

**SUBMITTED ARTICLE**

# Integrating the right to food in sustainability standards: A theory of change to move global supply chains from responsibilities to impacts

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**Abstract**

To address the undesired environmental and social impacts of agricultural export production, the agricultural industry increasingly relies on sustainability standards. These standards neglect food security, although rights-based food security criteria were recently developed. This research analyses the responsibilities of global supply chain actors for the Right to Food and identifies a feasible implementation pathway to support the operationalization of these criteria. Based on qualitative research, a theory of change was developed and tested in six case studies across the globe. The theory of change discusses relevant stakeholders, necessary changes, expected impacts, and emphasizes the role of market demand and institutional frameworks.

**KEYWORDS**

agriculture, certification, human rights, impact pathway, right to adequate food, sustainability

**JEL CLASSIFICATION**

O17, Q13, Q17

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Globalization led to a rapid growth in agricultural trade, especially for high-value products, biofuels, and non-food biomass. The organization of global markets has tremendously changed in the past 20–30 years as new technologies, institutions, and policies emerged and international markets became more demanding (Byerlee et al., 2009). Global power has increasingly shifted toward corporations and non-state business actors, who take on the role as regulators and set as well as enforce standards in supply chains (LeBaron et al., 2017).

In the past, global agricultural supply chains brought many benefits to low- and middle-income countries through contributing to economic growth, foreign exchange, and poverty reduction (Byerlee et al., 2009; Dawson, 2005; Minten et al., 2009). These benefits materialize through the creation of employment and income generation opportunities, especially in labor-intensive activities (Hamilton & Fischer, 2005; Maertens & Swinnen, 2009; Minten et al., 2009) and better work conditions, including workers' health and safety (Barrientos & Smith, 2007; Colen et al., 2012).

While global trade has brought many benefits, the negative environmental and social impacts of agricultural export production in food insecure countries increasingly become public (Boström et al., 2015). Known problems include, for instance, low wages, even below subsistence wage (Brahic & Jacobs, 2013; Devereux, 2020; Ferm, 2008; Oriz & Aparicio, 2007), child labor (FAO et al., 2005), land right and land use conflicts (Hall et al., 2015; Vermeulen & Cotula, 2010), lack of social and legal protection (Biggs et al., 2018; Brahic & Jacobs, 2013; Devereux, 2020), precarious labor conditions, worker exploitation, accidents and exposition to a variety of safety and health hazards (Devereux, 2020; Gyapong, 2020; Nunes et al., 2016; O'Laughlin, 2017).

Many workers, especially temporary and casual workers, are also affected by high levels of poverty, food insecurity, and malnutrition (Biggs et al., 2018; Brahic & Jacobs, 2013; FAO et al., 2005; Meemken et al., 2019; O'Laughlin, 2017). Housing conditions, offered by the employer, can be precarious with deficient sanitary facilities and non-potable drinking water (Brahic & Jacobs, 2013; O'Laughlin, 2017). Female workers often are additionally discriminated in wages, assigned activities, and may experience violence and sexual harassment (Brahic & Jacobs, 2013; Ferm, 2008; Said-Allsopp & Tallontire, 2014; van Rijn et al., 2020).

Also those smallholders who produce for the export market, may experience food insecurity, malnutrition poverty, have limited access to healthcare and may lack land, capital, and knowledge (Becchetti & Costantino, 2008; Beuchelt & Zeller, 2011, 2013; Chiputwa et al., 2015; Morris et al., 2013). Households in the surrounding communities of export agriculture have experienced environmental pollution (soil, air, water) and can face severe competition and conflicts regarding land and water (Behrman, Meinzen-Dick, and Quisumbing 2012; Li 2017, 2011; O'Laughlin, 2017; Schutter 2011).

Civil society organizations, global activists, consumers, international organizations, and politicians exert a growing pressure for more sustainability in global supply chains. Human rights become also important in the reflection of global supply chains and a slowly increasing number of importing countries start to consider human rights related due diligence. The agricultural processing industry responds with codes of conduct and the use of voluntary sustainability certification for imported products. For downstream supply chain actors, voluntary sustainability standards are a practical way to prove their engagement and due diligence as well as to cover reputational risks and protect their brands (Henson & Humphrey, 2010). For upstream actors such as plantations or smallholder farms, sustainability standards serve to access international markets, increase profits, or reduce costs (Clarke & Boersma, 2017; Henson & Humphrey, 2010).

The Human Right to adequate Food is part Bill of Human Rights and mentioned in the Universal Declaration of Human Rights in 1948 (Article 25), and in the “International Covenant on Economic, Social and Cultural Rights” (ICESCR) of 1966, Article 11. It is further detailed in a special General Comment (General Comment 12) of the UN Committee on Economic, Social and Cultural Rights in 1999 which defines that the Right to Food “is realized when every man, woman and child, alone or in community with others, have physical and economic access at all times to adequate food or means for its procurement” (UN-CESCR, 1999, p. 6). The Right to Food is a recommended to be a key concept for national and international agricultural, trade, and development policies, especially in relation to global hunger and poverty reduction (Beuchelt & Virchow, 2012).

Most sustainability standards address food security and the Right to Food only rudimentary, if at all. Therefore, a set of rights-based food security criteria were developed to complement voluntary sustainability standards which certify agricultural goods with international supply chains (Mohr et al., 2016). When aiming to operationalize these criteria within global supply chains, new questions emerge. What should be the impact of such criteria? Who is responsible to implement the Right to Food in global supply chains? How shall change be achieved and where are limitations for private sector involvement? There is limited scientific evidence and many open questions so that the private sector, certification experts, and the German Federal Ministry for Agriculture urged to clarify the responsibility for food security of the private sector, as compared to the public sector, and to derive practical implications along with pathways for change to ensure the Right to Food in agricultural supply chains.

This research addresses this gap by determining the different responsibilities to respect the Right to Food of farmers, workers, and communities in global agricultural supply chains. It further provides action points and derives feasible pathway, detailed in a theory of change, to ensure the Right to Food in certified supply chains along with a discussion of the limitations of such an approach.

## METHODOLOGY

### The theory of change concept

To introduce new standards and practices, appropriate implementation processes are necessary which require a theoretical underpinning of what constitutes good management, what are changes that need to happen, and how they causally relate (Thornton et al., 2017). A theory of change provides a detailed narrative description of how to move from necessary activities to impacts. It explains how changes are expected to happen and why the various steps and links in the impact pathway are expected to work (Mayne, 2015; Mayne & Johnson, 2015).

A theory of change consists of an impact pathway and a description of the assumptions, external effects, and unintended effects. The impact pathway has several key steps which are causally linked (cf. Figure 2) (Mayne, 2015; Mayne & Johnson, 2015). These are (1) the activities of the project or intervention, the goods, and services produced and offered, (2) the target group which is to be reached and should react, (3) the needed capacity changes of the target group, before it (4) can change its behavior, so that (5) direct benefits (short term impacts) and (6) long-term benefits materialize. There may be also external influences that are not directly related to the intervention but could contribute to reach the intended results. Unintended effects may be positive or negative indirect impacts that may occur as a result of the intervention activities.

Each step in the impact pathway is based on assumptions which people are explicitly or implicitly making. A theory of change has also to describe these assumptions and identify all the factors that have to change so that the causal linkages can be realized (Thornton et al., 2017). The assumptions list the supporting factors, events, and conditions that need to occur to have the desired impact.

## The transdisciplinary research and implementation project

This research was part of a transdisciplinary project called “Implementation of food security criteria within biomass sustainability standards (FSS | Project)” that run from 2017 to 2020. The project was based on participatory action research where researchers and participants work jointly to understand a problem and achieve solutions in an iterative cycle of planning, action, observation, evaluation, and reflection (Benjamin-Thomas et al., 2018; Ciaccia et al., 2019; McTaggart, 1994). We consciously included the possibility of progressive learning from the experience and hence adjusted methods and tools during the process. Progressive learning is an important element of participatory action research that deviates from positive approaches in traditional research (Benjamin-Thomas et al., 2018; McTaggart, 1994).

In a preceding project, a first basic draft of rights-based food security criteria was identified between 2014 and 2015 (Mohr et al., 2015; Mohr et al., 2016). The criteria were based on: (1) the Human Right to Food, (2) the definition of food security offered by the World Food Summit (1996) with the four dimensions of food security (availability, access, utilization, and stability), and (3) the “Voluntary Guidelines to Support the Progressive Realization of the Right to Adequate Food in the Context of National Food Security” (Right to Food Guidelines) adopted by the FAO Council in 2004, which contain recommendations on all aspects of the Right to Food (FAO, 2005).

The transdisciplinary project elaborated the basic draft of the rights-based food security criteria from Mohr et al. (2015, 2016) much further but continued to rely on the above-mentioned concepts regarding the Right to Food. In addition, indicators and verification guidance, to be used in the auditing and certification processes, were jointly derived with stakeholders from certification systems and sustainability standards, auditors, NGOs, and scientists. The criteria were progressively complemented with practical tools, such as checklists, questionnaires and a handbook for auditors, to support the certification and auditing process. The criteria and tools were jointly field-tested for their feasibility and practicability together with four different sustainability standards in pilot audits. The pilot audits were integrated in the case studies which are described below. The four sustainability standards were: International Sustainability & Carbon Certification (ISCC), Rainforest Alliance, Cotton made in Africa (CmiA), and the Roundtable on Sustainable Palm Oil (RSPO).

The rights-based food security criteria and the tools were iteratively improved after each case study. The adjustments were based on the field observations and interviews as well as direct feedback from the auditors, certification bodies, the farm managers, and technicians involved in the pilot audit. Key criteria were whether the rights-based food security criteria and indicators (i) were understandable, (ii) could be practically applied and implemented in different socio-cultural and agro-ecological settings, (iii) could be verified on all farm types and structures within acceptable time-frames of audits and (iv) were within the responsibility and reach of a certification scheme.

## Selection of case studies

The case studies were aimed to be representative for the different production contexts, farm types, and business structures occurring in those (certified) global agricultural supply chains which stretch from the “Global South” to Europe. Europe is increasingly discussing its international responsibility regarding sustainability, food security, and human rights given the EU Renewable Energy Directive, the adoption of the UN “Guiding principles on Business and Human Rights” and their implementation via National Actions Plans as well as the ongoing discussions within Europe to introduce Human Rights Due Diligence Laws (see below).

We applied a purposeful sampling strategy, that was discussed and jointly matched with the sustainability standards we cooperated with. The sustainability standards were our entry point and supported us to select and contact the farms which had to voluntarily participate in the project. Therefore, only sites were considered where the sustainability standards had certified farms.

The context conditions of the case studies were purposively varied to identify whether the results can be replicated and are reliable in different settings to ensure robustness (Yin, 2014). Within each continent (Afrika, Latin-America and Asia), two different countries were targeted with different degrees of food insecurity. As a measure for food insecurity, we used the Global Hunger Index (von Grebmer et al., 2017). In addition, socio-economic and agro-ecological settings across all countries and farms should vary; therefore, different crops and different degrees of the Human Development Index and levels of functioning governments were considered. For the selection of sampled sites within the country, the farm size (i.e., group certified smallholder or individually certified large-scale production) played a role. Although we originally aimed for a smallholder group and a large-scale producer per continent, this proved not to be feasible as we determined the final study sites (i.e., farms) together with the cooperating sustainability standards and their local partners, and not all standards had certified farms of the desired type in each continent. Table 1 shows the selected countries, crops, farm sizes and farm types as well as the sustainability standard we cooperated with. At each case study site, a pilot audit was conducted which the researchers also accompanied.

## Qualitative data collection and selection of respondents

For the development of the theory of change, qualitative research was conducted using semi-structured interviews, field observation during the pilot audits, and the stakeholder workshops.

In every country, semi-structured interviews were conducted targeting all relevant stakeholders and key-informants for the selected farm type of the case study that were either involved in the certified farming activities or major players regarding local food security. Interviewees were the smallholder group or farm managers, the technicians advising the plantations or smallholder groups, community representatives from surrounding communities, the auditors doing the pilot audits, the certification bodies to whom the auditors belong, the sustainability standard owners respectively the manager, and CSOs working on human rights and food security. Interviewees were again purposively selected according to their function. In total, 53 semi-structured interviews were conducted. The interviews concentrated on the food security and socio-economic situation of smallholders, workers and the surrounding communities, on certification processes, implementation pathways, and constraints for introducing the Right to Food in sustainability schemes and expected benefits.

**TABLE 1** Overview of the six case studies

Country	Farm type	Crop	GHI (2019)	Sustainability standard
Malaysia	Smallholder group formed by social business (0.8–8 ha), 1 small plantation (~30 ha)	Oil palm	Moderate (13.1)	RSPO
Guatemala	1 large plantation (>60,000 ha)	Sugar cane	Serious (20.6)	ISCC
Bolivia	3 medium (~900–4000 ha) and 1 large plantation (~13,000 ha)	Sugar cane	Moderate (15.4)	ISCC
Zambia	Smallholders (~3–4 ha) organized by ginnery	Cotton	Alarming (38.1)	Cotton made in Africa
Kenya	Smallholder cooperative (0.5–1.5 ha)	Coffee	Serious (25.2)	Rainforest Alliance
Indonesia	Plantation (9000 ha) with smallholder outgrowers (2–4 ha) organized in groups	Oil palm	Serious (20.6)	RSPO

Abbreviation: GHI, Global Hunger Index.

Field observation of the audit process took place in every case except in Indonesia. Indonesia was the last case study and the objective was to test whether audits also bring the desired results when the research team was not at the site. The documents of the plantation or smallholder group were also assessed during the field trip, which included, for example, crop rotation plans, dosages of pesticides, licenses, land right titles, business plans. As part of the pilot audit process, the auditors conducted interviews with the farm or group managers, with workers and smallholders and with community representatives, health stations, and local authorities. The researchers attended these interviews and were able to ask complementary questions at the end of the interview to better understand the local context.

In each case study country, one large multi-stakeholder workshop was additionally conducted, except in Indonesia. The objectives were to cross-check the food security and socio-economic situation in export agriculture, identify possible mechanisms for the private sector to contribute to food security at local level, to comprehend the effects of sustainability certifications and to understand implementation pathways for introducing the Right to Food in export agriculture. This material also informed the theory of change. For each workshop, around 30 representatives of ministries and governmental agents, private sector representatives, CSOs (including labor unions and farmer associations), NGOs, certification bodies, standard initiatives, and scientists were invited, usually around 20–25 persons attended. Two stakeholder workshops with a comparable audience were conducted in Germany to understand better the perspective from stakeholders in the importing countries.

The interviews and workshops were all conducted by the research team, no enumerators were employed. During and after each semi-structured interview, interview protocols were elaborated. A recording of the interviews, to eventually transcribe the interviews, took not place due to security reasons and questions of confidentiality since many aspects touched business secrets. The interview protocols were coded following the structure of the interview guidelines and then a simple, qualitative content analysis was applied (Mayring, 2014).



## Development of the theory of change

We started the construction of the theory of change with an extensive literature review to derive the responsibility of private and public actors for the Right to Food in global supply chains, to identify typical human rights problems in global agricultural supply chains and to derive available solutions that support the establishment of causal linkages. In addition, 15 sustainability standards were screened and analyzed for their theory of change.

A first draft of the theory of change was developed based on the available documentation and literature. This included also an in-depth literature analysis on the benefits of sustainability standards and certification systems in the agricultural sector. The desired impacts and potential pathways for rights-based food security criteria were discussed within the above-described case studies, multi-stakeholder workshops, and key experts. Since the participating farms were already certified with a sustainability standard, we exactly knew which criteria from the FSS were new and could check how many criteria the farms complied with. The data from the farms who were nearly complying with all criteria and from those farms who struggled to comply with many criteria was then used in a qualitative comparison to derive the expected benefits to the workers. The case studies were used to assess the theory of change for its validity and causal plausibility. Based on the evidence from the interviews, field observations, workshops, and continued literature review, the theory of change was iteratively developed.

## RESPONSIBILITIES FOR FOOD SECURITY IN EXPORT AGRICULTURE

Since the 1990s, a substantial debate emerged around the question of responsibility for human rights in international supply chains and the role of governments and (transnationally acting) companies (Windfuhr, 2012). The UN Human Rights Council defined in 2008 a framework with three core principles which clarify the roles and responsibilities of states and companies regarding their obligations to protect and respect human rights (Human Rights Council, 2008):

1. the state has a duty to protect against human rights abuses by third parties, including business;
2. the corporations and business have a responsibility to respect human rights; and
3. victims require greater access by to effective remedy, both judicial and non-judicial.

To operationalize this framework, the UN “Guiding principles on Business and Human Rights” (UNGP) were developed and unanimously endorsed by the UN Human Rights Council in 2011 (UN & UNHR, 2011). The guidelines describe what states and companies should do to prevent, address, and remedy human rights abuses committed in business operations. Though they are not a legally binding agreement, they are a globally accepted consensus on the human rights responsibility of companies (Windfuhr, 2012). The UNGPs do not create new international law obligations but only summarize explicitly the existing human right obligations for states and responsibilities for businesses (UN & UNHR, 2011). They have become a global authoritative standard and are used in standard setting by other international organizations, governments, businesses and law societies (Ruggie & Sherman, 2017), for example they are reflected in the OECD-FAO Guidance for Responsible Agricultural Supply Chains or the OECD Guidelines for Multinational Enterprises.

## The responsibility of exporting and importing states

According to the first principle of the UNGP, each state (whether exporting or importing) has the primary role and duty to protect everyone within their territory against human rights abuses committed by third parties, which includes protection against human rights abuses of the business sector (UN & UNHR, 2011).

Exporting states need to ensure that their national policies and laws respect their Right to Food obligations and that they contribute to rural development. They have also the obligation to ensure that all individuals and communities, especially vulnerable groups, can benefit from investments in agricultural production. However, states may lack the means or interest, due to several reasons, to regulate and sufficiently control private actors (Human Rights Council, 2008; Windfuhr, 2012).

The state duty to protect principally refers to inhabitants of a state's own territory. There has been disagreement whether the state's accountability for human rights is limited territorially or whether international law requires states to take action beyond their own borders, for example when corporations based within their territory participate in or tolerate human rights abuses in their global supply chains (Grabosch & Scheper, 2015; Human Rights Council, 2008; Windfuhr, 2012). Gaps in national human rights regulations and required accountability of transnational corporations or international financial institutions were common. The current understanding is that UN agreements, like the nearly universally adopted "International Covenant on Economic, Social and Cultural Rights" (ICESCR), require from ratifying states to prevent human right violations through national business wherever they take place and national policies should not negatively impact the implementation of the economic and social rights in other countries (CESCR, 2017; De Schutter et al., 2012; Maastricht Principles, 2011). Many countries across the world have now committed themselves to implement the UNGPs (Grabosch & Scheper, 2015) and started respectively already implemented law initiatives (e.g., France, Germany, EU).

## The responsibilities of business enterprises with global value chains

The UNGP highlights in the second principle the responsibility of any business enterprise to respect human rights wherever they operate and whatever their size or industry. The corporate responsibility to respect human rights exists independently of a state's duties; that is, they exist even if a state is not able or willing to fulfill its duty to protect human rights (CESCR, 2017; Human Rights Council, 2008). Under international standards, businesses are expected to respect international covenants and human rights regardless of whether domestic laws exist or are fully enforced in practice (CESCR, 2017). The UNGP emphasize that this applies to all internationally recognized human rights, with a minimum to those mentioned in the International Bill of Human Rights but also those of the International Labour Organization Declaration on Fundamental Principles and Rights at Work (UN & UNHR, 2011).

The UNGP clearly outline that (internationally acting) business enterprises have to comply with all applicable laws and be able to show that they respect human rights in all their operations. Companies hence have to avoid infringing the human rights of others and should address adverse human rights impacts with which they are involved or which are linked to their business relationships (UN & UNHR, 2011). A constraint of the UNGP is that they only derive an expectation but not a legal obligation (Windfuhr, 2012). Still, the responsibility derived by the



UNGP implies that businesses must know their actual or potential impacts, prevent and mitigate abuses, and address adverse impacts in which they are involved, which they cause or contribute to even if these impacts have been carried out by any supplier or business partner in their entire supply chain (UN & UNHR, 2011). For global agricultural value chains this implies that businesses that source biomass and agricultural products from suppliers who tolerate food insecurity of farmers and workers or cause adverse impacts on local food security can be held accountable for extraterritorial Right to Food infringements as part of their sourcing responsibility. The bottleneck remains that in many countries, laws, sanctions, and jurisdictional processes are not yet in place (Windfuhr, 2012).

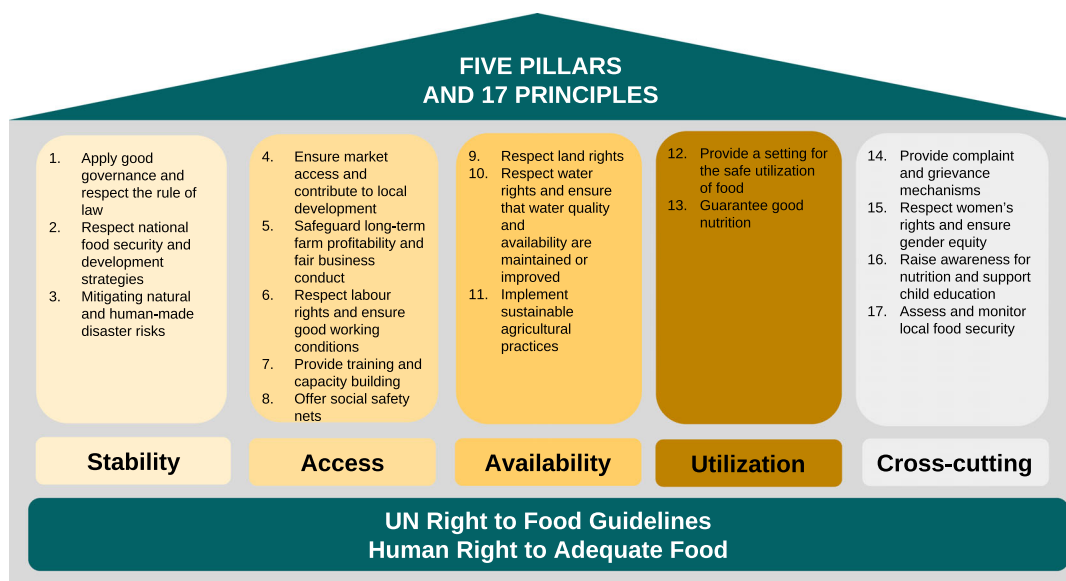
In recent years, this changed in several countries, for example the UK introduced its Modern Slavery Act. The European Commission requested in 2011 its member states to implement the UNGP by developing National Action Plans on Business and Human Rights (NAPs) (Blackwell & Meulen, 2016; Methven O'Brien et al., 2016). These were now replaced in some countries by due diligence laws (e.g., Germany, France) and at European level, a due diligence regulation is in the making.

## THE FOOD SECURITY STANDARD

The Food Security Standard (FSS) was the outcome of the transdisciplinary project described in the methodology section. The goal of the FSS is to ensure that the Right to adequate Food is protected by producers of agricultural commodities within their field of responsibility and to provide a systematic, reliable, and transparent proof of this through an independent third-party audit.

The FSS takes up the Right to Food as a new element for sustainability standards and certification schemes and is suitable for all agricultural products, covering food, and feed items as well as biomass used for fuel, in cosmetics, or in the chemical industry. It is not a stand-alone standard but is designed as a criteria set which is to be integrated as a whole to the existing criteria of any sustainability standard and certification scheme. The FSS consists of 5 pillars, 17 principles, 35 criteria, and 93 indicators (Figure 1) (Gamba et al., 2020). This composition reflects the wide range of considerations that affect the Right to Food and incorporates related human rights such as the Right to Water, to Health, to adequate Housing, to Education and Labour Rights. To ensure that people are always able to access sufficient food, factors like appropriate wages and acceptable working conditions are just as important as basic education, basic healthcare, and the rule of law. The same applies to access to safe water and to the sustainable use of natural resources.

As part of the FSS audit process, the 35 criteria and corresponding 93 indicators have to be verified through observation, documentation, and interviews with key stakeholders. For example, auditors ask employees of agricultural operations as well as farm workers and small-scale farmers: Do the workers/farmers have enough to eat all through the year? Are the wages appropriate, and are they paid on time? Do mothers have the opportunity to breastfeed during working hours? Is the water supply of neighboring communities being protected? In addition, teachers, doctors, and healthcare workers, as well as representatives from authorities and non-governmental organizations active in the company's operating environment, are asked to share their assessments. Taken together, their answers provide a comprehensive account of the local food and living situation.



**FIGURE 1** The five pillars and 17 principles of the 'Food Security Standard

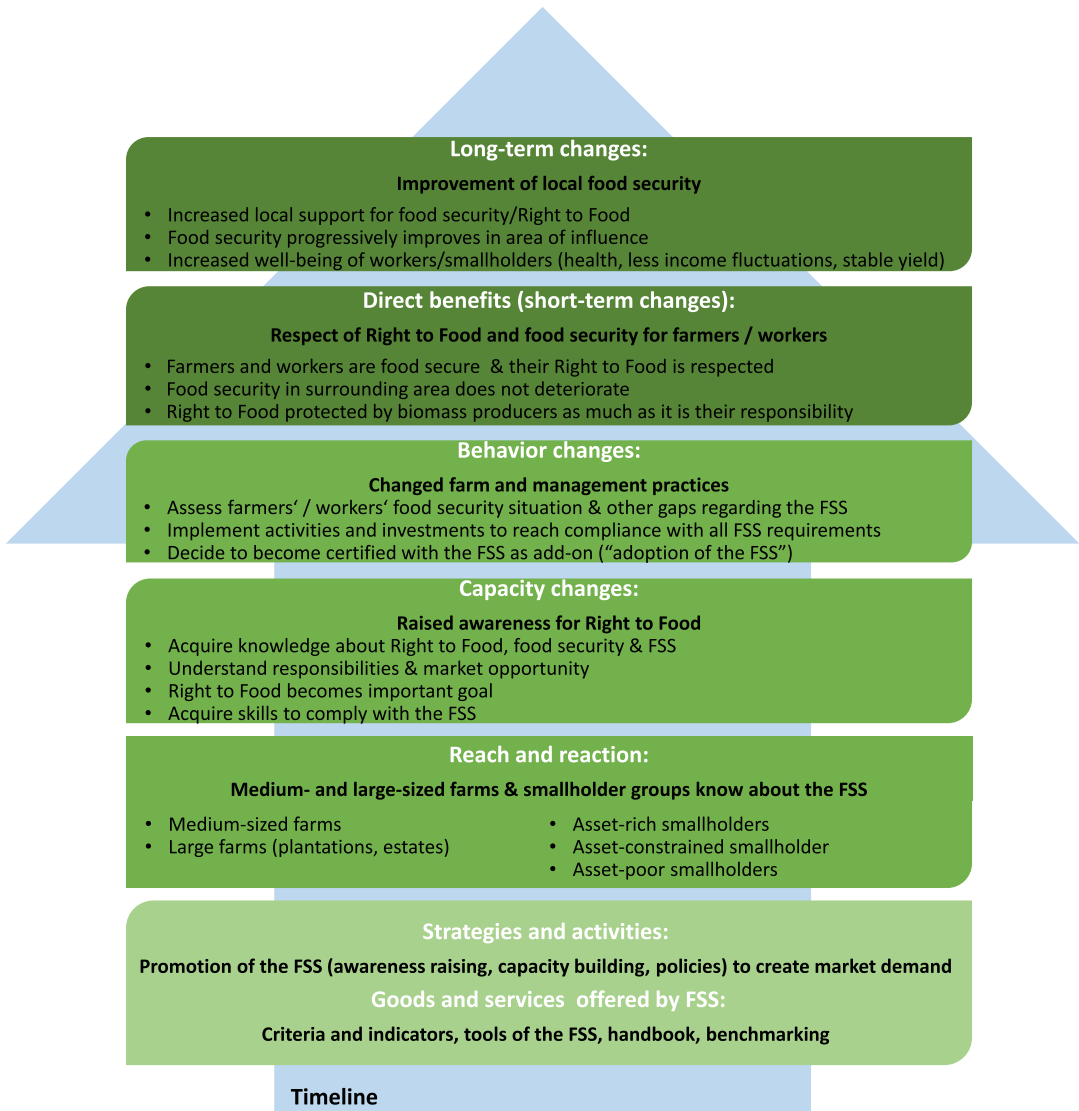
For the sustainability standards and certification schemes, the FSS provides the criteria and indicators, a checklist for auditors with verification criteria, a handbook for auditors, questionnaires for the field to assess the local food security situation, a tool to assess the Right to Food at national level and training materials for auditors.

## THE THEORY OF CHANGE OF THE FSS

The theory of change of the FSS describes the necessary steps, assumptions, and consequences to achieve its goals and describes the impacts that can be expected. It is naturally a generic one but helps with the clarification of key stakeholders, expected short- and long-term benefits, and serves for internal and external communication, planning, implementation, monitoring, and evaluation. The steps of the impact pathway for the FSS (cf. also Figure 2) are described in the next paragraphs followed by the external influences, unintended effects, and assumptions.

### Step 1: Goods, services, strategies, and activities of the FSS

The FSS provides the right-based food security criteria and indicators, a checklist for auditors with verification criteria, a handbook for auditors, questionnaires for the field to assess the local food security situation, a tool to assess the Right to Food at national level and training materials for auditors. There were all developed within the transdisciplinary project based on the participatory action research approach. The FSS can either be fully integrated in the criteria set of a sustainability standard or be used as an add-on to avoid the need for an additional certification system and save costs. Add-ons, that is, another criteria set and certificate that is offered in addition to the basic certification, are not uncommon in the sector and some sustainability



**FIGURE 2** The impact pathway for agricultural production sites

standards already offer many add-ons, for example, regarding biodiversity. These add-ons are usually not communicated to the consumers but serve to fulfill corporate social responsibilities, as a risk-management strategy or to prove compliance with Human Rights Due Diligence (cf. Section on Responsibilities for food security in export agriculture). Several sustainability standards already voiced their interest in offering the FSS as an add-on to their existing standard; two standards already incorporated the FSS in 2021 as an add-on.

For the FSS to become fully functional and adopted, more awareness needs to be created so that a market demand for food security and Human Rights due diligence emerges. Key strategies and activities to implement the FSS in agricultural supply chains—beyond the farm level—were still lacking by the time of writing this paper. An explicit outreach and communication strategy will be needed that entails activities to raise awareness such as individual meetings, workshops and events with relevant stakeholders from the public and private sector as well as

civil society. This also involves the establishment of an “FSS-office” with staff that will implement the project results, detail needed marketing strategies and activities, do advocacy work to create awareness, provide advice to interested sustainability standards and function also as a quality assurance control when standards claim to use the FSS.

## **Step 2: Reach and reaction – The target groups and beneficiaries**

The FSS needs to ensure that it reaches the right target groups who are able and willing to eventually implement the FSS. The target groups are those value chain actors who are directly involved in export agriculture and who take the decisions about the farms and the management (Figure 3). These farmers are very heterogeneous in relation to their resource endowments. Therefore, the target groups are distinguished between (a) medium-sized and large-sized farm owners, who often employ farm managers but also the family may be involved in oversight and farm management, and (b) smallholder groups, since smallholders typically are not individually but group certified. The smallholder group can be a cooperative, association or can be organized and managed by other agents such as a plantation with outgrower scheme, by the first buyer (e.g., a processor or a trader), a social business or civil society organization. The smallholders are also very heterogeneous group when it comes to farm size, poverty, and food security levels. The FSS distinguishes smallholders according to their asset endowment and their socio-environmental context, ranging from asset-rich to asset-constrained and asset poor smallholders with unfavorable socio-economic living conditions (Berdegué & Fuentealba, 2014; Graeub et al., 2016).

The main beneficiaries are all types of workers and the communities in the surrounding areas, the so-called area of influence, including resettled communities but also the smallholders. These groups were derived from the literature review regarding human right infringements in the agricultural sector. Workers covered by the FSS are full-time permanent, casual, temporary and seasonal workers, including migrant, indigenous workers, child, and young workers. Illegal (non-registered) workers and child labour are not permitted in the FSS. Typically, casual workers are employed only for a day or a few days and paid at the end of each work day or on a task basis. Temporary and seasonal workers are employed for a specific but limited period of time. The FSS applies a strong focus on casual and temporary workers (including the workers employed by smallholders), as they often are more disadvantaged compared to permanent workers being paid extremely low wages, being denied contracts, and labor rights, or, in some countries, being not even covered by national labor rights (Rossi, 2013). Young workers are covered within any of the other categories but receive some special protection such as the prohibition to handle hazardous chemicals or of heavy workloads.

Smallholder groups are not only part of the target group but the smallholders themselves are also expected to benefit from the FSS as their livelihood situation is may be also precarious, which is especially in Africa the case. Households and communities in the area of influence can be also farm households or other land users such as pastoralists, artisanal fishers, or indigenous groups. They can directly be affected by the certified farm, for example, through water deviation or pollution, spraying of pesticides, closing of market paths or loss of land respectively land use rights.

Households or communities, who were resettled for the export agriculture, were added as a special group in the area of influence as the literature highlights their often-precarious living conditions after the resettlement. Following the international principles of the “Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the

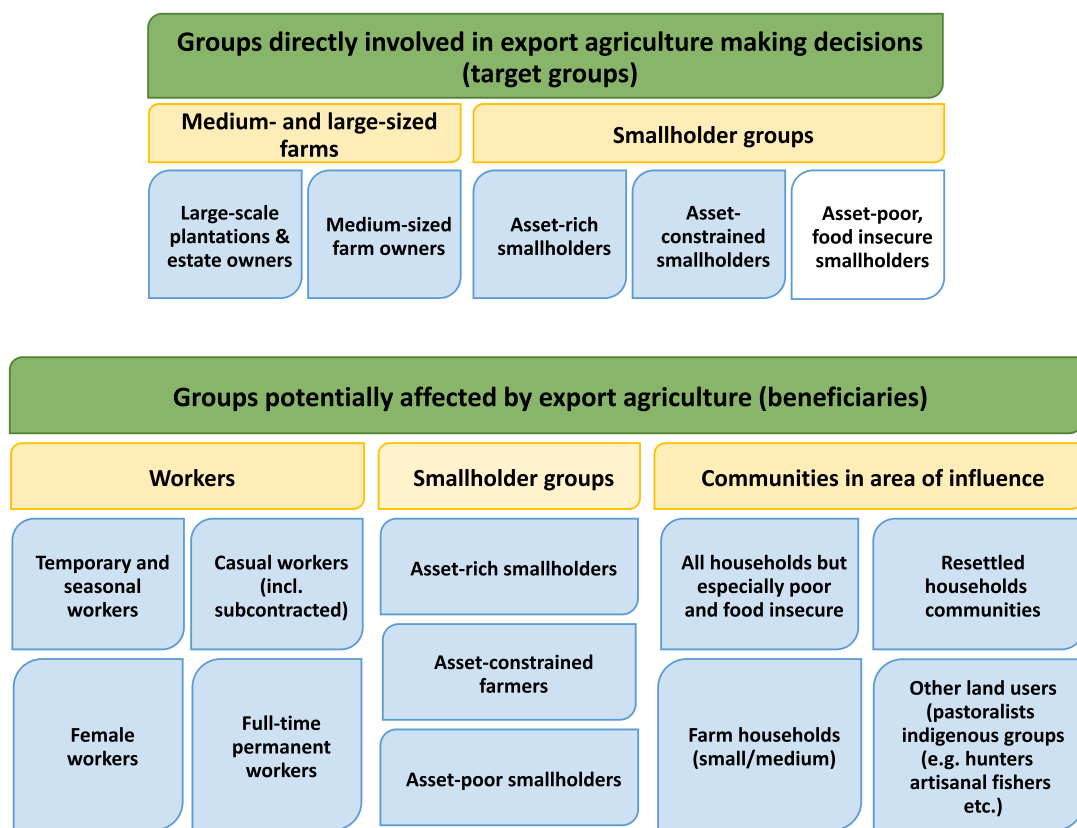


FIGURE 3 The main target groups and beneficiaries of the FSS

Context of National Food Security” (CFS & FAO, 2012), the FSS sees the new farm owners as partially responsible for resettled communities and hence has several criteria in this regard.

### Step 3: Capacity change

Once the target group has become aware of the FSS, it needs to acquire more knowledge about the Right to Food, food security and its legal responsibilities, even though law enforcement in their country may be weak. An attitude change may be also necessary. Market opportunities must be perceived to be incentivized to comply with the FSS.

### Step 4: Behavior change

A change in the capacities and awareness is the necessary condition for changing one's behavior. The behavior change then involves that the target groups adjust their management practices to achieve compliance with the FSS. They have to assess the food security situation of their workers, smallholders, or both, and identify the gaps regarding the FSS. Depending on the findings, they may have to change the farm and management practices and take action to ensure food security and the Right to Food. This may, for example, require a change in the provided

meals, an improvement in housing infrastructure or providing personal protective equipment (PPE) to increase workers' safety. Also farmers' and workers' need to be trained for example regarding human rights and related policies, health and safety issues or nutritious diets and food preparation. Further awareness is built through elaboration and communication of respective policies (e.g., regarding human rights) and strategies. Once the target group addressed all relevant issues and achieves compliance with the FSS, they are ready to become certified.

## Step 5: Expected direct benefits

Expected direct benefits are, broadly framed, that (i) smallholders and workers are food secure and their Right to Food is fulfilled, and that (ii) the food security situation in the area of influence does not deteriorate due to the agricultural production. To be able to certify compliance with the FSS, all criteria and indicators have to be met. This includes that smallholders and workers have to be food secure—which is different to all current available standards and certification systems. Meeting the criteria and indicators is expected to lead to the direct benefits listed below as literature and case studies could show. Future impact studies will have to systematically prove this. The direct benefits differ between the target groups and the beneficiaries (Table 2).

### Expected benefits to workers

Workers will improve their utilization, availability, access, and stability of food. Diets are likely to improve and food security should be ensured when being employed. Wages should improve as the payment of minimum, respectively living wages, is required. Working conditions may change due to the regulations regarding permitted working hours as well as introduction of regular breaks, and through the implementation of accident and health care/insurance, pension schemes, minimum hygiene measures, use of adequate Personal Protection Equipment, and other means for compliance with safety measures. Worker rights should now be respected and proven, for example through obligatory contracts, payslips, and no discrimination policies. Workers should also become more knowledgeable because of the introduction of obligatory trainings for example regarding good practices, health and safety, food and nutrition, existing laws and rights, including human and women's rights. Access to drinking water should be permanently available and housing conditions, if applicable, should have improved to fulfill basic standards.

### Expected benefits to medium-sized and large-sized farm owners as well as smallholder groups

On all farm types, less accidents are likely to occur, as adequate Personal Protection Equipment are used and farms become compliant with international, basic safety measures. A risk management esp. regarding human and natural disasters, should be available. Farming methods in many cases should become more sustainable and yields, productivity, or profitability can increase (case specific), in case this has not yet been addressed by the sustainability standards the farm is already certified with. Higher crop prices or an ensured market advantage are expected to be in place. The workers on all farms should be food secure, and are likely to be motivated and more productive as the case studies showed. As one farmer explained “before



**TABLE 2** Assumed direct benefits for the target groups and beneficiaries

<b>Target group</b>	<b>Target group and beneficiary</b>
<b>Wealthy farmers</b>	<b>Smallholders groups</b>
<ul style="list-style-type: none"> <li>• With FSS, direct proof that Right to Food of the workers respected as much as it is their responsibility and that food security situation in the area of influence does not deteriorate due to their activities</li> </ul>	<ul style="list-style-type: none"> <li>• With FSS, direct proof that Right to Food of the smallholders and their workers respected as much as it is their responsibility and that food security situation in the area of influence does not deteriorate due to their activities</li> </ul>
<ul style="list-style-type: none"> <li>• More motivated, food secure workers</li> </ul>	<ul style="list-style-type: none"> <li>• Food secure smallholders, improved diets</li> </ul>
<ul style="list-style-type: none"> <li>• More and better cooperation with local governments</li> </ul>	<ul style="list-style-type: none"> <li>• Linkages to governmental programmes, CSOs, or other support mechanisms established</li> </ul>
<ul style="list-style-type: none"> <li>• More awareness of rights and national strategies for food security, development as well as other topics such as health and safety, food and nutrition, existing laws and rights, women's rights</li> </ul>	<ul style="list-style-type: none"> <li>• More awareness of rights and national strategies for food security, development as well as other topics such as health and safety, food and nutrition, existing laws and rights, women's rights</li> </ul>
<ul style="list-style-type: none"> <li>• Knowledge of human rights and grievance mechanisms</li> </ul>	<ul style="list-style-type: none"> <li>• Knowledge of human rights and grievance mechanisms</li> </ul>
<ul style="list-style-type: none"> <li>• More sustainable farming methods (e.g., stopping the use of hazardous pesticides, less pesticide use, limited aerial spraying)</li> </ul>	<ul style="list-style-type: none"> <li>• More sustainable farming methods</li> </ul>
<ul style="list-style-type: none"> <li>• Higher crop prices or market advantage</li> </ul>	<ul style="list-style-type: none"> <li>• Higher crop prices (case specific) or market advantage and better contract conditions</li> </ul>
<ul style="list-style-type: none"> <li>• Improved risk management esp. regarding human and natural disasters</li> </ul>	<ul style="list-style-type: none"> <li>• Improved risk management esp. regarding human and natural disasters</li> </ul>
<ul style="list-style-type: none"> <li>• Potentially higher yields, better productivity and profitability (case specific)</li> </ul>	<ul style="list-style-type: none"> <li>• Improvements in farm productivity and profitability due to increased knowledge</li> </ul>
<ul style="list-style-type: none"> <li>• Less accidents of workers</li> </ul>	<ul style="list-style-type: none"> <li>• Less accidents, use of adequate PPE and compliance with safety measures</li> </ul>
<ul style="list-style-type: none"> <li>• Healthier workers</li> </ul>	<ul style="list-style-type: none"> <li>• Availability of basic health care and accident insurance</li> </ul>
<b>Beneficiaries</b>	<b>Beneficiaries</b>
<b>Workers</b>	<b>Communities in area of influence</b>
<ul style="list-style-type: none"> <li>• Better utilization, availability, access and stability of food</li> </ul>	<ul style="list-style-type: none"> <li>• No deterioration of their food security situation and environment because of export agric.</li> </ul>
<ul style="list-style-type: none"> <li>• Improved food (diets) and ensured food security while being employed</li> </ul>	
<ul style="list-style-type: none"> <li>• Respect of their rights as worker (e.g., availability of contracts, payslips, no discrimination)</li> </ul>	<ul style="list-style-type: none"> <li>• No changes in access to drinking or irrigation water and respect of their water rights</li> </ul>
<ul style="list-style-type: none"> <li>• Better wages (e.g., payment of minimum, respectively living wages)</li> </ul>	<ul style="list-style-type: none"> <li>• No water pollution or changes of water access due to farming</li> </ul>
<ul style="list-style-type: none"> <li>• Better working conditions (e.g., hours worked, breaks, accident and health insurance, pension schemes)</li> </ul>	<ul style="list-style-type: none"> <li>• Ensured access of roads to markets and allowance of transitory land use</li> </ul>
<ul style="list-style-type: none"> <li>• Permanent access to drinking water</li> </ul>	<ul style="list-style-type: none"> <li>• Access to (better) medical care (in some cases)</li> </ul>

(Continues)

TABLE 2 (Continued)

Beneficiaries	Beneficiaries
<b>Workers</b>	<b>Communities in area of influence</b>
<ul style="list-style-type: none"> <li>• Provision of health care and minimal hygiene measures</li> </ul>	<ul style="list-style-type: none"> <li>• No negative impacts of chemicals and pesticide use, less pesticide use, limited aerial spraying)</li> </ul>
<ul style="list-style-type: none"> <li>• Use of adequate PPE and compliance with safety measures</li> </ul>	<ul style="list-style-type: none"> <li>• Assurance of land rights, also customary and traditional ones</li> </ul>
<ul style="list-style-type: none"> <li>• More knowledgeable for example, regarding sustainable agriculture practices, health and safety, food and nutrition, existing laws and rights, women's rights</li> </ul>	<ul style="list-style-type: none"> <li>• Complaint mechanisms lead to less offenses of the Right to Food</li> </ul>
<ul style="list-style-type: none"> <li>• Improved housing conditions (if applicable)</li> </ul>	

becoming certified, machinery always broke down or things got lost. Now, this is not happening any more, the workers are taking more care".<sup>1</sup> Smallholders are also enabled to become food secure—for example, through establishing linkages with external support structures—and should be able to access basic health care as well as an accident insurance.

Additional expected benefits are the increase in awareness and knowledge of laws, human rights and national strategies as well as about implementing adequate grievance mechanisms, health, safety, and nutrition. A better cooperation with local governments is likely to happen and smallholders are increasingly linked up with governmental programmes, CSOs, or other support mechanisms, as this is part of the FSS requirements.

With the FSS, the owners have the direct proof that the Right to Food of their workers is respected as much as it is their responsibility and that the food security situation in the area of influence does not deteriorate due to their activities. This becomes important with the emergence of supply chain laws and initiatives in Europe and elsewhere.

### Expected benefits for communities in the area of influence

Their food security situation and environment in the surrounding communities should not deteriorate because of the certified export agriculture. Communities may benefit from a better access to medical care as they may use the ones from the farms or when producers improved the local health facilities to send there also their worker. The access of communities to drinking or irrigation water and respect of their water rights should be maintained and no water pollution or changes to water access should occur. Roads to markets and transitory land use should be still available and land rights, also customary and traditional ones should be assured. No negative impacts of chemicals and pesticide use, less pesticide use, limited aerial spraying) should occur. The established complaint mechanisms should lead to less offenses of the Right to Food.

### Step 6: Expected long-term benefits

In the long term, the FSS is expected to contribute to development at the community level as it foresees contributions to local development through strengthening local value creation. For

example, the target group changes its procurement habits to buy as many products locally as possible, for example fruits, vegetables, dairy or staple crops for the workers or supports local sewers to produce work clothes and uniforms for the workers. Progressively, the well-being of workers and smallholders should improve beyond the basic needs covered by the FSS. Positive changes are especially expected in the area of health due to capacity and behavioral changes, improved diets, and better access to medical care. Through crop diversification and additional employment generation, there should be less income fluctuations of temporary or casual workers and resource-constrained smallholders. Workers will have a pension scheme once they retire and smallholders should have funds set aside for retirement.

The disaster risk management plans, which have to be developed jointly with communities and local authorities, also benefit the households in the communities as previously, they often have not been available. Additional joint projects and infrastructure may be established such as health stations or schools. These types of cooperation can already be found with certified farms and cooperatives, as the case studies showed, and are hence possible without overburdening the farms. Food security in the area is expected to progressively improve as a result of the joint cooperation between farmers and governmental organizations.

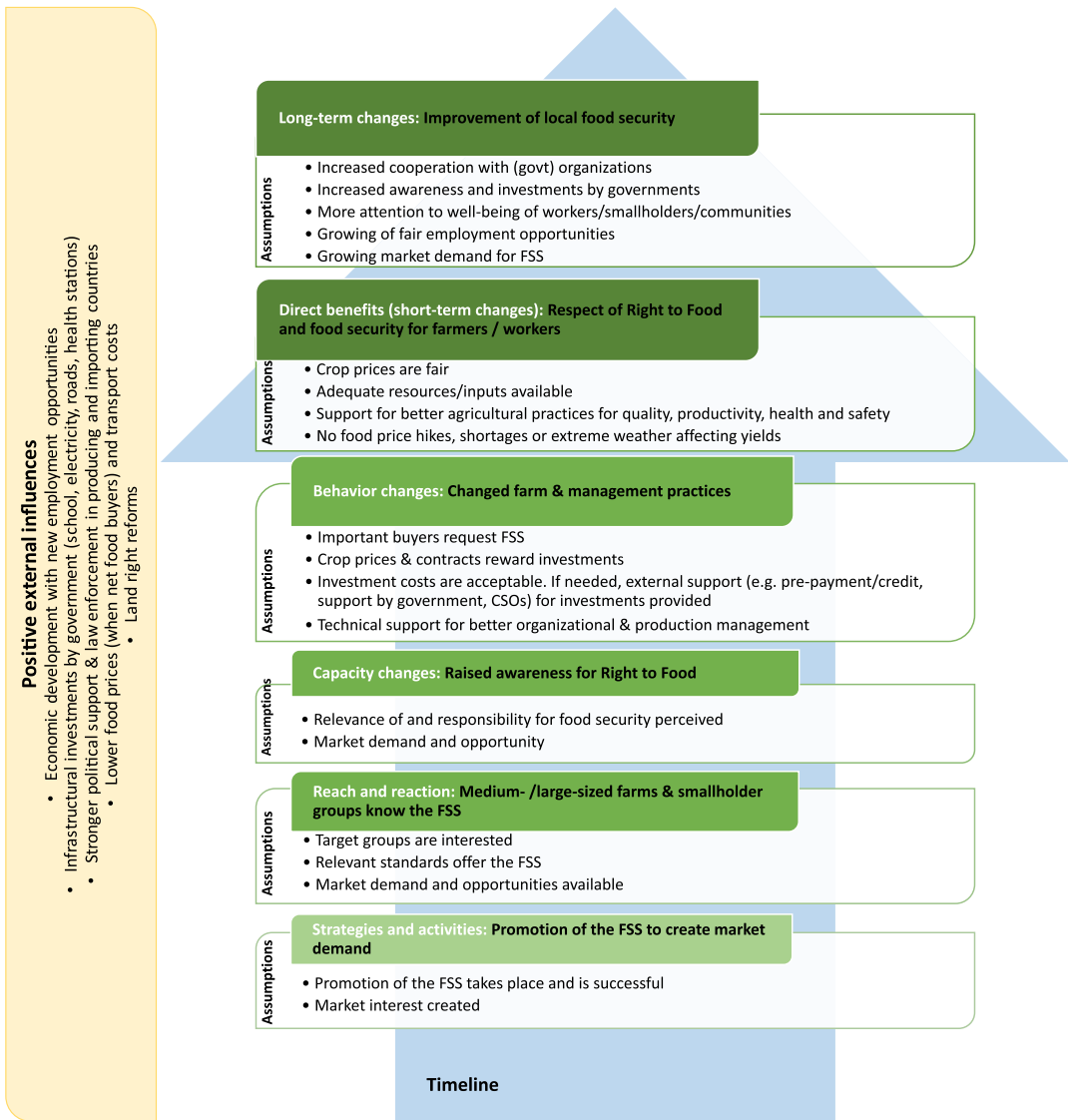
## **Positive external influences**

External factors may positively (or negatively) affect the implementation of the FSS and influence, whether and how much expected benefits will materialize. They are not directly related to the standard. Infrastructural investments by the local government like the construction or improvement of a school or health station, availability of electricity, better roads or a public transport system contribute to improve the well-being of the workers and farmers. A decrease in local food prices will benefit especially smallholders as many of them are net-food buyers and mainly invest in cash crops. Land right reforms and law enforcement can be other positively influencing factors.

## **Unintended effects**

Unintended effects of the FSS are difficult to forecast. To comply with all FSS criteria, investments may be needed and ongoing costs may additionally rise, as for example protective equipment is regularly used and needs replacement. Smallholders, and some medium-sized plantations, may be confronted with more costs to invest in infrastructure, equipment and pay their workers higher salaries while not being themselves financially well-positioned. Despite starting to invest, they may not be able to fully comply if they underestimated the costs, or some other events occur for which they need money for (e.g., health emergency of a family member) or buyers drop them as suppliers. However, the opposite may also happen. Buyers may take more responsibility and, instead of looking for new product providers, decide to support the smallholder groups or other producers to be able to become compliant with the FSS. These unintended effects are highly context specific and cannot be generalized as they depend on many factors, also on whether a price premium is paid, how much is paid, and what other support the exporter or buyer delivers.

Drought, extreme weather events, civil unrest, global price shocks may affect the food security situation of all households in the region with certified production. All target groups are



**FIGURE 4** The assumptions and theory of change for production sites

obliged to have contingency plans that include food security and have to organize support in case of extreme events. If the support is insufficient or not available and smallholders or workers experience periods of food insecurity, these farms cannot be acknowledged as compliant with the FSS criteria for that year, which may lead to complications with their buyers. However, certified farmers have to be always food secure to maintain their proof of compliance with the FSS otherwise the FSS loses credibility in consumption markets.

Positive unintended effects could be that wages in the region start to increase or labor conditions improve given that workers become more empowered from what they experience on the certified farms. Local and national governments could become more supportive for the FSS when they perceive a market chance and unique selling point to generate foreign exchange. As consequence, they may improve framework conditions such as water, electricity, schooling or

health stations or emphasize law enforcement in the whole region. This would be in line with the intended changes of so-called landscape approaches.

## The causal assumptions

Moving in the impact pathway from one step to the other is based on assumptions about the enabling environment and necessary framework conditions. The assumptions are specific for each step and were derived from the six case studies and literature review. They are useful for communicating in future with key stakeholders as they show that implemented sustainability criteria are not automatically delivering the desired benefits. In the following, the assumptions are briefly described (cf. Figure 4). The assumptions for the goods, services, strategies, and activities include that the promotion of the FSS takes place and is successful so that sustainability standards offer the FSS and integrate into their systems. An interest of market actors such as buyers, consumers, policy- and other decision-makers and civil society needs to be created. The assumptions for an appropriate reach and reaction are that the owners and managers of small, medium, and large farms are adequately targeted, and become interested. A market opportunity should be available to nudge farmers in becoming interested in the FSS and pursue the next steps (change capacity and behavior). Farms already following high standards may be interested in a proof of compliance to use it for differentiation in a highly competitive mass market and demonstrate their human rights due diligence.

The assumptions regarding a capacity change include that farmers understand the relevance and their responsibility for the Right to Food, for example, through individual discussions, workshops or training sessions. This means they change their traditional view that food security is a state obligation or just a matter of luck or charity (which was frequently mentioned in the interviews and workshops). It is assumed that all farms have access to adequate inputs and resources to apply the better farming practices and that the necessary resources or adequate financing instruments to fulfill the infrastructural and other requirements are available—this, by the way, is a very strong assumption that all sustainability standards make and which is often not fulfilled.

The assumptions to achieve a behavior change include that the perceived cost–benefit relations must be positive for the farmers. The sustainability manager of a processing plant described that they are frequently asked by their supplying farms, especially the smaller ones: “And when will I see this money I am investing in my workers?”<sup>2</sup> It is assumed that the target groups will implement the FSS if the investment costs are not perceived as too high or when additional support or subsidies are offered. Crop prices and contract schemes are key and must be reward the investments and ongoing efforts. The target group must see the chance to positively distinguish their output crops in the market and/or have a clear buyers' demand from buyers with large contract volumes. As one manager in Guatemala explained, “the market determines what we do. If the market tomorrow requests the FSS, we will implement it.”<sup>3</sup> and the manager of smallholder groups in Kenya confirmed that they “only get their farmers certified if they have an interested buyer.”<sup>4</sup> Respectful and trustful relationships with the buyers have to be available when major investments and management changes are required as the “the responsibility for higher prices bounces back and forth between the different value chain actors”<sup>5</sup> and “buyers are often only interested in coffee, not nutrition or living wage.”<sup>6</sup>

It is also assumed that technical support will be available to support farms, especially smaller ones, to improve the management and production processes.

The assumptions to achieve the direct benefits: Once the target groups have adjusted their farm and management practices according to the FSS, the farm-gate prices for crops, and contract conditions are fair. They are also stable to ensure the materialization of direct benefits. Smallholder groups receive continued support regarding agriculture, farm business and food security. It is assumed that more knowledge and changed agricultural practices lead to a higher crop profitability or higher yields when trainings are adapted to farmers' understanding, needs and available local resources.

The assumptions for positive long-term changes regarding food security include that the agricultural producers increasingly cooperate with relevant local, regional, and national governmental institutions, civil society organizations or the private sector. It is further assumed that positive investment cycles evolve to further stipulate economic development from which all benefit. This was experienced in a couple of case studies, especially in Bolivia. It is further assumed that workers will start to demand comparable employment conditions from non-certified farms and use the implementing farms as role models. A growing international market demand for the FSS and human right compliance, including related supply chain laws and initiatives, is necessary to drive changes at larger levels. Crises, such as the Corona pandemic, may put achievements at risk and counteract also law initiatives.

## DISCUSSION

The FSS was designed in such a way that the Right to Food is respected by the private sector according to its responsibility based on international human rights law. The rights-based food security criteria address and shall protect groups whose food insecurity is caused by or related to export agriculture. In simple terms, the FSS shall distinguish those producers and buyers who comply with human rights from those that rely on unfair labor conditions, exploitation or hungry farmers.

The presented theory of change for the FSS facilitates social learning of individuals and organizations which is increasingly perceived as an essential element of sustainable development (Kristjanson et al., 2014). When the FSS was developed, the expectations of many stakeholders, especially by civil society and policy makers, were often much higher than what any sustainability standard can practically can deliver (e.g., the FSS was mistaken as development aid and was expected to “solve the food security problem of a country”). The expectations also went beyond the responsibilities of the private sector from an international human rights perspective. As described in the section of responsibilities, a private farm or company cannot be expected to replace missing or failed governmental actions for food security at local or national level. The developed theory of change helps to clearly communicate expectations in a realistic context of what is achievable. The theory of change shifts the focus from attribution of effects to its contribution to achieve food security and acknowledges the role, responsibilities and inputs of different stakeholders and supply chain actors in achieving outcomes (Thornton et al., 2017). As unreal expectations may also affect future evaluations of the FSS, the theory of change should be used for future monitoring, evaluation, learning, and impact assessments (Mayne & Johnson, 2015; Thornton et al., 2017).

The assessment of the theory of change showed that it is plausible that the FSS will have the positive impact regarding food security and the Right to Food for workers, farmers and communities especially in cases where current human rights compliance is low. The materialization of benefits is based on the condition that really all criteria and indicators are met by the producers



and that third-party audits have rigorously assessed the local situation. The extend of the expected impacts will be locally specific and are likely to depend on and vary between the farms and smallholder groups. How much each target group benefits from the implementation of the FSS depends on the situation of the farms *before* the target group starts to change its behavior to become compliant with the FSS. Plantations which are already socially and environmentally committed may easily fulfill and implement the missing FSS requirements. Their workers may not see many additional positive changes compared to before since most of the requirements of the FSS will already be part of the daily management of these plantations, as the cases in Guatemala, Bolivia and Indonesia showed. In this case, the FSS will serve “only” as a prove that the human Right to Food is adequately respected.

The six case studies, the stakeholder workshops, and interviews with sustainability standards and certification systems, auditors and farm business, indicate that the expected direct changes and benefits are not site-specific but achievable for a wide range of farms and therefore are scalable. Smallholder groups with many poor, food-insecure smallholders, like in our case in Zambia, face in relation to their income situation high investment and compliance costs compared to richer smallholders or plantations. Without additional support by other value chain actors, including buyers or governmental agencies, they will face difficulties to become compliant with the FSS in the short term.

How much the FSS will contribute to livelihood improvements depends not only depend on the producers alone. This research also confirmed other research that a good interaction and coordination between public and private governance is desirable and a strong driver for positive changes (Mayer & Gereffi, 2010). To achieve the envisaged long-term change, the presented theory of change is only one building block in a necessarily wide-ranging approach to food security and adequate standard of living. More stakeholders are involved whose capacity and behavior needs also to be addressed and changed, such as local and national authorities to support infrastructure or civil society organizations as “public pressure is needed”.<sup>7</sup> Additional stakeholder specific theories of change that are linked or nested with the presented theory of change should be developed as they can guide necessary action points and key drivers for change of the FSS and future evaluation (Mayne & Johnson, 2015).

A typical limitation of sustainability standards and hence also of the FSS is, that they only indirectly address the effects of direct or indirect land use change which can lead to changes in food availability or prices that may affect households outside the area of influence. These aspects are however outside the responsibility of individual farms and go beyond the scope of sustainability standards and private sector obligations. Such indirect effects, due to cumulate effects of many or large farms, have to be regulated by the respective national and local government. The farm management still must respect all relevant local and national strategies for food security, economic development, and poverty reduction even if the compliance with such polices is not enforced by local government actors. The FSS also requires that potential impacts on food security of new agricultural operations or of expansions of existing areas are assessed ex-ante and that, if needed, mitigation actions are in place.

Other common constraints and limitations of sustainability standards also concern the FSS: There are cases where standards were found to be ineffective in closing geographical, informational, communicative, power gaps (Boström et al., 2015), and failed to detect, report, and resolve social and environmental compliance problems in global supply chains (Boström et al., 2015; LeBaron et al., 2017). Partial compliance despite third-party audits and trustful certification may exist (Giuliani et al., 2017) and is often driven by international buyers' behavior who request on the one hand high standards and on the other hand pressure their suppliers for lower prices, give only

seasonal orders and are unwilling to share the costs of social compliance (Jamali et al., 2017). These issues are difficult to address for a sustainability standard and require the interplay and action of various value chain actors including governmental agencies and policy-makers.

## CONCLUSION

The Food Security Standard was established to show and verify human rights due diligence for the Right to Food at agricultural production sites in food insecure countries. The FSS is also a means for all other supply chain actors to prove their responsibility and due diligence for the Right to Food. The theory of change is a useful tool for guiding operationalization of and communication about the FSS. It details and clarifies explicitly which impact is likely to be achieved, what are the limitations, and how the necessary enabling environment should look like. Once a sufficient number of producers have become certified with the FSS, ex-post impacts assessment should be conducted to fully understand the direct benefits and long-term effects of the FSS. The developed theory of change will contribute to explain why certain effects occurred or may not have occurred and ideally is further developed based on the new insights. Supplementary theories of change should be developed, that address the additional necessary pathways of change required simultaneously by certification systems, buyers and consumers as well as governmental agencies.

Internationally law interpretations derive a shared responsibility, which also assumes responsibilities for buyers and governments at the downstream end of global supply chains. A market demand, fair contracting schemes, and adequate crop prices are required by international buyers but the various supply chain actors also have to facilitate and support this to achieve the desired benefits. Voluntary measures regarding human rights due diligence are insufficient to change mainstream markets as competitiveness is a major driving factor for business. This is also reflected in the emergence of various law initiatives in Europe after having introduced a voluntary compliance with human rights through national action plans.

Stronger regulatory frameworks and mandatory regulations for human rights due diligence in buyer countries but also an UN treaty will contribute to uptake the internationally defined responsibility to respect the Right to Food by the private sector. They will ensure compliance with international law by the private sector and will level the playing field which is urgently needed to stop the race for the cheapest production sites. For this, continued support and pressure by consumers, civil society, politicians—but also by the private sector—is required at national and international level.

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## ENDNOTES

<sup>1</sup> Personal communication, farm manager, Bolivia, 2018.

<sup>2</sup> Personal communication, Bolivia, 2018.

<sup>3</sup> Personal communication, Guatemala, 2018.

- <sup>4</sup> Personal communication, Bolivia, 2018, Personal communication, Kenya, 2019.
- <sup>5</sup> Personal communication, manager of sustainability standard, 2019.
- <sup>6</sup> Personal communication, manager of smallholder groups, Kenya, 2019.
- <sup>7</sup> Personal communication, manager of sustainability standard, 2019.

## REFERENCES

- Barrientos, Stephanie, and Sally Smith. 2007. "Do Workers Benefit from Ethical Trade? Assessing Codes of Labour Practice in Global Production Systems." *Third World Quarterly* 28(4): 713–29. <https://doi.org/10.1080/01436590701336580>.
- Becchetti, Leonardo, and Marco Costantino. 2008. "The Effects of Fair Trade on Affiliated Producers: An Impact Analysis on Kenyan Farmers." *World Development* 36(5): 823–42. <https://doi.org/10.1016/j.worlddev.2007.05.007>.
- Behrman, Julia, Ruth Meinzen-Dick, and Agnes Quisumbing. 2012. "The gender implications of large-scale land deals." *Journal of Peasant Studies* 39(1): 49–79. <https://doi.org/10.1080/03066150.2011.652621>.
- Benjamin-Thomas, Tanya E., Ann M. Corrado, Colleen McGrath, Debbie L. Rudman, and Carri Hand. 2018. "Working Towards the Promise of Participatory Action Research: Learning from Ageing Research Exemplars." *International Journal of Qualitative Methods* 17(1): 160940691881795. <https://doi.org/10.1177/1609406918817953>.
- Berdegué, Julio A., and Ricardo Fuentealba. 2014. "The State of Smallholders in Agriculture in Latin America." In *New Directions for Smallholder Agriculture*, edited by P. B. R. Hazell and A. Rahman, 115–52. Oxford: Oxford University Press.
- Beuchelt, Tina D., and Detlef Virchow. 2012. "Food Sovereignty or the Human Right to Adequate Food: Which Concept Serves Better as International Development Policy for Global Hunger and Poverty Reduction?" *Agriculture and Human Values* 29(2): 259–73. <https://doi.org/10.1007/s10460-012-9355-0>.
- Beuchelt, Tina D., and Manfred Zeller. 2011. "Profits and Poverty: Certification's Troubled Link for Nicaragua's Organic and Fairtrade Coffee Producers." *Ecological Economics* 70(7): 1316–24. <https://doi.org/10.1016/j.ecolecon.2011.01.005>.
- Beuchelt, Tina D., and Manfred Zeller. 2012. "The Role of Cooperative Business Models for the Success of Smallholder Coffee Certification in Nicaragua: A Comparison of Conventional, Organic and Organic-Fairtrade Certified Cooperatives." *Renewable Agriculture and Food Systems* 28(3): 195–211. <https://doi.org/10.1017/S1742170512000087>.
- Biggs, Eloise M., Niladri Gupta, Sukanya D. Saikia, and John M. Duncan. 2018. "The Tea Landscape of Assam: Multi-Stakeholder Insights into Sustainable Livelihoods under a Changing Climate." *Environmental Science & Policy* 82: 9–18. <https://doi.org/10.1016/j.envsci.2018.01.003>.
- Blackwell, Sara, and Nicole V. Meulen. 2016. "Two Roads Converged: The Mutual Complementarity of a Binding Business and Human Rights Treaty and National Action Plans on Business and Human Rights." *Notre Dame Journal of International & Comparative Law* 6(1): 5.
- Boström, Magnus, Anna M. Jönsson, Stewart Lockie, Arthur P. Mol, and Peter Oosterveer. 2015. "Sustainable and Responsible Supply Chain Governance: Challenges and Opportunities." *Journal of Cleaner Production* 107: 1–7. <https://doi.org/10.1016/j.jclepro.2014.11.050>.
- Brahic, Bénédicte, and Susie Jacobs. 2013. "Empowering Women: A Labor Rights-Based Approach: Case Studies from East African Horticultural Farms." *Journal of Agricultural and Environmental Ethics* 26(3): 601–19. <https://doi.org/10.1007/s10806-012-9424-9>.
- Byerlee, Derek, Alain de Janvry, and Elisabeth Sadoulet. 2009. "Agriculture for Development: Toward a New Paradigm." *Annual Review of Resource Economics* 1(1): 15–31. <https://doi.org/10.1146/annurev.resource.050708.144239>.
- CESCR. 2017. "General comment No. 24 (2017) on State obligations under the International Covenant on Economic, Social and Cultural Rights in the context of business activities: E/C.12/GC/24". United Nations Economic and Social Council.

- CFS & FAO. 2012. "Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security." Available at: <http://www.fao.org/tenure/voluntary-guidelines/en/>
- Chiputwa, Brian, D. J. Spielman, and Matin Qaim. 2015. "Food Standards, Certification, and Poverty among Coffee Farmers in Uganda." *World Development* 66: 400–12. <https://doi.org/10.1016/j.worlddev.2014.09.006>.
- Ciaccia, Corrado, Marta Di Piero, Elena Testani, Giancarlo Rocuzzo, Martijn Cutuli, and Danilo Ceccarelli. 2019. "Participatory Research towards Food System Redesign: Italian Case Study and Perspectives." *Sustainability* 11(24): 7138. <https://doi.org/10.3390/su11247138>.
- Clarke, Thomas, and Martijn Boersma. 2017. "The Governance of Global Value Chains: Unresolved Human Rights, Environmental and Ethical Dilemmas in the Apple Supply Chain." *Journal of Business Ethics* 143(1): 111–31. <https://doi.org/10.1007/s10551-015-2781-3>.
- Colen, Lisbeth, Miet Maertens, and Johan Swinnen. 2012. "Private Standards, Trade and Poverty: GlobalGAP and Horticultural Employment in Senegal." *The World Economy* 35(8): 1073–88. <https://doi.org/10.1111/j.1467-9701.2012.01463.x>.
- Dawson, P. J. 2005. "Agricultural Exports and Economic Growth in Less Developed Countries." *Agricultural Economics* 33(2): 145–52. <https://doi.org/10.1111/j.1574-0862.2005.00358.x>.
- De Schutter, Olivier, Asbjorn Eide, Ashfaq Khalfan, Marcos Orellana, Margot Salomon, and Ian Seiderman. 2012. "Commentary to the Maastricht Principles on Extraterritorial Obligations of States in the Area of Economic, Social and Cultural Rights." *Human Rights Quarterly* 34(4): 1084–169.
- Devereux, Stephen. 2020. "Violations of Farm workers' Labour Rights in Post-Apartheid South Africa." *Development Southern Africa* 37(3): 382–404. <https://doi.org/10.1080/0376835X.2019.1609909>.
- FAO, ILO, and IUF. 2005. "Agricultural Workers and their Contribution to Sustainable Agriculture and Rural Development." Available at: [www.fao.org/docrep/pdf/008/afl64e/afl64e00.pdf](http://www.fao.org/docrep/pdf/008/afl64e/afl64e00.pdf)
- Ferm, Nora. 2008. "Non-traditional Agricultural Export Industries: Conditions for Women Workers in Colombia and Peru." *Gender and Development* 16(1): 13–26. <https://doi.org/10.1080/13552070701876078>.
- Gamba, Liliana, Tina D. Beuchelt, and Rafael Schneider. 2020. "Food Security Standard: Principles, Criteria and Indicators." Available at: [https://foodsecuritystandard.org/wp-content/uploads/2021/05/2020\\_Food\\_Security\\_Standard\\_CriteriaIndicators\\_EN.pdf](https://foodsecuritystandard.org/wp-content/uploads/2021/05/2020_Food_Security_Standard_CriteriaIndicators_EN.pdf)
- Giuliani, Elisa, Luciano Ciravegna, Andrea Vezzulli, and Bernard Kilian. 2017. "Decoupling Standards from Practice: The Impact of in-House Certifications on Coffee Farms' Environmental and Social Conduct." *World Development* 96: 294–314. <https://doi.org/10.1016/j.worlddev.2017.03.013>.
- Grabosch, Robert, and Christian Scheper. 2015. "Corporate Obligations with Regard to Human Rights Due Diligence: Policy and Legal Approaches." Friedrich-Ebert-Stiftung, Berlin.
- Graeb, Benjamin E., M. Jahi Chappell, Hannah Wittman, Samuel Ledermann, Rachel B. Kerr, and Barbara Gemmill-Herren. 2016. "The State of Family Farms in the World." *World Development* 87: 1–15. <https://doi.org/10.1016/j.worlddev.2015.05.012>.
- Gyapong, Adwoa Y. 2020. "How and why Large Scale Agricultural Land Investments Do Not Create Long-Term Employment Benefits: A Critique of the 'State' of Labour Regulations in Ghana." *Land Use Policy* 95: 104651. <https://doi.org/10.1016/j.landusepol.2020.104651>.
- Hall, Ruth., Marc Edelman, Saturino M. Borrás, Ian Scoones, Ben White, and Wendy Wolford. 2015. "Resistance, Acquiescence or Incorporation? An Introduction to Land Grabbing and Political Reactions 'from below'." *The Journal of Peasant Studies* 42(3-4): 467–88. <https://doi.org/10.1080/03066150.2015.1036746>.
- Hamilton, Sarah, and Edward F. Fischer. 2005. "Maya Farmers and Export Agriculture in Highland Guatemala." *Latin American Perspectives* 32(5): 33–58. <https://doi.org/10.1177/0094582X05279503>.
- Henson, Spencer, and John Humphrey. 2010. "Understanding the Complexities of Private Standards in Global Agri-Food Chains as they Impact Developing Countries." *The Journal of Development Studies* 46(9): 1628–46. <https://doi.org/10.1080/00220381003706494>.
- Human Rights Council. 2008. "Protect, Respect and Remedy: A Framework for Business and Human Rights: Report of the Special Representative of the Secretary-General on the Issue of Human Rights and Transnational Corporations and Other Business Enterprises, John Ruggie." A/HCR/8/5. Human Rights Council.
- Jamali, Dima, Peter Lund-Thomsen, and Navjote Khara. 2017. "CSR Institutionalized Myths in Developing Countries." *Business & Society* 56(3): 454–86. <https://doi.org/10.1177/0007650315584303>.

- Kristjanson, Patti, Blane Harvey, Marissa van Epp, and Philip K. Thornton. 2014. "Social Learning and Sustainable Development." *Nature Climate Change* 4(1): 5–7. <https://doi.org/10.1038/nclimate2080>.
- LeBaron, Genevieve, Jane Lister, and Peter Dauvergne. 2017. "Governing Global Supply Chain Sustainability through the Ethical Audit Regime." *Globalizations* 14(6): 958–75. <https://doi.org/10.1080/14747731.2017.1304008>.
- Li, Tania Murray. 2011. "Centering labor in the land grab debate." *Journal of Peasant Studies* 38(2): 281–98. <https://doi.org/10.1080/03066150.2011.559009>.
- Li, Tania Murray. 2017. "Intergenerational displacement in Indonesia's oil palm plantation zone." *The Journal of Peasant Studies* 44(6): 1158–76. <https://doi.org/10.1080/03066150.2017.1308353>.
- Maastricht Principles. 2011. "Maastricht Principles on Extraterritorial Obligations of States in the area of Economic, Social and Cultural Rights." Available at: [https://www.ciel.org/wp-content/uploads/2015/05/Maastricht\\_ETO\\_Principles\\_21Oct11.pdf](https://www.ciel.org/wp-content/uploads/2015/05/Maastricht_ETO_Principles_21Oct11.pdf)
- Maertens, Miet, and Johan F. M. Swinnen. 2009. "Trade, Standards, and Poverty: Evidence from Senegal." *World Development* 37(1): 161–78. <https://doi.org/10.1016/j.worlddev.2008.04.006>.
- Mayer, Frederick, and Gary Gereffi. 2010. "Regulation and Economic Globalization: Prospects and Limits of Private Governance." *Business & Politics* 12(3): 1–25. <https://doi.org/10.2202/1469-3569.1325>.
- Mayne, John. 2015. "Useful Theory of Change Models." *The Canadian Journal of Program Evaluation* 30(2): 119–42. <https://doi.org/10.3138/cjpe.230>.
- Mayne, John, and Nancy Johnson. 2015. "Using Theories of Change in the CGIAR Research Program on Agriculture for Nutrition and Health." *Evaluation* 21(4): 407–28. <https://doi.org/10.1177/1356389015605198>.
- Mayring, Philipp. 2014. "Qualitative Content Analysis: Theoretical Foundation, Basic Procedures and Software Solution." Klagenfurt. Available at: <http://nbn-resolving.de/urn:nbn:de:0168-ssoar-395173>.
- McTaggart, Robin. 1994. "Participatory Action Research: Issues in Theory and Practice." *Educational Action Research* 2(3): 313–37. <https://doi.org/10.1080/0965079940020302>.
- Meemken, Eva-Marie, Jorge Sellare, Christophe. N. Kouame, and Matin Qaim. 2019. "Effects of Fairtrade on the Livelihoods of Poor Rural Workers." *Nature Sustainability* 2(7): 635–42. <https://doi.org/10.1038/s41893-019-0311-5>.
- Methven O'Brien, Claire, Amol Mehra, Sara Blackwell, and Catherine B. Poulsen-Hansen. 2016. "National Action Plans: Current Status and Future Prospects for a New Business and Human Rights Governance Tool." *Business and Human Rights Journal* 1(1): 117–26. <https://doi.org/10.1017/bhj.2015.14>.
- Minten, Bart, Lalaina Randrianarison, and Johan F. Swinnen. 2009. "Global Retail Chains and Poor Farmers: Evidence from Madagascar." *World Development* 37(11): 1728–41. <https://doi.org/10.1016/j.worlddev.2008.08.024>.
- Mohr, Anna, Tina D. Beuchelt, Rafael Schneider, and Detlef Virchow. 2015. "A rights-based food security principle for biomass sustainability standards and certification systems." Bonn, DE. Working Paper 143. Available at: [http://www.zef.de/uploads/tx\\_zefportal/Publications/ZEF\\_Working\\_Paper\\_143.pdf](http://www.zef.de/uploads/tx_zefportal/Publications/ZEF_Working_Paper_143.pdf)
- Mohr, Anna, Tina D. Beuchelt, Rafael Schneider, and Detlef Virchow. 2016. "Food Security Criteria for Voluntary Biomass Sustainability Standards and Certifications." *Biomass and Bioenergy* 89: 133–45. <https://doi.org/10.1016/j.biombioe.2016.02.019>.
- Morris, Katlyn S., V. Ernesto Mendez, and Meryl B. Olson. 2013. "'Los Meses Flacos': Seasonal Food Insecurity in a Salvadoran Organic Coffee Cooperative." *Journal of Peasant Studies* 40(2): 423–46. <https://doi.org/10.1080/03066150.2013.777708>.
- Nunes, Danielle M. P., Marcelo S. da Silva, and Rosineide de Lourdes Meira Cordeiro. 2016. "Work and Risk Experience among Northeastern Migrant Works in Sugarcane Plantations in the State of São Paulo, Brazil." *Saúde e Sociedade* 25(4): 1122–35. <https://doi.org/10.1590/s0104-12902016145485>.
- O'Laughlin, Bridget. 2017. "Consuming Bodies: Health and Work in the Cane Fields in Xinavane, Mozambique." *Journal of Southern African Studies* 43(3): 625–41. <https://doi.org/10.1080/03057070.2016.1190519>.
- Oriz, Sutti, and Susana Aparicio. 2007. "How Labourers Fare in Fresh Fruit Export Industries: Lemon Production in Northern Argentina." *Journal of Agrarian Change* 7(3): 382–404.
- Rossi, Arianna. 2013. "Does Economic Upgrading Lead to Social Upgrading in Global Production Networks? Evidence from Morocco." *World Development* 46: 223–33. <https://doi.org/10.1016/j.worlddev.2013.02.002>.

- Ruggie, John G., and John F. Sherman. 2017. "The Concept of 'Due Diligence' in the UN Guiding Principles on Business and Human Rights: A Reply to Jonathan Bonnitcha and Robert McCorquodale." *European Journal of International Law* 28(3): 921–8. <https://doi.org/10.1093/ejil/chx047>.
- Said-Allsopp, Muhaimina, and Anne Tallontire. 2014. "Enhancing Fairtrade for Women Workers on Plantations: Insights from Kenyan Agriculture." *Food Chain* 4(1): 66–77. <https://doi.org/10.3362/2046-1887.2014.006>.
- Schutter, Olivier De. 2011. "How not to think of land-grabbing: three critiques of large-scale investments in farmland." *Journal of Peasant Studies* 38(2): 249–79. <https://doi.org/10.1080/03066150.2011.559008>.
- Thornton, P. K., T. Schuetz, W. Förch, L. Cramer, D. Abreu, S. Vermeulen, and B. M. Campbell. 2017. "Responding to Global Change: A Theory of Change Approach to Making Agricultural Research for Development Outcome-Based." *Agricultural Systems* 152: 145–53. <https://doi.org/10.1016/j.agry.2017.01.005>.
- UN-CESCR. 1999. "Substantive issues arising in the implementation of the International Covenant on Economic, Social and Cultural Rights. General Comment 12: The right to adequate food (Art. 11). Contained in Document E/C.12/1999/5." United Nations. Available at: <https://www.escr-net.org/resources/general-comment-12>.
- UN & UNHR. 2011. "Guiding Principles on Business and Human Rights: Implementing the United Nations 'Protect, Respect and Remedy' Framework." New York, Geneva. US, CH.
- van Rijn, Fédés, Ricardo Fort, Ruerd Ruben, Tinka Koster, and Gonne Beekman. 2020. "Does Certification Improve Hired Labour Conditions and Wageworker Conditions at Banana Plantations?" *Agriculture and Human Values* 37(2): 353–70. <https://doi.org/10.1007/s10460-019-09990-7>.
- Vermeulen, Sonja, and Lorenzo Cotula. 2010. "Over the Heads of Local People: Consultation, Consent, and Recompense in Large-Scale Land Deals for Biofuels Projects in Africa." *The Journal of Peasant Studies* 37(4): 899–916. <https://doi.org/10.1080/03066150.2010.512463>.
- von Grebmer, Klaus, Jill Bernstein, Naomi Hossain, Tracy Brown, Nilam Prasai, Yisehac Yohannes, Fraser Patterson, et al. 2017. "Global Hunger Index: The Inequalities of Hunger." Ed. by International Food Policy Research Institute, Concern Worldwide, Welthungerhilfe. Washington DC, Dublin, Bonn.
- Windfuhr, Michael. 2012. "Wirtschaft und Menschenrechte als Anwendungsfall extraterritorialer Staatenpflichten." *Zeitschrift für Menschenrechte* 2: 95–118.
- Yin, Robert K. 2014. *Case Study Research: Design and Methods*, 5th ed. Sage: Los Angeles, London, New Delhi, Singapore.

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