multi-stakeholder path (Table 1), we also identify some important evidence gaps. Whilst VSS dominate the literature, there is little evidence on third-party voluntary sustainability codes of conduct - such as ETI - and a complete lack of studies on sustainability rating and performance tools, pre-competitive industry or market-based sustainability platforms, bans and boycotting, or GFAs. These gaps in the evidence could be linked to data accessibility issues. For example, companies may be reluctant to share data on their sustainability programmes due to commercial sensitivity.

The coloured cells represent the existence of counterfactual evidence (shown as 'CF' in the tables) that are included in the review. Specific colours are used to indicate the supply chain sustainability approach being studied. For example, if a cell is blue, this means that the counterfactual study was on VSS. Within these cells, the number of studies and the specific tool in the study is also shown in brackets (e.g. 'FT' is used to denote Fairtrade, 'RA' for Rainforest Alliance, 'GG' for GLOABLG.A.P.) for a particular combination of agricultural product and country.

The existence of non-counterfactual studies (shown as 'NCF' in the tables) for the same combination of product and country are also added in these coloured counterfactual study cells. These show cases where there are linked non-counterfactual studies to address research question 2. For example, a cell marked "1CF(FT), 2 NCF (RA)" signifies the existence of one counterfactual study on Fairtrade and two non-counterfactual studies on Rainforest Alliance for a specific product-country combination. In this case, all three studies are included in the review, with the CF study used to address research question 1, and the two non-counterfactual studies to answer research question 2.

Non-coloured cells containing coloured text represent the existence of non-counterfactual studies that are not linked to any counterfactual evidence. These studies are not included in the synthesis of the review.

Blank cells represent a complete lack of research on supply chain sustainability approaches and tools on decent work outcomes for this combination of product and country.

Table 2. Evidence map showing the availability of rigorous evidence on the effects of supply chain sustainability approaches on decent work outcomes for different agricultural products in Asia.

ASIA	Coffee (smallholder)	Cotton (contract)	Cotton (small-holders)	Hazelnuts	Mango (fresh)	Palm oil	Sugar (smallholder)	Tea (plant)
India		1 NCF (FT)	1 CF (BCI) & 1 NCF (FT)				1 NCF (FT)	5 NCF (FT)
Indonesia						1 NCF (RSPO)		
Malaysia						1 NCF (RSPO)		
Pakistan			1 CF (BCI) & 1 NCF (BCI)		1 NCF (GG)			
Sri Lanka								5 NCF (FT & UTZ)
Turkey				2 NCF (UTZ & RA)				
Vietnam	NCF_020							
Legend	VSS							

Table 3. Evidence map showing the availability of rigorous evidence on the effects of supply chain sustainability approaches on decent work outcomes for different agricultural products in Africa.

AFRICA	Banana (plant)	Cocoa (smallholder)	Coffee (smallholder)	Cotton (smallholder)	Flowers	Fresh fruits and vegetables	Groundnut	Horticulture	Pineapple (fresh)	Sugar (smallholder)	Sugar (plantation)	Tea (smallholder)	Tea (plantation)	Wine (smallholder)	Unspecified
Cameroon				1 NCF (FT)											
Côte d'Ivoire		1 CF (UTZ) & 2 NCF (RA & FT)													
		1 NCF (CLMRS)													
Ethiopia			3 CF (FT)		1 CF (FT) 0 & 2 NCF (VARIOUS & FT)										
Ghana	1 CF (FT)	1 CF (UTZ); 6 NCF (4 FT ; 1 UTZ ; 1 RA)							1 CF (FT)						
		1 NCF (CLMRS)													
Kenya					1 CF (FT) & 3 NCF			1 CF (GG)				1 CF (RA) & 2 NCF (FT & RA)	1 CF (VARIOUS) & 2 NCF (RA & FT)		
					NCF_035 (ETI)										
Malawi							2 NCF (FT)			1 NCF (FT)	2 NCF (FT)	3 NCF (1 RA & 2 FT)	2 NCF (FT)		1 NCF (RA)
Mali				1 NCF (FT)											
Mauritius										1 NCF (FT)					
Rwanda												1 NCF (RA)			
Senegal				1 NCF (FT)				1 CF (GG)							
South Africa						1 NCF (ETI)								1 NCF (FT)	
														1 NCF (ETI)	
Tanzania													1 NCF (RA)		
Uganda			3 CF (2FT & 14C)									1 CF (GG)			
Legend	VSS		Sustainability Sourcing Code						Other global or regional implementation norms						

Table 4. Evidence map showing the availability of rigorous evidence on the effects of supply chain sustainability approaches on decent work outcomes for different agricultural products in the Americas.

AMERICAS	Banana (plantation)	Banana (smallholder)	Cocoa (smallholder)	Cocoa (plantation)	Coffee (smallholder)	Coffee (plantation)	Flowers	Horticulture	Oranges	Sugar (smallholder)	Sugar (plantation)	Unspecified
Belize	1 NCF (RA)											
Costa Rica	1 CF (FT) & 2 NCF (FT & RA)				1 CF (FT)							
	NCF_032 (ETI)				1 CF (inhouse certification)							
Dominican Republic	2 CF (FT)	2 NCF (FT)	1 NCF (FT)									
Guatemala					1 CF (inhouse certification)	1 NCF (UTZ)						
					1 NCF (FT)							
Honduras						1 NCF (UTZ)						
Nicaragua					2 NCF (FT)	1 NCF (UTZ)						
Brazil				2 CF (various)	1 CF (inhouse certification)	1 NCF (RA)			1 NCF (Coca cola)			
					1 NCF (UTZ)							
Colombia	1 CF (RA) & 1 NCF (FT)	2 NCF (FT)			1 CF (UTZ)		1 NCF (RA)					
					1 CF (inhouse certification)							
Ecuador							7 NCF (FT)					
Peru		3 NCF (FT)			2 NCF (FT)			1 CF (VSS & SCC, various)				
Mexico Various aggregated					1 CF (inhouse certification)			1 NCF (EFI)				
					1 NCF (FT)			1 NCF (unspecified)				
												2 CF (various)
Legend	VSS		Sustainability Sourcing Code									

SECTION 4

Results

Key characteristics of the evidence

This section highlights the main findings from the synthesis of quantitative counterfactual evidence on the effectiveness of the supply chain sustainability approaches of interest.

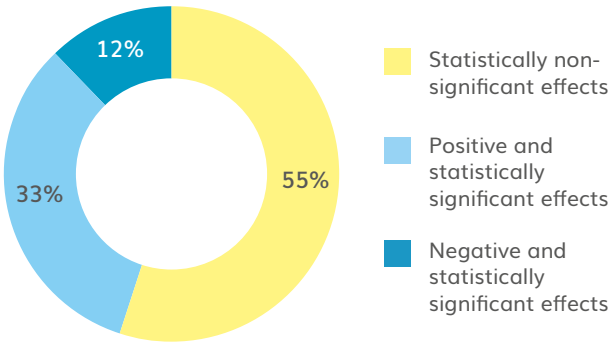
There are different ways of looking at the evidence on effectiveness in a systematic review and from impact evaluations. A simple initial approach is to compare any positive and negative effects, or the evidence of something happening. However, some effects are not statistically different from zero. In other words, these are null effects - neither positive nor negative - suggesting that there is no impact.

We classify the effects of an intervention on decent work outcomes into three different categories of evidence: statistically non-significant (no effect), positive and significant, and negative and significant. The final consideration is whether reported effects are found in all relevant contexts or whether some contexts (e.g. countries, commodities, interventions) have very few or no reported effects in the literature (e.g. where there is no available evidence). The latter scenario is one of 'absence of evidence'.

From the 24 reports on the agricultural sector containing quantitative counterfactual evidence, we extract a total of 170 estimates of effects on the impact of supply chain sustainability approaches on decent work outcomes[4]. 55 percent of these effects are statistically non-significant, 33 percent are statistically significant and positive, and 12 percent are statistically significant but negative.

The overall picture is mixed, with a considerable number of statistically non-significant effects (Figure 6). These effects mean that once rigorous comparisons are made between sample groups of employers in the presence and absence of an intervention, no difference in the outcomes is identified. This is possibly due to a combination of reasons, rather than a particular reason. In the case of the studies on agriculture, the sample size tends to be small, which can certainly undermine their statistical power and result in statistically non-significant effects.

Figure 6. Percentage of effects extracted by statistical significance and direction of change.



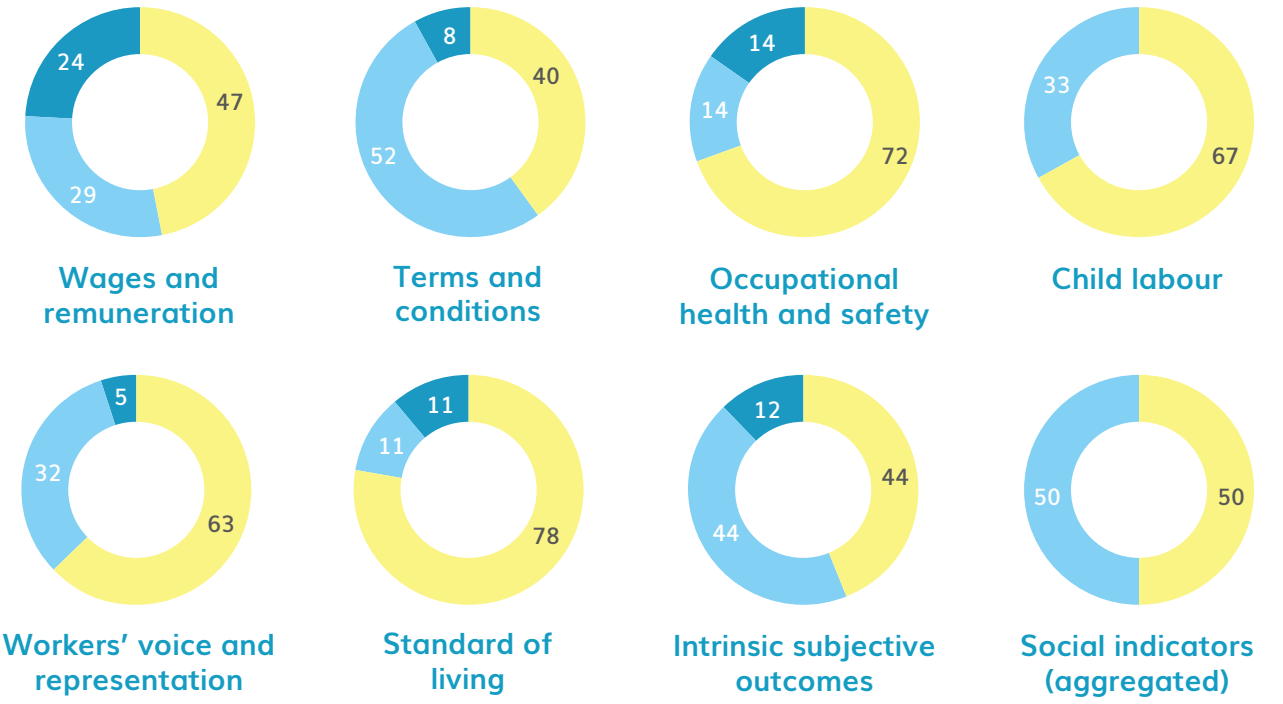
To give an example, van Rijn et al. (2020) interviewed approximately 300 banana plantation workers in the Dominican Republic, while Schuste and Maertens (2017) used around 400 observations from the Peruvian horticultural export sector. There are also examples of studies with larger sample sizes, such as Cramer et al. (2017) using observations from 1700 workers, but this is rather exceptional. Nonetheless, other factors, including the possibility that the intervention is not producing real change, should also be considered.

4. The term "effect" refers to an estimate from a statistical model that assesses how the intervention being evaluated affects outcomes, whether these effects are intended or unintended.

Statistically significant effects, on the other hand, should be interpreted as showing a statistically significant difference between settings with an intervention (e.g. agricultural certification) and those without it (control group).

Estimates of the effects of supply chain sustainability approaches were extracted across eight main categories of decent work outcomes. Figure 7 summarizes the direction and statistical significance of these effects by category.

Figure 7. Percentage of effects extracted per decent work category.
This figure provides an overview of the percentage of effects extracted from the literature on the impact of supply chain sustainability approaches on eight main decent work outcomes based on their statistical significance and direction of change.



Given that wages, terms and conditions of work, and OHS are regarded in the literature as the key labour outcomes, we place particular emphasis on these categories.

Out of the 170 effects we extracted, less than half (48 percent) fall into these core three categories. The effects on wages and remuneration account for 20 percent of the extracted effects, whereas terms and conditions account for 15 percent and OHS accounts for 8 percent.

A significant number of effects (22 percent) is found in the worker voice and representation category, which is not entirely surprising given that many sustainability interventions in agriculture focus on the empowerment of workers' voice through training and the setting up of workers' committees.

Wages and remuneration

Wages are usually regarded as the core outcome of labour. It is one of the key aspects of labour bargaining in different forms of production, from small-scale family farms to largescale corporate agribusiness. A substantial but underreported share of agricultural hired labour in LMICs happens in smallholder farms, rather than in large plantations.

For example, cocoa and coffee are mostly produced in smallholder farms using various labour arrangements across producing areas. These range from sharecropping to seasonal and casual labour. On the other hand, some crops, such as bananas, are produced mainly in large agricultural plantations where employment is more formalized and workers also tend to have more representation structures.

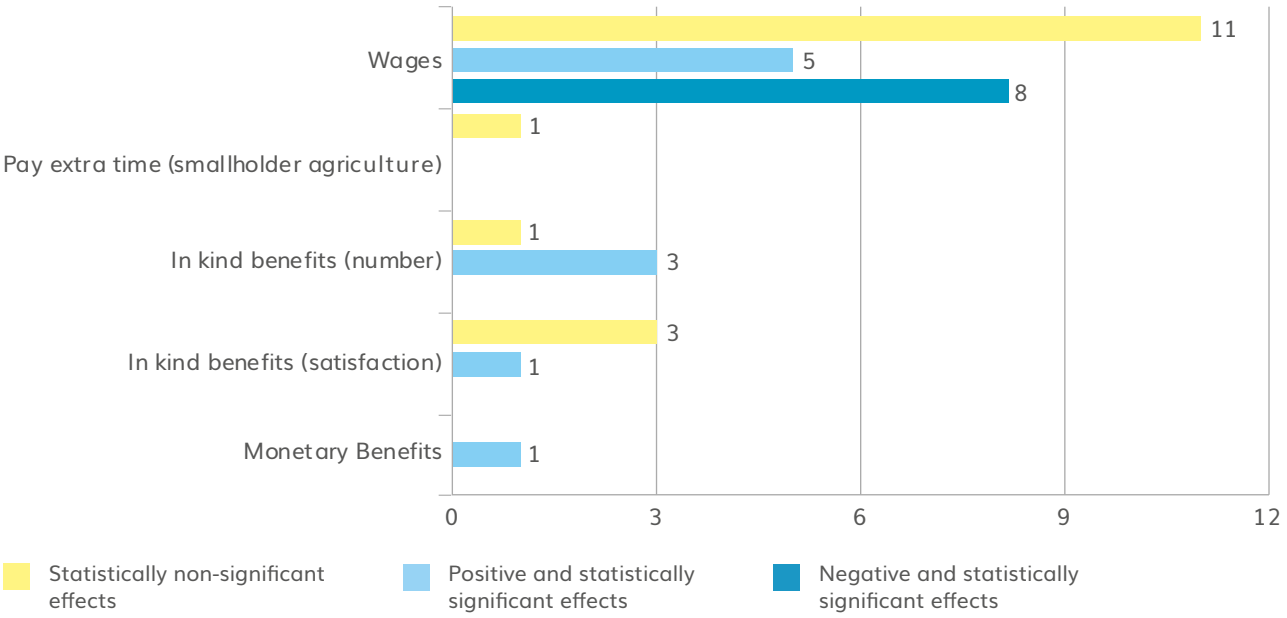
The variety of labour arrangement formats and dynamics is reflected in workers' remuneration. This is complex and diverse in the sense that there are multiple modes of payment under a wide range of terms and conditions. For most studies on the effects of an intervention on labour, the calculation of wages is one of the most difficult tasks due to the wide diversity of different labour scenarios. The monthly wage, which is typical of formal enterprises in HICs, is unusual in agricultural settings in LMICs. Other time-related and productivity-based payments tend to predominate. This means that a study of the effects of an intervention on wages will need to standardize the effects according to a common measure (e.g. a daily equivalent wage).

Remuneration may also include in-kind benefits or only consist of non-monetary payment. This is particularly the case for smallholder farms, where casual workers may be paid with food or other essentials. Even permanent workers may be paid with the right to grow food or take a share of the cultivated crop, as is often the case in cocoa production in West Africa (Robertson, 1987). The main challenge in this case is to estimate a comparable value for these types of in-kind payments.

Given that wages are one of the most essential labour outcomes and a key target of sustainability standards and different interventions in the labour market (e.g. compliance with minimum wages or living wage), the number of relevant effects extracted is rather limited. We extracted a total of 34 effects of supply chain sustainability approaches across 15 countries from 12 reports related to wages.

As shown in Figure 8, 13 of these extracted effects are statistically significant and 11 are statistically non-significant. Among the significant effects, five are positive effects, and eight are negative (e.g. wages are on average lower than in control or comparison groups once confounding factors are considered). This means that the balance is towards more negative than positive effects of supply chain sustainability approaches on wages and remuneration.

Figure 8. Number of effects on wages and remuneration by statistical significance and direction of change.



To make sense of these effects, especially the negative ones, the qualitative evidence suggests a number of reasons and factors that may explain the wage outcomes observed in this review:

- The different supply chain sustainability approaches and interventions analyzed in this review (Table 1) do not fully cover all workers. Most prominent is the lack of outreach to workers employed by smallholder farms, casual labour, undocumented migrant workers, or employees of sub-contractors. In cases where minimum standards on wages (e.g. respect of the minimum wage) are monitored and enforced, only a small segment of the employed population is effectively covered by this.
- In the case of smallholder producers in the agriculture sector, their capacity to pay higher wages or to pay living wages may be hampered by the limited progress in achieving living incomes for producers and employers.
- For those workers who are covered by these types of interventions, monitoring and enforcement systems may be too weak or poorly implemented to drive any significant wage improvements.

- The benefits of some of the interventions, especially in the context of agriculture, may not be large enough to improve wages above what other employers pay, compared to other market dynamics or alternatives. In some contexts, employers not covered by VSS or other supply chain sustainability approaches pay comparatively higher wages for other reasons, such as premiums associated with product quality, or simply for higher levels of productivity.

- The interventions may not be designed to directly increase wages or achieve living wages, but adhere to minimum wages. If there is broad compliance with minimum wage laws and regulations in the sector, other employers not included in the scope of these interventions may be able to afford to pay higher wages for other reasons. For example, quality premiums, access to more remunerative markets, higher productivity, and seasonal dynamics.

- National institutional settings where minimum wages do not exist or are generally very weakly enforced are not conducive to minimum wage monitoring and enforcement by VSS and other schemes.

We observe a concentration of negative effects in Fairtrade-certified areas, especially in coffee production where smallholders dominate, and in African countries (Cramer et al., 2017). Whereas more positive effects are observed in areas with GLOBALG.A.P. certification in horticulture (Ehlert et al., 2014; Colen et al., 2012) (Table 11).

Positive effects are reported for a Fairtrade-certified pineapple plantation in Ghana (Krumbiegel et al., 2018), while some positive effects are also reported in banana plantations certified by Fairtrade in Latin America (Van Rijn et al., 2016). However, the opposite is also found in similar plantations in Ghana by the same study. A systematic review combining different datasets from a mix of five African and Latin American countries also found negative effects on wages for multiple crops (Oya et al. 2018).

A recurring finding is that labour standards tend to only apply to a segment of the population of wage agricultural workers. These consist of those hired by large plantations, and generally exclude those employed by smallholder farmers.

Employees of certified smallholder farmers are usually not directly targeted by labour standards and are not properly considered by the certification system. This can result in their de facto exclusion from the reach of the standard (Oya et al, 2017). The literature suggests a complete lack of official standards for hired labour employed by smallholders for some crops, or a lack of scrutiny when it comes to the application of standards in smallholder farm wage labour (compared to plantation labour).

There are several reasons for this. Agricultural labour markets in rural areas in developing countries are complex and differentiated. Families are both being hired and hiring out labour, while the nature of labour tends to be 'disorganized and seasonal' (Oya et al 2017). The large number of no effects of supply chain sustainability approaches on wages (and other outcomes) should therefore not be surprising, at least regarding workers employed in smallholder agriculture.

A common argument in the literature is that "smallholders are too resource poor and subject to volatile market conditions to offer decent work standards to their seasonal and casual workers". This means these smaller employers may be unable to pay minimum wages or offer other benefits (Oya et al., 2017:140). This appears to apply especially to unskilled workers, such as coffee pickers, migrant workers, or sharecroppers (Dragusanu and Nunn, 2014; Trauger, 2014; Nelson et al, 2013). Cramer et al. (2014:101) conclude that VSS, such as Fairtrade in this case, have not been "institutionally" able to monitor "effectively the wages and conditions of those working in production conditions (e.g. flowers) where there is acknowledged hired labour, despite the existence of auditing procedures against the Hired Labour Standard".

Overall, there is a striking absence of evidence on wages. This is notable for cocoa production (where there is not a single effect), as well as for flowers and tea.

These are two commodities that are often studied in analyses of VSS because they employ large numbers of wage workers, but for which we only have one reported effect in Uganda and one in Ethiopia from the same report (Cramer et al., 2017). Nevertheless, the counterfactual evidence on these two commodities and within plantations should not be too difficult to obtain, given that there are many potential control plantations that do not carry some form of VSS certification to compare against, even if they have their own company standards.

In summary, the limited evidence and high proportion of statistically non-significant effects (47 percent) and statistically negative effects (24 percent) suggests that different kinds of interventions – and primarily VSS in this case - struggle to generate a positive impact on wages.

This may well be because one of the potential mechanisms for wage increases is compliance with minimum wages, but these are absent or not enforced in agricultural settings in many countries. The qualitative evidence does suggest that VSS reduce minimum wage violations (Ruiz, 2022). However, the problem is that although VSS can improve the alignment of minimum wages with national requirements in plantation production settings, this tends to be insufficient to cover living costs and to support a family (Oya et al., 2017 & 2018). For example, a study by Ergon (2022:7) in certified tea estates and small grower groups in Kenya identified that "wages paid to workers are likely below various living wage calculations".

The situation is even more complex in smallholder agriculture. The lack of accuracy in determining the minimum daily wage, as well as the financial limitations of small producers, makes it difficult to provide minimum wages to workers. Mauthofer and Santos (2022) argue that paying living wages for workers employed by smallholder farmers will remain a challenge unless a living income at producer or Small Producer Organization (SPO) level is ensured. In countries where there is no legal minimum wage, or there is an institutional inability to enforce any related law, VSS have even less power to improve wages (Mengistie et al 2017).

Given these dynamics, the growing rise of civil society campaigns and private sector-based living wage commitments and initiatives is highly relevant. The global campaign to achieve living wages has gained momentum in recent years. Perhaps the effects will be felt if different sustainability standards sign up to the campaign, as well as monitor and enforce their application. However, as indicated above, this may be more challenging in settings dominated by smallholder farms, where the monitoring of wages is incredibly difficult. More actions are needed to move in this direction, such as sensitizing consumers "to what a 'living wage banana' or 'living wage cocoa' actually means" and working towards realistic benchmarks in different contexts (Bayer et al.,nd:9).

Much of the literature on agricultural wages suggests there is a complex combination of factors that affect wages, especially given the complexity of payment modalities and how these are tied to productivity via piece-rate payment systems. In most smallholder agriculture settings, labour supply and demand are the main determinants of workers' wages, as it is "the urgency of the work and the availability of labour that determines the rate" (Nelson and Smith, 2011:176). However, some research also considers the existence of local-level wage "norms" not always dictated by supply-demand dynamics, but by highly personalized labour relations among village neighbours (Oya 2015). Therefore, the links between payment modalities, wage rates, and wage levels are dependent on the specific context of agricultural labour relations, how local labour markets are structured and the relative bargaining power of employers and workers.

Ghori et al. (2020) provide a good example of how the complexity of the local labour regimes with which VSS interact may prevent benefits at the farm level from trickling down to workers. Taking the case of cotton production in Gujarat, India, the authors show how the same certification scheme - Better Cotton - can have both negative and positive effects on workers' earnings, depending on the (gendered) tasks that workers undertake. The income of female on-farm workers, for instance, was negatively affected. Complying with the standard implied "spraying less pesticide" which reduced the number of days these workers could work on a farm. At the same time, higher quality standards meant that more time was needed for harvesting. This resulted in workers picking less cotton and therefore getting paid less.

The situation was different for (mainly male) workers engaged in labour tenancy arrangements, where "tenant farmers receive about a 25 percent share of cotton production, while landowners bear most input and production costs" (Ghori et al, 2020:6). In this type of arrangement, the expected increase in yields resulting from the adoption of the standard was likely to benefit tenants in terms of income.

Selection issues into VSS are another influential factor. For Fairtrade, the reported lack of professionalism, managerial experience and adequate equipment of certified SPOs and plantations can cause administrative inefficiencies and quality issues, and undermine the efforts to improve wages. Whereas non-certified businesses, at least in certain contexts and value chains such as banana plantation production, tend to be more professional and established in the conventional market, making more profit and having larger profit margins to pay better wages (Ruiz, 2022; Cramer et al., 2017).

Cramer et al. (2017) also find that in contexts without Fairtrade certification, where global buyers or processors reward higher quality (such as in coffee settings), this can favour producers who are more careful about production quality and reward workers for quality harvesting accordingly. A skill effect may be at work too, whereby more skilled hired workers are selected by producers who offer wage premia to attract them. This is something that is less common in Fairtrade-certified producer settings.
Given that the counterfactual analysis implies comparisons with and without interventions, these other factors outside the control of certification schemes may balance out the potentially positive effects of these interventions on wages. In short, it may well be that wages improve in a setting with different sustainability interventions, but not enough to generate positive differences in comparison to other settings where no interventions are taking place. In these cases, wages may also improve for other reasons.

In terms of in-kind benefits, the extracted effects are generally positive, but limited (nine effects extracted from three reports). This can make it difficult to draw conclusions based on the counterfactual evidence alone, as details on the substance and value of these benefits are also unknown.

Qualitative studies suggest significant benefits to plantation workers, specifically in terms of transport, housing, education and capital for small businesses (van Rijn et al., 2016; Rainforest Alliance, 2019; Quesada, 2013; Kiura & Langat 2023). In particular, funds supporting the education of workers' children are reported to be highly valued as "workers are left with more disposable income which they can channel into investments or other household needs" (Kiura & Langat 2023:10). However, Quesada (2013) stresses that initial support and training is necessary to manage premium funds efficiently and without creating confusion.

A recurrent finding is that in-kind benefits and Fairtrade premiums often benefit permanent workers more. Seasonal, temporary workers, and migrants and racially discriminated workers tend to receive less benefits than their co-workers (Oya et al 2017 & 2018; Cramer et al., 2014 & 2017; van Rijn et al., 2016; Ergon, 2022). For instance, Oya et al (2017:141) report that migrant or temporary workers are "almost systematically" excluded from Fairtrade-funded housing grants, while migrant workers are also restricted in benefiting from medical expense coverage of their families or community investments. Restrictions on using the Fairtrade premium to legalize the residency status of migrant workers – as in the case of Haitian workers in the Dominican Republic – is not only reported to leave these workers without any benefits from Fairtrade, but can also seriously undermine their ability to work. The following quote from a Haitian worker in a Fairtrade-certified banana plantation in the Dominican Republic shows how migrant workers may lose on certification: "Education for my kids in Haiti is very expensive. I requested money from the Fairtrade premium for a scholarship for them but they told me that this money cannot be used in Haiti" (van Rijn et al., 2016:62).

Cases where premium funded projects are more beneficial for men than women are also reported. For example, Said-Allsopp and Tallontire (2014:12) report that "at [one flower farm] they asked for driving classes; there are 62 men and 4 women having lessons". They also report that projects seen as benefiting only female farmers, such as childcare services, were being repeatedly vetoed by male committee members: "It was only when this project was rephrased as being a project for children and not their mothers, and using arguments surrounding child nutrition and care that the project was finally approved" (Said-Allsopp and Tallontire, 2014:12).

The authors attribute the gender bias in project selection to a lack of transparency in how Workers Committees (WC) operate in managing premium funds (also known as Joint Bodies [JBs]). Other factors include "the dominance of men within these committees", meaning that women, who are constrained by cultural norms, give in to the wishes of male committee members (Said-Allsopp and Tallontire, 2014:11) . Such situations reinforce Quesada's (2013) observation on the necessity of supporting workers in managing premium funds efficiently and in a way that benefits workers equally.

Regarding workers hired by smallholder farmers, Bayer et al (nd) mention that Fairtrade has a criterion that requires that workers benefit from "at least one activity in your Fairtrade Development Plan". However, a threshold for the value of such activity is not defined. The authors report that hired labourers rarely participate in defining the content of the activity in line with their needs and priorities. They recommend that "Fairtrade should, therefore, require that a certain percentage or portion of the Premium benefits hired labourers directly/collectively and that workers are consulted on their needs and the content of the activity" (Bayer et al., nd:9).

Finally, gender pay discrimination is reported to persist despite the adoption of VSS. After systematically reviewing the VSS literature, Oya et al (2017 & 2018) conclude that female workers in plantation settings earn less than their male colleagues. This is because they are more likely to be hired on a temporary basis and are subject to a variety of gendered patterns in terms of job allocation, with different remuneration scales for 'male' and 'female' jobs.

Female workers in smallholder agriculture continue to be more vulnerable and marginalized than male workers, affecting their access to loans and bonus payments. They are hired less often and are paid less for the same amount of work. This is "based on the assumption that women will be able to carry out less work, or to do it less competently" (Mauthofer and Santos, 2022:45).

Terms and conditions

A key aspect of a worker's life is the terms under which their employment is established. Job security is especially at the heart of labour bargaining, as employers try to squeeze as much surplus as possible from workers by making work arrangements flexible and often uncertain. On the other hand, employees try to make their job as stable and predictable as possible.

In agriculture, a permanent job is a rare occurrence, especially in LMICs. Most jobs are temporary in nature. There are two main types of temporary jobs: seasonal, and casual, the latter being much more vulnerable and exploitative in most settings. However, the duration of contracts, the relative security in employment, and issues like paid leave and 'social wage' and working hours have a significant impact on workers' experience in the workplace. Avoiding excessive hours and casualization is one of the imperatives for agricultural employment in LMICs. Any aspiration for decent work should put these issues at the centre.

The results of the review suggest that the category of "terms and conditions" is a heterogenous one. A wide range of outcomes have been found within this category, but not enough effects are prominent within each specific outcome. The provision of training is reported often. Yet this is a "borderline" outcome in the sense that it could also be regarded as a direct input of interventions.

The question is whether employers are more likely to have training systems embedded in their normal terms of conditions of work because of certification. It is important to understand if training improves terms and conditions beyond the skills gained through it, whether it is to have more job security or more protection. In terms of product and geographical distribution, we found that much of the evidence is concentrated in studies of banana plantations in Dominican Republic and Colombia (van Rijn et al., 2020; van Van Rijn et al., 2016). This is especially the case for the most positive effects on aspects such as paid leave, training, and protective measures.

Studies of banana plantations and cocoa farms in Ghana mostly reported non-significant effects. The lack of evidence in commodities such as tea and coffee, or in horticulture (e.g. flowers) is puzzling, given the importance of these outcomes for these sectors, which may employ large numbers of seasonal and casual waged workers.

The counterfactual evidence on job security, working hours and leave practice, usually regarded as key outcomes in this category, is incredibly limited. We only found one study reporting effects on employment duration (positive and significant) in a horticultural setting in Senegal under GLOBALG.A.P. certification (Colen et al., 2012). Effects on job security were generally non-significant (Figure 9).

Figure 9. Number of effects extracted on the impact of supply chain sustainability approaches on terms and conditions.

The low number of effects extracted for each category and the considerable number of non-significant effects (Figure 9) makes it difficult to reach an overall conclusion about impact in this area. This is despite the general observation that most effects tend to be positive and highly concentrated in specific outcomes and settings.

Nonetheless, the qualitative studies provide some interesting insights. One key finding is that overtime restrictions can be controversial and counterproductive if minimum wages do not cover workers' living costs (Oya et al, 2017:129). This is because such restrictions on working overtime can lead to a decrease in income to levels below living standards. This can also undermine the capacity of workers to repay loans taken on the basis of their wage, and including the amount of overtime worked (Nelson and Martin, 2013).

Paid sick leave or maternity pay is generally non-existent in smallholder agriculture. Workers rely on their family and community members for sustaining the household during these times (Selten, 2015). Social security activities, such as health insurance and pensions, are also almost non-existent. Even in the cases where such benefits are provided, they are fragile and can be easily withdrawn in times of hardship. Ruiz (2022:7), for instance, describes how debt forced a Fairtrade-certified banana cooperative in Costa Rica to "removed all associates from the official payroll, leaving them without health insurance and pension."

5. Spanish term used for non-permanent workers.

Written labour agreements are also rare in smallholder agriculture. The qualitative literature, in accordance with the counterfactual evidence, suggests that VSS do not seem to make a significant difference (Lyon, 2015; Selten 2015). Bayer et al (nd:8) suggest that SPOs or a third party should offer "contract documentation services to farmers and workers". They recommend that VSS "take an active role in providing template contracts per type of worker and requirements" while also providing training on formal contracting.

Written labour agreements should be the norm in plantation settings, particularly in the presence of VSS. However, irregularities are also reported here. In fact, VSS can result in covering up the issue instead of solving it, when auditable standards remain at the superficial level of compliance.

Ruiz (2022:7) describes how in a Fairtrade-certified plantation in Costa Rica, half of its workers were hired illegally. To maintain certification, workers without a legal contract were "sent home" during Fairtrade audits. A worker is quoted saying: "the company does not want us to be working when [the auditors] are here because if they talk to us and ask us questions, they can find out that we are 'por factura'[5]. Once they are gone, they call us again, and we go back to work."

National labour legislation and institutions also matter. In settings where national labour legislation covers and exceeds the guarantees offered by VSS, and laws are properly enforced, benefits from standards become obsolete. On the other hand, in settings where VSS "go beyond national legislation, or laws are subject to frequent violations, then VSS can bring significant improvements such as paid annual and maternity leave" (Oya et al., 2017:128). Even in these cases, standards should be binding for the employer and properly enforced to be effective. Otherwise, the effects will likely not be significant as demonstrated by the case of the Fairtrade-certified plantation in Costa Rica described above.

In any case, multiple studies suggest that employment formalization is mainly determined by the forces of labour demand and supply, in combination with legislative obligations and the scale of production, rather than private labour standards (Nelson and Martin, 2013; Cramer et al., 2014). However, standards can bring greater visibility to auditors and can put pressure onto groups (Oya et al 2017). VSS can also play an important role in formalizing the employment of migrant workers, as in the case of Dominican Republic where "Fairtrade policies make it mandatory for managers to help wageworkers from Haiti to get all the required papers to become formalized workers." (van Rijn et al., 2016).

Occupational health and safety

Decent work is not simply about better wages, more job security and better terms and conditions. OHS is widely regarded as being a central aspect of decent work. This category often includes "negative" labour outcomes in terms of physical hazards associated with agricultural work. Agricultural work is considered as being one of the most risky and hazardous occupations across different settings in both LMICs and HICs.

Despite its importance, there are few studies reporting on OHS outcomes in agricultural settings. Particularly striking is the absence of counterfactual evidence of the exposure of workers to chemicals, which is a well-known risk in farm work. The outcome with most reported effects is "missed days due to illness caused by poor working conditions", with just three studies, all statistically non-significant.

Overall, the evidence is mixed with an equal number of statistically significant positive and negative effects, and a predominance of statistically non-significant effects across all outcomes (nine out of 13 effects).

Much of the evidence is reported by two studies on missed days due to poor working conditions, or on mental/physical health generally. One study focuses on horticulture in Kenya (Ehlert et al., 2010), and the other on banana plantations in different parts of Latin America and the Caribbean (Van Rijn et al., 2016). This underscores the substantial absence of evidence in this category.


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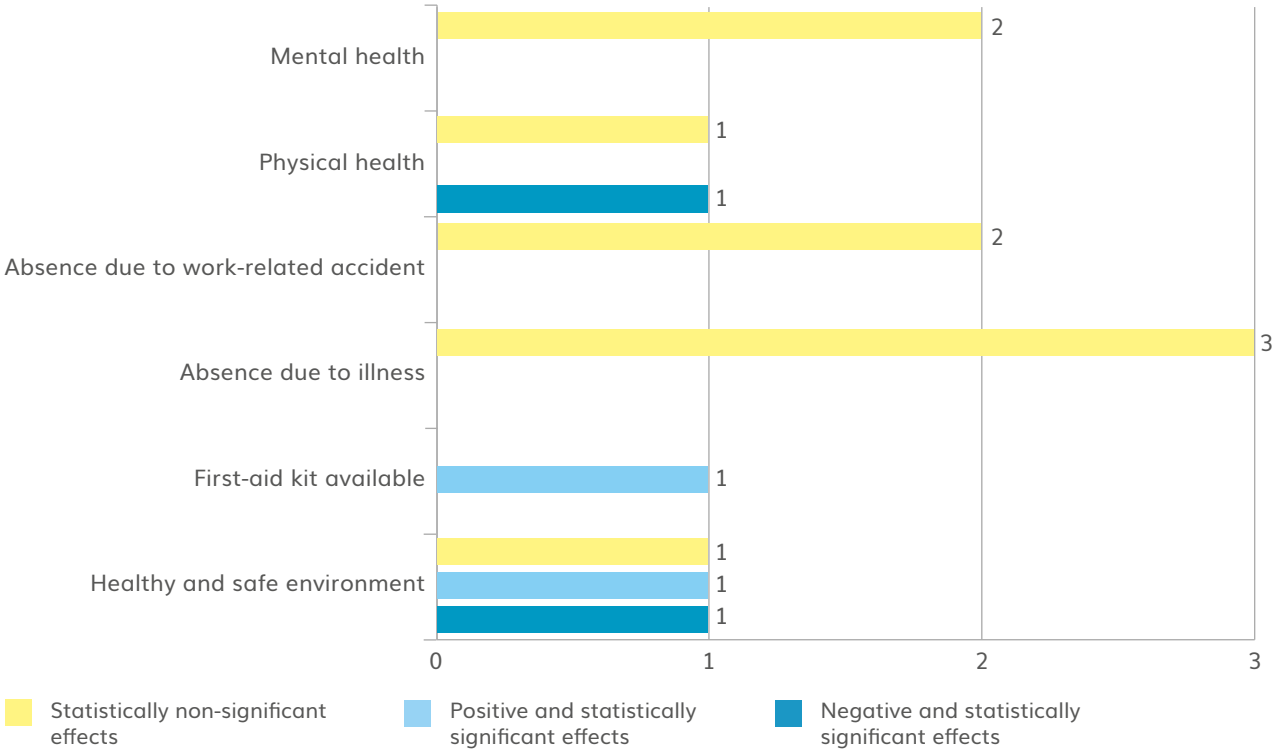
Figure 10. Number of effects on Occupational Health and Safety by statistical significance and direction of change.



Qualitative evidence is also scarce in this area, with few studies reporting on the use of agrochemicals and protective equipment, health coverage and medical care (Mengistie et al 2017; Rainforest Alliance 2019; Mauthofer & Santos, 2022).

Some authors encourage the formation of Health and Safety Committees led by workers to reduce injury frequency. Bayer et al (nd:6) recommend that members should be compensated, to incentivize participation. They suggest that such committees should be in charge of sensitizing and educating workers on the relevant work hazards, and also carrying out a monitoring function.

However, Mengistie et al. (2017) underline the challenges in making such committees effective and going beyond a box ticking exercise to ensure compliance. An informant in the Mengistie et al. study, for instance, is quoted saying that as a member of the health and safety committee they ''experienced signing minutes for the purpose of audit without conducting actual meetings'' (Mengistie 2017: p. 806).

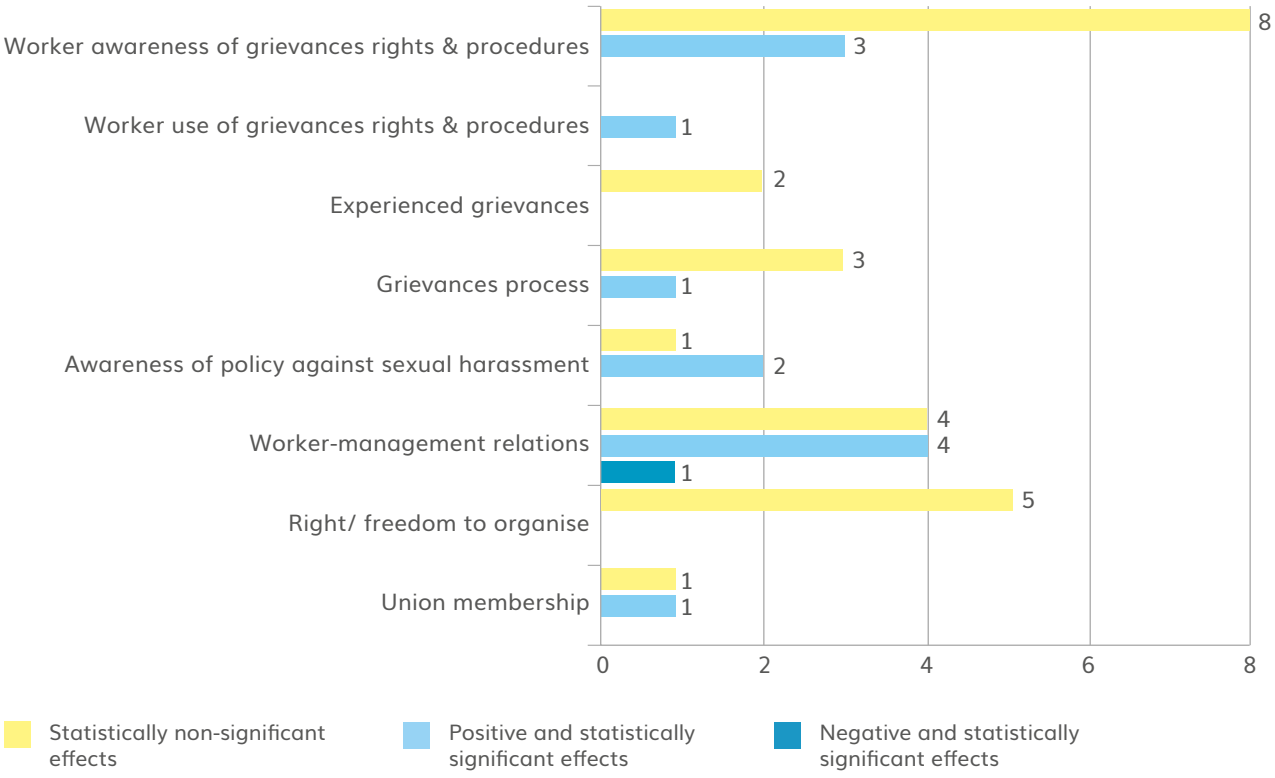
Certified SPOs are also reported to provide their workers better access to health coverage and emergency access to medical care. Yet these services can vary significantly from SPO to SPO (Mauthofer & Santos, 2022:52).

Workers' voice and representation

One of the areas where we have a more significant number of effects is workers' voice and representation (Figure 11). Overall, this dimension accounts for 22 percent of all reported outcome effects (Figure 7), which is higher than that for wages and remuneration (20 percent) or terms and conditions (15 percent).

This is an aspect that is often included in social sustainability standards to improve the governance of certified production by raising awareness of labour rights and empowering workers' collective action. The establishment of WC is a common mechanism operating in large-scale agricultural settings. The training of workers, human resources departments and managers is another intervention that is expected to contribute to workers' agency and enable better bargaining systems in the workplace.

Figure 11. Number of effects on workers' voice and representation by statistical significance and direction of change.



One aspect of workers' voice and representation that stands out is the focus on workers' awareness of labour rights, procedures, and policies. Such outcomes often act as a basis for improvement in workers' bargaining power. Overall, workers' voice and representation do not necessarily guarantee positive effects on wages and terms and conditions. Yet the labour literature tends to support the hypothesis of a strong association between workers' voice and associational power and their labour outcomes.

Considering that the agricultural sector is probably the sector where workers' representation and voice is weakest, the synthesis of the effects suggest important achievements. There remains a question about the causal mechanisms connecting these improvements to other extrinsic outcomes and especially wages, OHS, and terms and conditions. There are also questions on the extent to which these interventions bypass existing labour organizations (e.g. trade unions), which tend to be extremely weak in agricultural settings in LMICs, or can contribute towards empowering and strengthening them.

It is difficult to answer these questions based on the available counterfactual evidence. Studies containing relevant factual and contextual data report on a wide range of outcomes regarding grievance processes, the role of Workers' Committees and their impact on worker representation, and the rights or freedom of workers to organize into unions.

Regarding grievances and the ability of workers to complain, a recurrent finding is that a low number of grievances reported does not necessarily reflect that the real number of grievances is low. It can also indicate the lack of knowledge of workers on grievance mechanisms, or their fear of speaking out.

Findings from a verification workshop conducted by van Rijn et al. (2016) with banana workers in the Dominican Republic suggest that workers may be fearful of reporting complaints, or unable to communicate them properly.

Vulnerability plays an important role in this respect. For example, migrant workers may feel less secure in terms of filing complaints. The following quote referring to Haitian workers in banana plantations in the Dominican Republic is characteristic of this: 'Those who don't have a passport, don't complain' (van Rijn et al., 2016: 61).

A high number of reported grievances can indicate worsening conditions at the workplace. Yet at the same time, it can also indicate more effective grievance mechanisms. For example, Rainforest Alliance (2019:19) states that an increase in complaints related to serious human rights issues, such as forced labour, child labour or gender-based violence and harassment, is in reality "a sign of maturity", since "dealing with such issues suggests a degree of trust among affected rights-holders to raise very sensitive issues and to have them addressed effectively". In fact, the report highlights that Certification Bodies (CB) often struggle to receive complaints about sensitive topics (e.g. wages or issues of reprisals against people that complain). Users tend to raise the issue with the CB during an audit rather than directly with the Certification Holder (CH), or in other words, the employer. The report concludes that this suggests "a lack of trust among user groups towards grievance mechanisms established and operated by CHs, but also signifies the positive role played by CBs in identifying certain issues" (Rainforest Alliance, 2019:20).

Bayer et al. (nd:5) recommend that SPOs offer "a dedicated grievance channel to workers that would also serve as a valuable management and quality control tool". This would also give the chance for CBs "to pre-emptively engage on issues before they take on other dimensions". The authors also underline that to remain effective, grievance mechanisms for SPOs should be actively designed and supported by trade unions, apply a gender lens and ensure the engagement of all workers, particularly those working in geographically dispersed farms.

WC and JB are often a requirement of social standards to enable workers to negotiate with management. The role of these committees is assessed by several non-counterfactual studies. The findings are mixed, as in some cases such bodies are "virtually non-existent whereas others strive actively to change the working conditions" (Mengistie et al., 2017:806). The authors highlight that WC can cause frustration if the management is not responding to their demands, as the following quote indicates: ''They push us so much for the audit [to have a functioning WC]...but after a while no one remembers it'' (Mengistie et al., 2017:806).

Ruiz (2022) also underlines the risks of creating such committees simply to comply with VSS requirements, but leaving them without a real function due to lack of decision-making power.

Although WC are reported to improve communication between workers and management (van Rijn et al., 2016), their role can also be controversial as they can be seen as serving "the interests of management more than those of workers", while at the same time undermining the role of trade unions (Kiura and Langat, 2023:39). Quesada (2013:18) reports that tension between JBs and workers' unions is not uncommon, but he identifies elements that can contribute to a good relationship between the two. These include "respect for the roles of the other's authority, clarity on the roles and transparency while sharing information, and the taking into account of the opinions of each other". He adds that joint training sessions and meetings, and reports to the grassroots organization about the investment of premium payments can also reduce mistrust and increase understanding between JBs and unions.

Overall, Oya et al., (2017) conclude that "the limited decision-making power of these committees, and their weak capacity to address more controversial issues, especially payment and working conditions grievances" appears to constitute important effectiveness barriers. The authors also suggest that such committees should not "operate as alternatives to established trade unions, given that they are far more susceptible to management pressure and more limited in their collective bargaining capacity than the unions, especially in contexts of more conflictual labour relations".

In terms of contextual dynamics, it appears that insecurity in the labour market plays a major role in preventing workers from confronting their employers, regardless of the presence of labour standards. In smallholder agriculture, Bayer et al. (nd) describe how freedom of association and collective bargaining are being discouraged or forbidden in certified SPOs through local social norms, communal policies, and/or SPO policies. They call for VSS to become aware of these dynamics in order to address them.

In terms of gender dynamics, some authors report that WC or JB may constitute an opportunity for female participation (Nelson and Martin, 2013). However, others draw attention to the fact that they tend to be male-dominated and may in fact partly offset empowerment (Said-Allsopp and Tallontire, 2014).

Gender committees are reported to be more effective in empowering women, particularly in terms of education, training and sensitization around sexual harassment (Said-Allsopp and Tallontire, 2014). VSS are also reported to contribute to SPOs adopting gender and sexual harassment policies (Kiura and Langat, 2023), and generally increasing awareness in the workplace.

Nevertheless, issues related to unwanted touching, obscene language and supervisors attempting to obtain sexual favours from workers in exchange for maintaining their jobs or finding better employment elsewhere, are also reported for certified plantations (Cramer et al., 2014). Oya et al. (2014) conclude that VSS alone have not been able to offset the local social and gender dynamics.

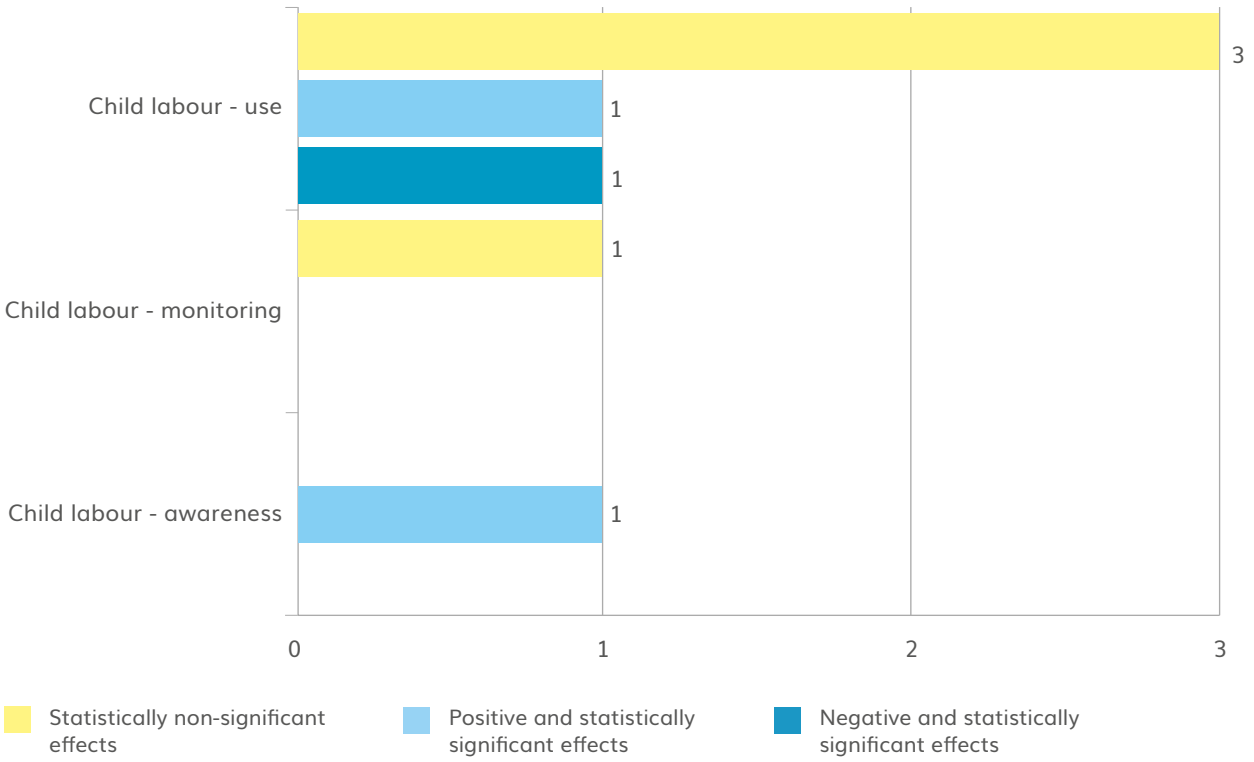
Child labour

Child labour remains one of the core 'negative' labour outcomes, and indeed one that often receives a lot of attention among sustainability standards. The use of child labour is conspicuous especially in LMIC settings, with widespread poverty and farming systems dominated by smallholder farming. In these contexts, labour can be a significant constraint. All family labour may be mobilized, including child labour. Whether this is done during school holidays or affecting child school attendance is of course an important question.

As part of the review, we searched for counterfactual evidence on the effects of different interventions on outcomes related to child labour. There is incredibly limited counterfactual evidence on these outcomes (Figure 12). Only two studies report positive effects (positive in the sense of less or no child labour) and four studies suggested no change or difference resulting from supply chain sustainability approaches. The two reported non-null effects are positive and significant (one for child labour use and one for awareness of it) but this is simply not enough to conclude anything about the success in preventing child labour in agricultural settings.

The evidence on child labour use is also limited to three African countries (Ghana, Cote d'Ivoire and Ethiopia), two commodities (cocoa and coffee) and two certification schemes (UTZ and Fairtrade) (Ingram et al., 2017; Waarts et al., 2015; Minten et al., 2019).

Figure 12. Number of effects on child labour by statistical significance and direction of change



The non-counterfactual evidence is also limited, indicating the real challenges of studying and reporting on such a sensitive issue, even when qualitative research methods are used. Studies reporting on this topic agree that child labour remains prevalent (Mauthofer & Santos 2022; Cramer et al., 2014), particularly in cocoa production in West Africa.

Cramer et al. (2014: 17) report that:

> *"Very significant numbers of young, school age children are having to work for wages, in the production of agricultural export crops including Fairtrade certified commodities; and it is also clear that many are doing other forms of work, paid and unpaid, for example as domestic servants. For those few children fortunate enough to be enrolled in school, most absent themselves to do this work, and indeed, they are often pitched back into the labour market by the inability of their families to cover the costs of attending school."*

VSS so far seem to have been effective in improving knowledge and awareness about child labour rights and schooling children, using different types of sensitizing and communication strategies (Ingram et al., 2017; Mauthofer & Santos, 2022; Nelson and Smith (2011). Nevertheless, as studies are unable to provide evidence on the reduction of child labour, it remains unclear whether such efforts simply sensitize farmers "into not mentioning child labour vs. actually changing their practices" (Nelson and Smith, 2011: 174).

Children who work for wages or for food tend to be much more vulnerable and often 'invisible' to audits and monitoring. This becomes particularly complicated in settings where child labour as unpaid family labour is considered 'normal'. Therefore, farmers may have to be 'trained' to not report child labour in these instances even if it is common practice and sometimes regarded as part of children upbringing.

Other outcomes

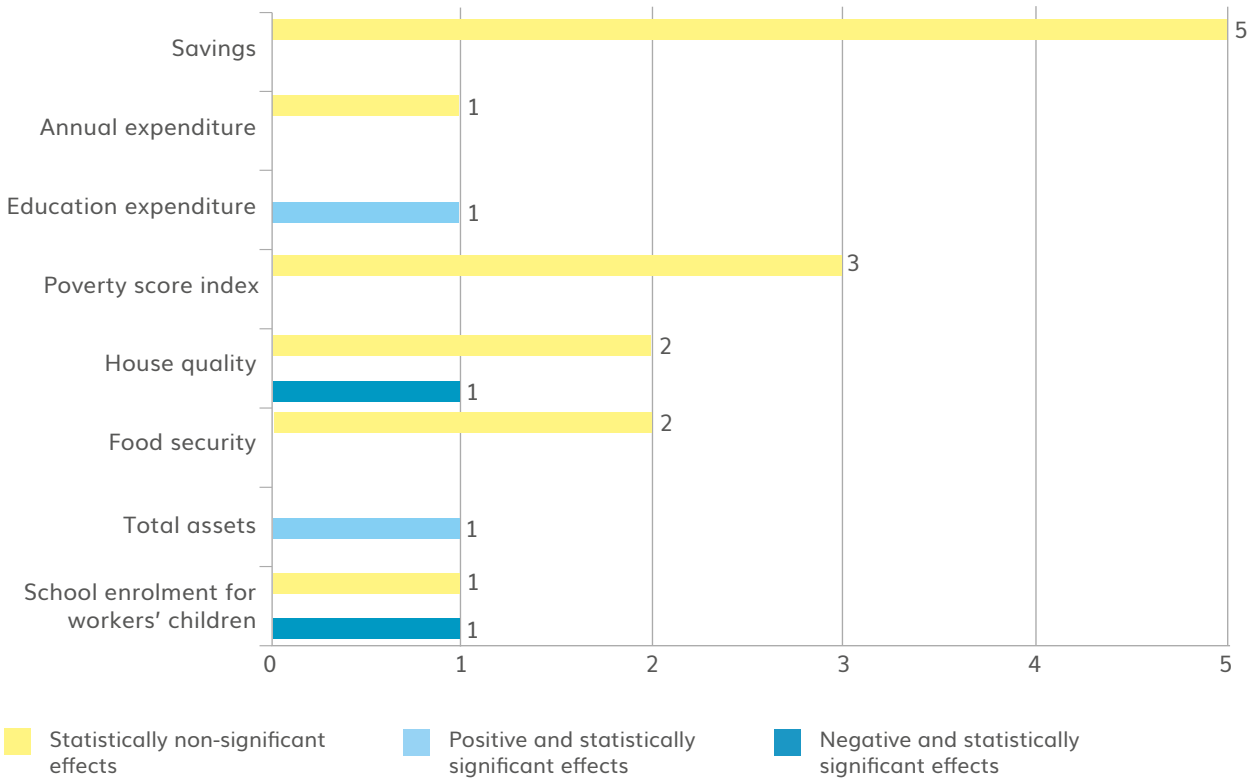
In this section we report on the relatively few instances of outcomes related to broader and indirect labour-related issues. These include measures such as standard of living (wellbeing), intrinsic subjective outcomes (such as empowerment and job satisfaction) and other social indicators.

The counterfactual evidence on these other outcomes is patchy and limited, while relevant qualitative data is scarce. This could suggest that counterfactual studies report on indicators such as standards of living or intrinsic subjective outcomes because it is relatively easy to ask these questions in a survey format. For example, questions such as: 'On a scale of one to ten, how satisfied are you with your job? Do you have savings? How much do you pay for your children's education?'

However, it remains debatable how these questions fit into the theory of change of the sustainability approaches involved and what the answers can really tell us about their impact.

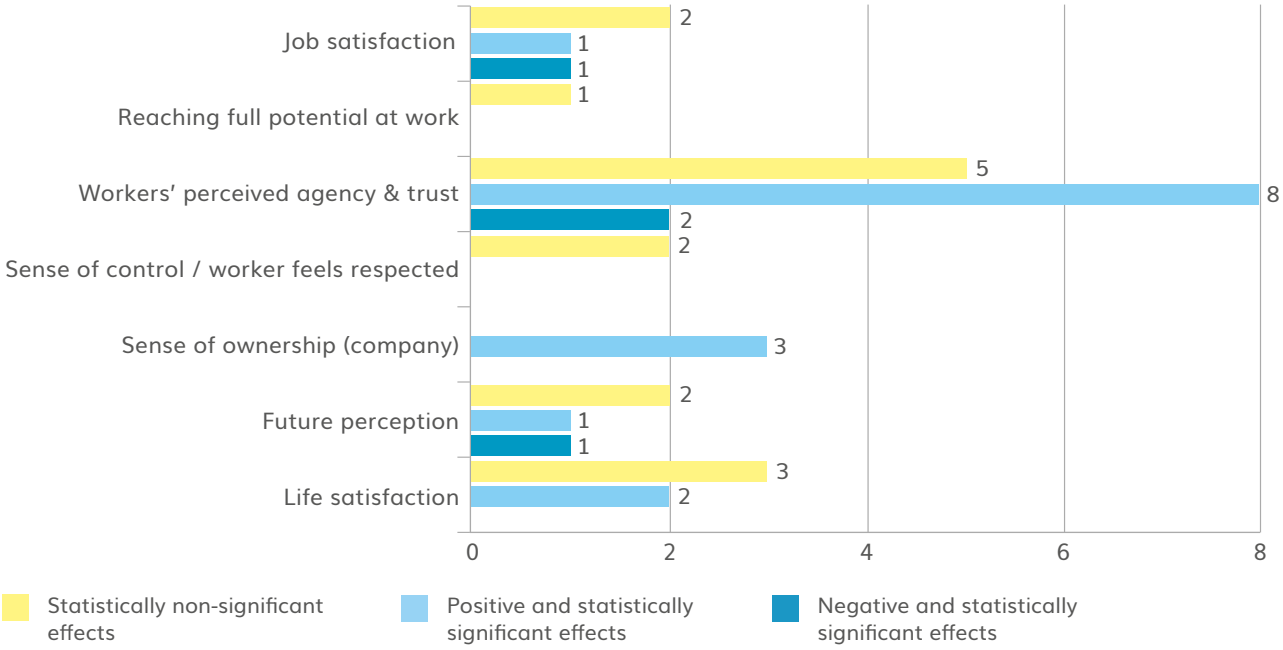
Most effects on the broader wellbeing outcomes are statistically non-significant and only two cases show significant positive effects. Within the standard of living category, the most noteworthy result is the evidence on savings (Figure 13). This is an important indication of success for improvements in socioeconomic status, given how typically low savings rates are in agriculture in LMICs.

Figure 13. Number of effects extracted on the impact of supply chain sustainability approaches on the standard of living.



However, the reported effects are not statistically significant. Workers in certified settings, or those impacted by sustainability standards do not seem to save more than comparison groups in the absence of this intervention. Only one study reports positive significant effects on education expenditure and assets for Fairtrade banana plantations in Costa Rica (Zuniga-Arias, G. and Saenz-Segura, 2008). By contrast, evidence from smallholder coffee farms under Fairtrade points to no effect or negative effects on school attendance for the children of workers (Dragusanu et al., 2018). With respect to subjective (intrinsic) outcomes, such as job and life satisfaction, the overall picture appears more positive and significant in relation to some subjective (e.g. life satisfaction) indicators (Figure 14). We found mostly statistically significant results with 15 cases reporting positive outcomes compared to only four cases with significant negative outcomes.

Figure 14. Number of effects extracted on the impact of supply chain sustainability approaches on intrinsic subjective outcomes.

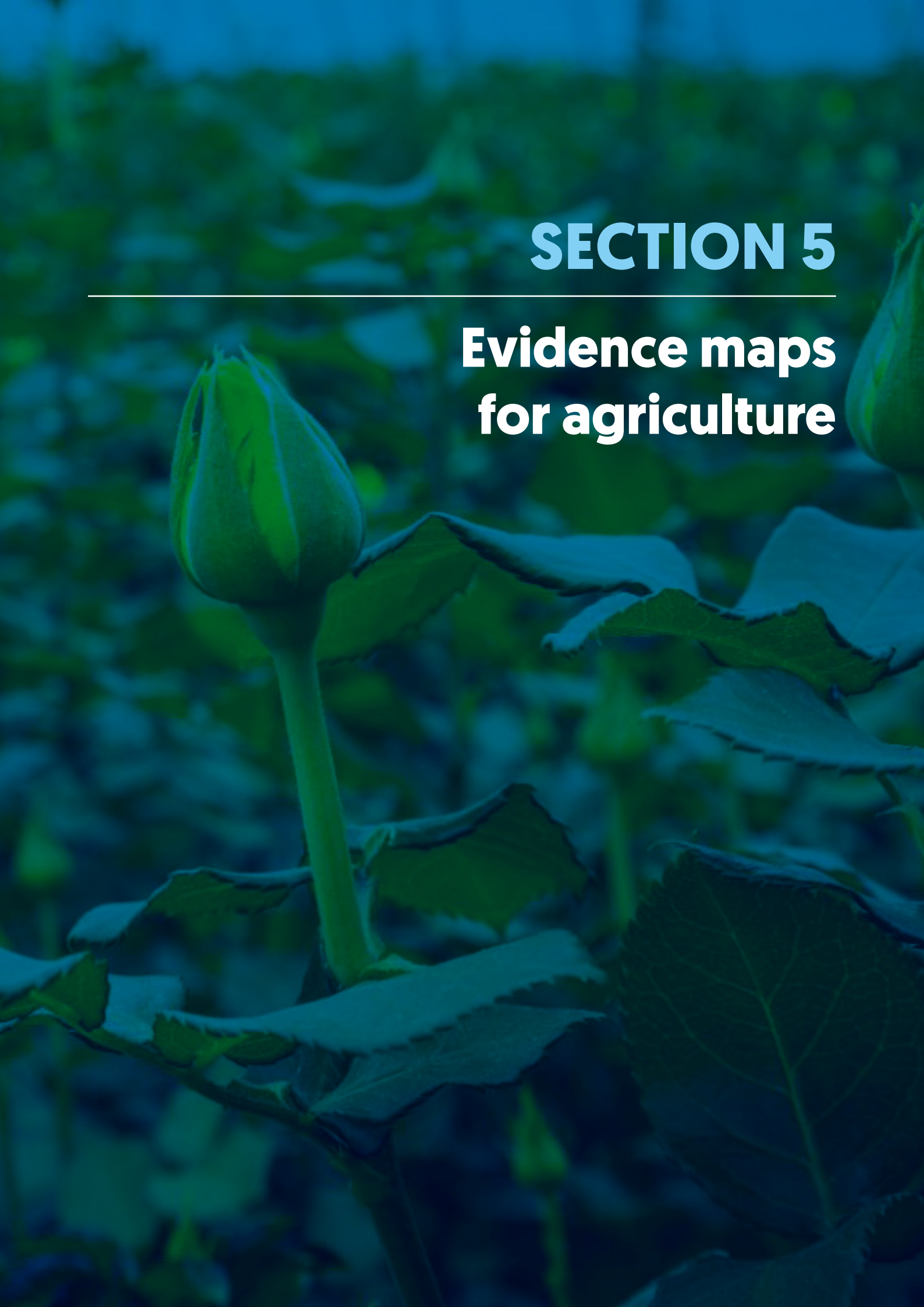


However, there are also 15 statistically non-significant effects. Evidence on job satisfaction is particularly limited and contradictory, with only four results available: one significant positive (Fairtrade pineapple production in Ghana) (Krumbiegel et al., 2018), one significant negative (Fairtrade banana production in Ghana) (Ruben, R. and van Schendel, 2008) and two statistically non-significant (Van Rijn et al., 2002; Beekman et al., 2019).

Some positive results on 'life satisfaction' also come from studies on plantations in African countries, as well as Kenyan export vegetable farms (Ehlert et al., 2014; Van Rijn et al., 2020). These results do not necessarily mean working conditions are superior to other comparable employment in settings without VSS. It simply means that in some cases workers report higher general life satisfaction. The assumption is that the job may contribute to this outcome.

Interpreting these results is more challenging than making sense of outcomes based on tangible outcomes, such as wages or OHS. Subjective job satisfaction may be related to a combination of issues that are not all related to the intervention. It can also be related to the data collection methods used for such indicators, which can sometimes bias the reporting in a positive direction depending on who conducts the evaluation and how respondents interpret the questions.

In any case, as with the other outcome categories, we have limited evidence for each individual outcome. There are mixed results, with a large proportion of statistically nonsignificant effects of supply chain sustainability approaches on the standard of living and intrinsic subjective outcomes.



SECTION 5

Evidence maps for agriculture

Evidence maps

This section presents the overall counterfactual evidence maps for the agricultural sector.

These maps (Tables 5-7) visually present not only the availability of rigorous evidence for a particular combination of agricultural product and country, but also highlight the significance of these reported effects (e.g. whether they are statistically significant or non-significant) and their direction (e.g. whether they are positive or negative). They present the evidence identified for three of the main decent work categories: wages and remuneration, terms and conditions, and workers' voice and representation.

The coloured cells represent the effects we have extracted for a specific combination of agricultural product and country. Different colours are used to denote the statistical significance and direction of change.

Within these cells, the decent work outcome measured is mentioned (e.g. wages, in-kind benefits, paid leave), as well as the specific tool in the study for a particular combination of agricultural product and country. This is shown in brackets (e.g. 'FT' is used to denote Fairtrade, 'RA' for Rainforest Alliance).

Empty cells suggest an absence of evidence (e.g. no effects were extracted for a specific combination of product and county). For example, if we look at Table 5, we observe that for bananas produced in plantation settings, there are negative effects in the case of Fairtrade in Ghana, a mixture of positive and statistically non-significant effects in the case of Fairtrade and Rainforest Alliance in Colombia, and statistically non-significant effects in the case of Fairtrade in Costa Rica and the Dominican Republic.
These evidence maps can help to visualize the variety of effects emerging from the same supply chain sustainability tool and formulate questions for future research. For example, in Table 5 which shows the effects of supply chain sustainability approaches on wages and remuneration, why is it that we observe significant positive effects on wages linked to Fairtrade-certified banana plantations in Colombia, but negative effects in Ghana?

These maps also show variations across tools in the same geographic context. For example, why do we observe positive effects on wages linked to GLOBALG.A.P. certification, but negative effects linked to Fairtrade across African countries? These maps can also highlight the variation of effects within the same supply chain tool and context across value chains. For example, the fact that Fairtrade is linked to positive effects on wages in pineapple production in Ghana, but linked to negative effects on wages in banana plantations in Ghana.

Tables 6 and 7 can also reveal patterns of variation that can be used for further research analysis using non-counterfactual data. For example, despite the fact that the effects on terms and conditions are scattered, questions arise as to why we observe important variations on training, protective measures, or paid leave. Another issue to explore would be the large number of non-significant effects, and how these are linked to the intensity and culture of programme implementation.

Finally, the evidence map of the effects of supply chain approaches and tools on workers' voice and representation (Table 7) shows important variations within the same value chain across geographical contexts. This suggests that sustainability tools can be highly context sensitive. In this case, important questions arise around the theories of change for these tools, and what conditions are needed to enable these tools to be effective in advancing on decent work outcomes.

Table 5. Evidence map showing the availability of rigorous evidence on the effects of supply chain sustainability approaches on wages and remuneration per product and country.

	Banana (plantation)		Cocoa (smallholder)	Coffee (smallholder)	Cotton (smallholder)	Flowers	Horticulture (smallholder)	Horticulture (large scale)	Pineapple (fresh)	Tea (smallholder)	Agriculture
India					Wages (BCI)						
Pakistan					Wages (BCI)						
Vietnam				Wages (4C Association)							
Ethiopia				Wages (FT)		Wages (FT)					
Ghana	Wages (FT)	Wages (FT)	Extra reward for longer hours (UTZ)						Wages (FT)		
	In kind Benefits (satisfaction) (FT)										
Kenya								Wages (GGI)	Wages (GG)		
Senegal								Wages (GG)			
Uganda				Wages (FT)						Wages (FT)	
				Wages (4C Association)							
Costa Rica	Wages (FT)	Female contribution to HH income (FT)		Wages (FT)							
Dominican Republic	Wages (FT)	Wages (FT)									
	In kind Benefits (n) (FT)	In kind Benefits (n) (FT)									
	In kind Benefits (satisfaction) (FT)	In kind Benefits (satisfaction) (FT)									
Colombia	Wages (FT)	Wages (RA)									
	In kind Benefits (n) (FT)	Wages (RA)									
	In kind Benefits (n) (FT)	Wages (RA)									
	In kind Benefits (n) (FT)	Wages (RA)									
		Monetary Benefits (RA)									
BR |COL | CR| GUAT | MX |				Wages (SSC_unspecified)							
ETH | SN | UG | PE | CR | KE											Wages (VSS_ Various)
LEGEND	Not Significant	Significant +	Significant -	Systematic Review Significant -	FT: Fairtrade	GLOBAL G.A.P.	RA: Rainforest Alliance	VSS: Voluntary Sustainability Standards		SSC: Sustainable sourcing codes	

Table 6. Evidence map showing the availability of rigorous evidence on the effects of supply chain sustainability approaches on terms and conditions per product and country.

	Banana (plantation)		Cocoa (smallholder)	Coffee (smallholder)	Cotton (smallholder)	Horticulture (small scale)	Horticulture (larhge scale)
India					Hours/day (BCI)		
Pakistan					Hours/day (BCI)		
Ghana	Paid leave (FT)	Job security (FT)	Agreement on remuneration (UTZ)				
	Social securities (FT)	Job security (FT)	Agreement on time spent (UTZ)				
	Protective measures (FT)						
Kenya						Training (GG)	Training (GG)
Senegal						Employment duration (GG)	
Dominican Republic	Paid leave (FT)	Paid leave (FT)					
	Social securities (FT)						
	Protective measures (FT)						
	Training (FT)	Training (FT)					
	Job security (FT)						
Colombia	Paid leave (FT)	Protective measures (FT)		Training (UTZ)			
	Social securities (FT)	Job security (FT)		Protective Gear (UTZ)			
				Contract agreement (UTZ)			
LEGEND	Not Significant	Significant +	Significant -	FT: Fairtrade	GLOBAL G.A.P.	RA: Rainforest Alliance	BCI: Better Cotton

Table 7. Evidence map showing the availability of rigorous evidence on the effects of supply chain sustainability approaches on workers' voice and representation per product and country.

	Banana (plantation)		Cocoa (smallholder)	Cocoa (plantation)		Horticulture (small scale)
Ghana	Worker awareness of rights & policies (FT)		Worker awareness of rights & policies (UTZ)			
	Grievances process (FT)	Grievances process (FT)	Employer awareness of rights (UTZ)			
	Awareness of sexual harassment policies (FT)		Worker use of rights and agency (UTZ)			
	Workers' voice (FT)					
	Trust in workers' rep/unions (FT)					
	Trust in fellow workers (FT)					
	Trust in management (FT)					
Dominican Republic	Trust in fellow workers (FT)	Trust in fellow workers (FT)				
	Trust in fellow management (FT)	Trust in fellow management (FT)				
	Trust in workers' rep/unions (FT)	Trust in workers' rep/unions (FT)				
	Workers' voice (FT)	Workers' voice (FT)				
	Worker awareness of rights & policies (FT)					
	Awareness of sexual harassment policies (FT)					
Brazil				Workers' voice (VSS)	Workers' voice (VSS)	
				Responsive Management (VSS)	Responsive Management (VSS)	
				Workers' influence (VSS)	Workers' influence (VSS)	
				Union membership (VSS)	Union membership (VSS)	
LEGEND	Not Significant	Significant +	Significant -	FT: Fairtrade	GLOBAL G.A.P.	RA: Rainforest Alliance

Table 7 (continued). Evidence map showing the availability of rigorous evidence on the effects of supply chain sustainability approaches on workers' voice and representation per product and country.

	Banana (plantation)		Cocoa (smallholder)	Cocoa (plantation)		Horticulture (small scale)
Colombia	Worker awareness of rights & policies (FT)	Worker awareness of rights & policies (RA)				
	Grievances process (FT)	Worker awareness of rights & policies (RA)				
	Awareness of sexual harassment policies (FT)	Worker awareness of rights & policies (RA)				
	Trust in workers' rep/unions (FT)	Worker awareness of rights & policies (RA)				
	Trust in fellow workers (FT)	Worker awareness of rights & policies (RA)				
	Trust in management (FT)	Grievances process (RA)–				
	Right & Freedom to organise (RA)	Union membership (RA)				
	Right & Freedom to organise (RA)	Right & Freedom to organise (RA)				
	Right & Freedom to organise (RA)	Right & Freedom to organise (RA)				
Peru						Awareness of rights & policies (VSS & SSC)
						Worker use of rights and agency (VSS & SSC)
LEGEND	Primary study			VSS: Voluntary Sustainability Standards		
	Not Significant	Significant +	Significant -	FT: Fairtrade	GLOBAL G.A.P.	RA: Rainforest Alliance

SECTION 6

Key recommendations

Recommendations for key stakeholders

A key aim of this review was to draw from available evidence and offer insights to inform future research and practice in this field. We offer a range of recommendations based on this work.

Recommendations for VSS practitioners

Wages and remuneration:

- Ensure that no workers are outside the reach of an agreed standard. This is especially important for VSS that make a distinction between SPOs and producers with 'hired labour'. Small producers also hire labour, so labour standards should be applied to these settings, even if conditions for compliance are harder than in plantation settings (Cramer et al. 2017).
- Standard setting organizations should require that a certain percentage or portion of the Premium benefits labourers hired by smallholder farmers directly/collectively and that workers are consulted on their needs and the content of the activity (Bayer et al.,nd).

Recommendations for both VSS practitioners and private sector actors

Wages and remuneration:

- Sensitize consumers to what a 'living wage' for different agriculture products actually means while working out an economic roadmap to achieve specific wage minimums (Bayer et al., nd).
- Ensuring a living income at producer or SPO level is a first step towards paying living wages for workers employed by smallholder farmers (Mauthofer & Santos, 2022). This is particularly important for female farmers who tend to be more vulnerable and marginalized than male farmers, but have a greater need to hire external labour. Without ensuring a living income for themselves, it will be impossible to ensure a living income for the workers they hire.

Terms and Conditions:

- SPOs or a third-party should offer "contract documentation services to farmers and workers". Whereas VSS should "take an active role in providing template contracts per type of worker and requirements" while also providing training on formal contracting (Bayer et al, nd:8). Even in the absence of written contracts, clear terms and conditions with regards to payment, tasks to be completed, timeframe for tasks, days of work, or number of hours per day, should at least be agreed verbally, with workers fully informed of such terms.
- Health and Safety Committees, in part led by workers, are recommended for SPO to reduce injury frequency. Bayer et al. (nd:6) recommends that members should be compensated, to incentivize participation. They visualize such committees being in charge of sensitizing and educating workers on the relevant work hazards, as well as performing a monitoring function.

Workers' voice and representation:

- To improve the bargaining power of agricultural workers, it is important to empower local unions to contribute towards more effective collective action. The idea of WC is useful for settings where there is no scope for formal union presence. However, their ability to organize collective action is limited and should not be used as a substitute for national trade unions. More advocacy for union presence in agriculture, while a long-term goal, cannot be sidelined by the adoption of workplace-level WC.

Recommendations for researchers

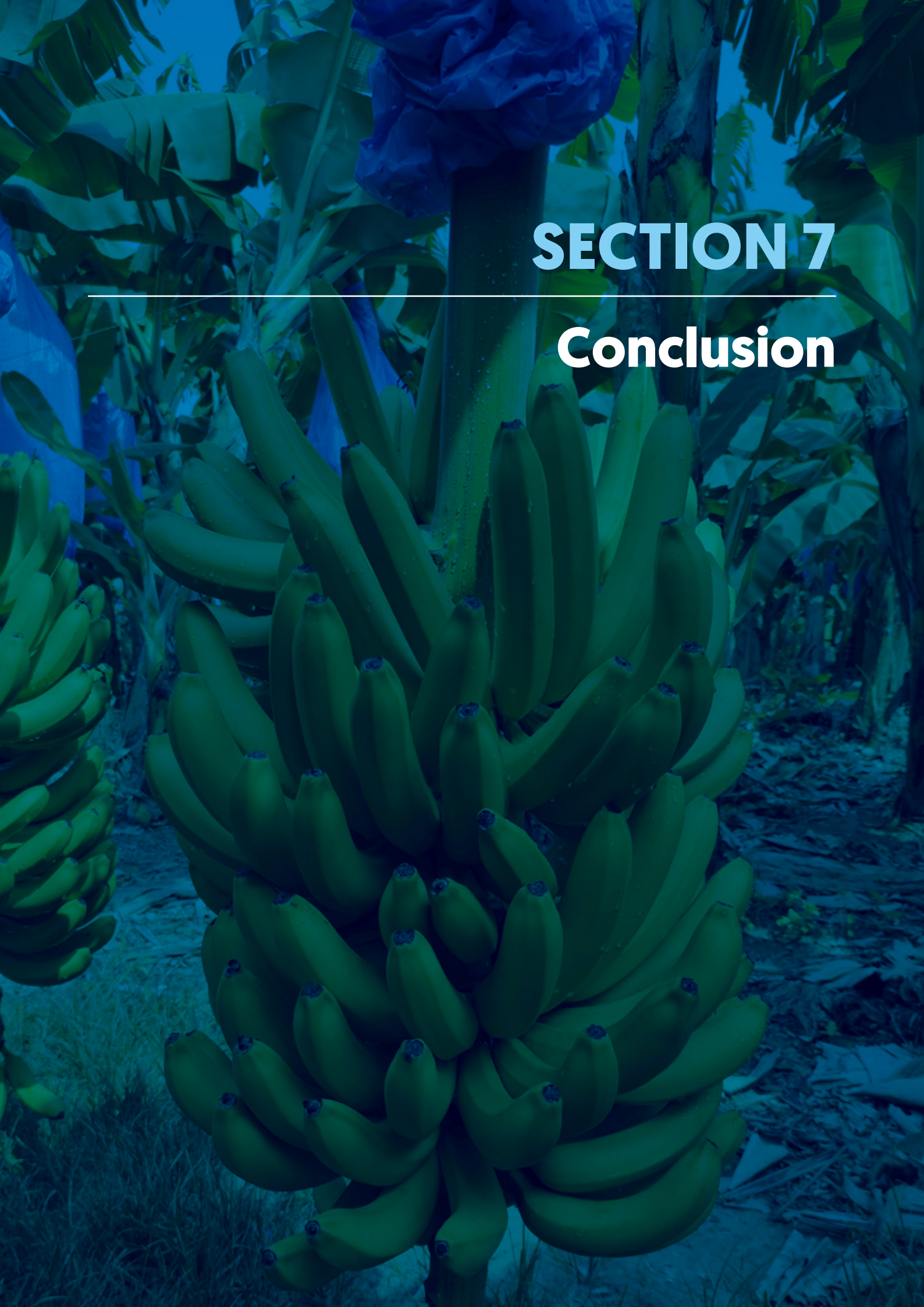
Child labour:

- The absence or limited evidence in this field is perhaps an indication of the challenges of studying this issue using robust quantitative research designs. Direct observations may often be more effective in identifying the presence of child labour, especially in smallholder settings, compared to using an interview setting to detect child labour.

Recommendations for future research

Develop common guidelines on how to conduct theory-based impact evaluations in relation to decent work outcomes, including:

- A common conceptual framework that could be adapted to different sustainability approaches, value chains, and geographical regions.
- Improve the coordination of research resources to address key evidence gaps.
- Improve the quality of the evidence – such as the research design and methods of analysis - as well as the reporting of the findings.
- Go beyond black-box evaluations and focus on implementation dynamics and the conditions that need to be in place for an approach or tool to be effective. Consider more process evaluations to complement counterfactual evaluations.
- Create common methodological standards. These can include capturing the intensity of the exposure to an intervention (such as the percentage of certified products sold), accounting for variation in the population in terms of vulnerability and marginalization (e.g. migrant workers and female workers), or focusing research more on sensitive issues, such as child labour, sexual harassment and other forms of abuse in the workplace.



SECTION 7

Conclusion

Concluding thoughts

This report presented the key findings on the effects of supply chain sustainability approaches on decent work outcomes for the agricultural sector. These findings only reflect the state of the literature and how reality is represented in the studies included in this review. This is not necessarily how reality is.

This is a review of the available studies, and an analysis of the body of evidence available to us today on corporate and multi-stakeholder initiatives aiming to improve decent work outcomes in the agricultural sector. What we can and cannot say about what we have learnt from this review needs to be interpreted through this lens.

Our main takeaways from reviewing this body of literature are the following:

- There are many statistically non-significant outcomes, or in other words, no impact. Given the small sample size used by the studies included in this review, it is difficult to say whether this is driven by the lack of statistical power or a lack of effect from the intervention.
- There is an over-concentration of effects in some decent work areas and limited or total lack of effects in other areas. This is likely to be driven by the theories of change of the specific interventions and where their main focus is placed, but also by what can be easily measured by researchers.
- The evidence is scattered across decent work outcomes, and is limited for key outcomes such as wages, employment duration, and child labour. There is a complete lack of evidence for some outcome categories (e.g. gender), value chains and geographical regions.
- There is only a limited number of theory-based evaluations. Generally, studies fail to link specific interventions or mechanisms to decent work outcomes, or provide information on the intensity of exposure to a specific intervention to be able to draw conclusions.
- There is a lack of clarity in what a sustainability approach or tool is and what it does, with broad terms being used interchangeably, such as 'certification' or 'code'. These terms are used to describe different bundles of interventions that are made up of distinct components. Yet their relative effectiveness is often not ascertained or differentiated. Authors often adopt the language that the funder or implementer of an intervention or study is using, or group different supply chain approaches or tools together without differentiating them.
- The research focus on waged workers employed by smallholder farmers is still limited, although new literature is emerging to fill this evidence gap.
- There is significant variation in the effects of different supply chain sustainability tools. In general, the synthesis of counterfactual evidence suggests that VSS seem to significantly contribute to improving outcomes related to workers' voice and representation. They do this through building trust with management and fellow workers and raising awareness of worker policies and rights.

- GLOBALG.A.P. certification appears to be more effective than other VSS in improving wages and employment duration in the horticultural sector, which is where this system operates. Fairtrade certification appears to be more effective in banana plantations in Central and Latin America compared to other interventions, particularly regarding in-kind benefits, paid leave and protective measures.

- There are still areas for which we have no counterfactual evidence, such as flower production in South America or tea production in Asia, or entire value chains such as palm oil, sugar, wine, groundnuts, and hazelnuts. These are major gaps in the literature given that (a) some of these value chains are important quantitative sources of employment and (b) some of the interventions in these value chains are farreaching.

- There is almost no evidence on the effects of supply chain sustainability approaches driven exclusively by the private sector. These include private codes of conduct and corporate sustainability programmes.

Overall, the evidence suggests that there is limited positive impact of a wide range of sustainability approaches and interventions. This leads to two main reflections.

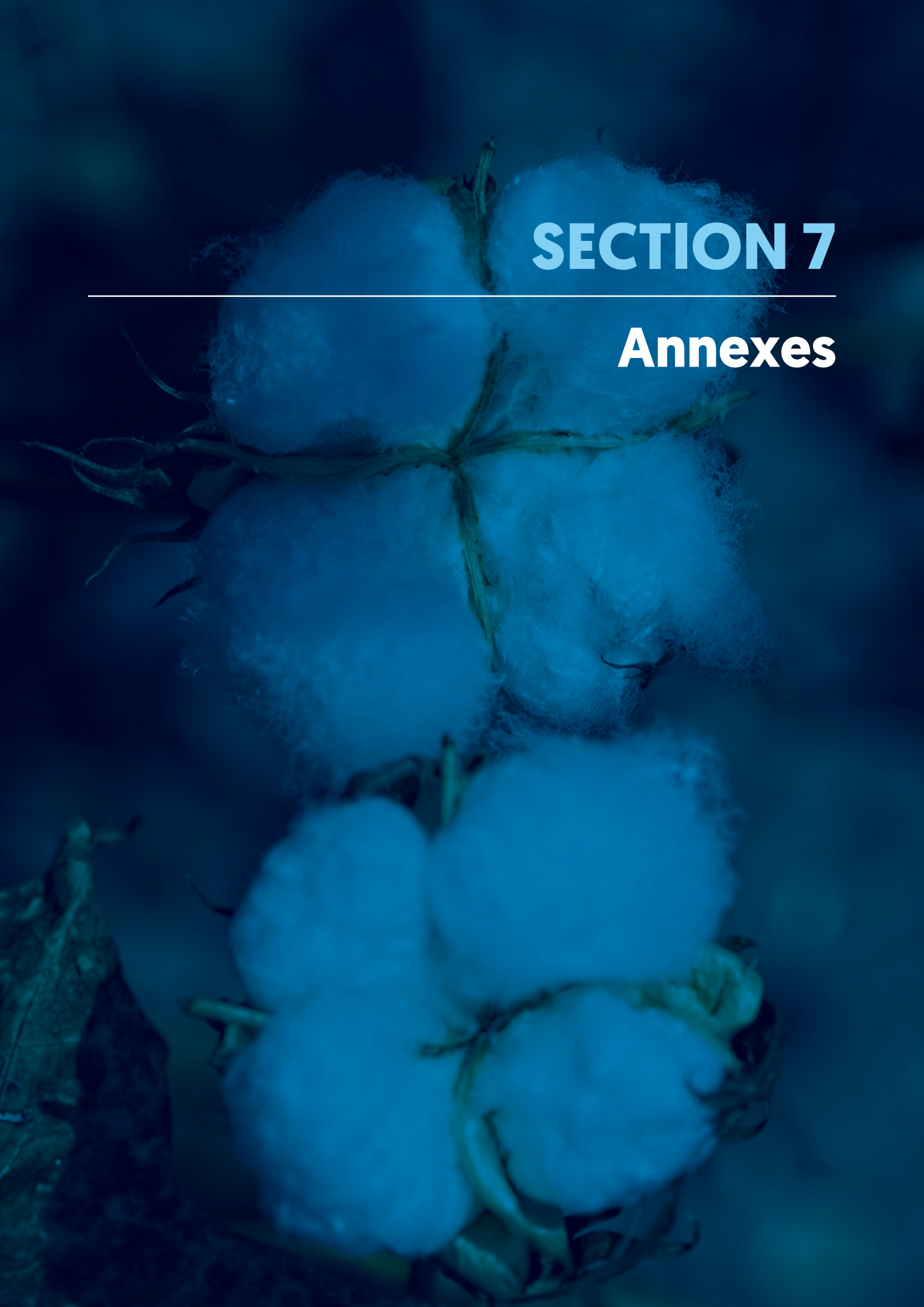
First, decent work encompasses a wide range of outcomes that are challenging to tackle simultaneously. The reality of current economic and labour market dynamics is that not all good things go together. It may be possible to tackle some decent work outcomes, such as workers' representation or occupational health and safety more easily than wages, job security, and other terms and conditions of employment. Trade-offs are unavoidable. VSS, the private sector, governments, unions and other civil society organizations may contribute to some improvements in decent work outcomes, but only to a limited extent if interventions are not far-reaching enough.

Second, labour regimes in agriculture are inherently exploitative and produce job insecurity and low remuneration for workers. This is an outcome of deeply entrenched global and local market dynamics, which, through competition, lack of protections, and weak collective action, powerfully shape how workers are treated. A reality check is needed, as this review suggests. Supply chain sustainability approaches can drive change on some aspects of working conditions, but not at a systemic level.

They cannot, however, drive radical change and a systemic and bold move towards decent work in all its dimensions of pay, security and representation. Perhaps better decent work outcomes might be achieved with improved implementation of interventions, more coordination, and less selection bias.

Nonetheless, the nature of labour regimes, as described in this report, together with the weakness of institutional and legal frameworks for workers in LMICs, are the product of forces that micro-level interventions are unlikely to fundamentally alter. Therefore, sustainability approaches to decent work in agriculture need to reflect on what kinds of changes can be driven through these types of interventions.

Systems approaches are more likely to yield long-lasting effects. For example, multi-stakeholder binding agreements including enforceable legislation in buying and producing countries borne out of lobbying, and collective action with workers at the centre. However, the pathway towards these kinds of agreements remains slow and bumpy.



SECTION 7

Annexes

Annex A:
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Annex C:
Quality assessment of the counterfactual evidence included in the review

Summary of included studies with counterfactual evidence by score. The number of reports are indicated in each category

Score=ln(design)+ ln(analysis)	Not Methods of Analysis	IV,PSM, 2SLS/ LIML, DID	Multivariate	Tabulation
Research Design	Scores	1	2	3
RCT	1			1
Pipeline	2			
Panel or before/after & with/without	3	5	4	
Either before/after or with/without	4	14	17	4
LEGEND	Low score (≤1,3862)	Medium-low score (≤1,7917)	Medium-high score (≤2,0794)	High score (=2.4849) (excluded)

Source: Adapted from Duvendack et al (2011:37). Scored according to self-reported research design and methods of analysis.

Annex D:

Summary of inclusion and exclusion criteria used to frame the review

Parameter	Inclusion criteria	Exclusion criteria
Location	Low and middle income countries	High income countries
Language	English, French, Spanish	Any other language
Timeframe	2000 onwards	Before 2000
Population	Studies that provide evidence at the worker level (individual workers or workers' collectives)	Studies that report ONLY at the company level (e.g. organisational, financial and productivity effects at the company level).
Intervention	Studies that report on supply chain sustainability interventions occurring within the corporate sustainability and MS pathways involving private or social governance, such as Corporate Sustainability Codes; Supply chain investment programmes; Voluntary Sustainability Standards; Sustainability Rating and Performance Tools; Pre-competitive industry/ market-based sustainability platforms; Bans, boycotting, petitions, protests; Framework Agreements & Initiatives	Studies that do not report on any endpoint decent work outcome
Outcome	Studies that report on endpoint decent work outcomes, namely wages and remuneration; working terms and conditions; human rights; worker voice and representation; and other intrinsic and subjective outcomes	Studies that do not report on any endpoint decent work outcome
Study Type	For RQ1: Quantitative evidence produced by rigorous impact evaluation studies using experimental and quasi-experimental designs. Qualitative evidence (factual and counterfactual) produced by studies meeting the quality criteria set by Oya et al (2017). For RQ2: Factual data and institutional information relevant to the context, adoption and implementation of the studies included for RQ1.	For RQ1: Studies providing quantitative evidence with no counterfactual component, unless they contain relevant factual evidence for RQ2. For RQ2: Factual data and institutional information NOT relevant to the context, adoption and implementation of the studies included for RQ1.

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