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Traders as invisible agents of sustainability governance in global food supply chains. A research agenda

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Abstract:

Corporate actors in global food supply chains are rapidly gaining ground as non-traditional forms of authority that shape sustainability governance efforts. This paper highlights the critical and underresearched role of traders – companies whose core business lies in the trade of agricultural commodities between producers and manufacturers – in linking corporate sustainability ambitions to on-the-ground impacts. Drawing on a systematic analysis of the major transnational corporations trading cocoa, coffee, and palm oil, we provide a novel analytical framework that highlights the comparative value of studying the sustainability activities of traders. We further uncover a number of research gaps surrounding the advantages, risks and challenges of relying on traders as implementers of sustainability governance. Building on this analysis, we outline a call for future research on traders as the invisible agents of sustainability governance, focusing on producer-level impacts, changes in supply chain organization and power dynamics, and interactions with state and non-state actors.

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1. Introduction

Agricultural commodities such as coffee, tea, cocoa, soy, cattle, and palm oil are associated with a range of environmental, social, and economic sustainability challenges. Many of these products are considered 'forest-risk commodities' given that they drive deforestation and land degradation in the tropics and sub-tropics (Curtis et al. 2018; DeFries et al. 2010). Other environmental externalities include fertilizer and pesticide run-off, inadequate waste disposal, the pollution of local waterways and ecosystems, and biodiversity loss (Donald 2004; Newton et al. 2013). Further, agricultural commodities are frequently produced under poor health and safety standards, are linked to social conflict over land use rights, and workers' rights to an adequate wage and collective bargaining are often disregarded (DeFries et al. 2017). Finally, when produced by smallholders, such commodities rarely lead to a sustained improvement in livelihood conditions; and more often than not, smallholders are trapped in cycles of low productivity, low prices, and inadequate access to credit, inputs, and knowledge to make their production systems more sustainable (Kuit and Waarts 2014; Oya et al. 2018).

Strategies to address these challenges are increasingly consolidated amongst an ever-smaller number of corporations (Folke et al. 2019). As technological improvements in supply chain tracking allow consumers to know the origin, legality, and impact of their purchases (Gardner et al. 2019; Gaveau et al. 2017), transnational corporations are under growing public scrutiny (Etzion 2020). In response, private governance initiatives to address sustainability issues in agricultural supply chains have emerged and proliferated in the past 20 years (Thorlakson et al. 2018). Such initiatives include third-party certification schemes (e.g. the Rainforest Alliance or Fairtrade International standards), multi-stakeholder roundtables (such as the Roundtable on Sustainable Palm Oil or the Round Table on Responsible Soy), in-house certifications of large buyers (such as the Nespresso AAA standard or the Starbucks C.A.F.E. Practices scheme in coffee), and higher-level platforms that incentivize companies in the value chain to make and implement corporate sourcing commitments (e.g. the Consumer Goods Forum or the New York Declaration on Forests) (Auld et al. 2008; Garrett et al. 2018; Lambin et al. 2018). Despite this momentum, the success of corporate supply chain initiatives remains uncertain (Lambin et al. 2018; Dauvergne 2018). Especially when comparing agroindustry's sustainability pledges to the reality of continued tropical deforestation and persistent poverty in many commodity production areas, it is clear that corporate promises are falling well short of publicly proclaimed targets (NYDF Assessment Partners 2019; Rogerson 2019). For example, deforestation continues in many commodity production geographies, especially in tropical forest areas (Curtis et al. 2018).

In recognition of this implementation gap, we argue that a critical focus area for future research is to better understand the emerging business strategies of *traders* and their specific role in fostering the realization of sustainable sourcing practices. This call for research is situated in the literature that calls for more attention being placed on transnational corporations in the absence of biosphere stewardship (Folke et al. 2019, 2020). However, we argue that there is the need for a more focused research agenda on one specific segment of supply chain actors: traders as the messengers and facilitators in the implementation of sustainability practices. Innovations in data sharing technologies, capacity building approaches, and contingent finance models are resulting in new partnerships between commodity buyers and their suppliers (Lambin et al. 2018). These budding partnerships have the potential to significantly increase the effectiveness of sustainability efforts, but their impact remains understudied (Thorlakson et al. 2018). Instead, the academic literature has focused great attention on the emergence, evolution and legitimacy of private governance schemes in the realm of sustainable land-based commodities, as well as the interplay of non-governmental organizations and corporate actors within associated multi-stakeholder forums (Auld et al. 2009; Auld 2014; Bartley 2007; Bernstein and Cashore 2007; Bitzer et al. 2012; Fransen 2012, 2018; Grabs 2020a; Lambin et al. 2018; Schouten and Glasbergen 2011; Thorlakson 2018). More recently, there has been increasing

attention placed on specific types of corporate actors. A special emphasis was put on retailers (such as Walmart) as key actors to move global supply chains to more sustainable outcomes due to their market power and ability to set and enforce sourcing standards with greater efficiency than even national governments (Bartley et al. 2015; Dauvergne and Lister 2010, 2012, 2013; Elder et al. 2014; Elder and Dauvergne 2015; van der Ven 2014, 2018). In comparison, there is a curious lack of analysis on the role of one particular type of supply chain actor that links international demand to local supply: the traders themselves. While several publications in the academic and grey literature have highlighted traders' key role in transmitting standards and buyers' expectations to producers (Grabs 2017, 2020a; Lambin and Thorlakson 2018; Manning et al. 2012; Rosenberg et al. 2009; Thorlakson 2018), most have done so in passing and stressed that more work is needed to understand these dynamics. Other studies that provide a greater focus on traders themselves (Borrella et al. 2015; Newman 2009) are few and far between and do not take sustainability governance as their main analytical focus. A salient framework for enhancing the sustainability of commodity supply chains (Newton et al. 2013) groups 'processors and packagers' as well as 'distributors and retailers' and does not recognize traders as a stand-alone category of actors in the landscape of global commodity production and consumption.

Recognizing that business as usual has not led to the broad-based sustainability improvements as hoped for, we argue that focusing greater analytical and evaluative efforts on understanding the trader link of the value chain is crucial for two reasons. On the one hand, traders exhibit multiple comparative advantages in becoming lead actors for sustainable commodity production due to their ability to act as connectors and translators, both vertically along the value chain and horizontally between different types of commodities. In particular, given their existing networks and infrastructure, traders are able to reach a large number of smallholder farmers, and could significantly scale up sustainability efforts by including such producers in sustainable commodity value chains. On the other hand, the position of traders at the intersection of competing commercial and reputational demands may lead to goal conflicts that could seriously hamper transnational private and public-private sustainability governance efforts unless these are identified and adequately addressed by practitioners. To further the evidence base on which to act, we propose a research agenda focusing on the role of traders as agents of sustainability governance. The overarching goal of this research is to improve accountability in the transition to sustainable global food systems by better understanding key supply chain actors, especially those linking producers (farmers, often smallholders) and end consumers, and the roles of these actors when it comes to implementing corporate environmental and social sustainability commitments.

The piece proceeds as follows: We first provide a definition and overview of the category of actors we consider as the focus of a trader-focused research agenda, as well as a summary of ways in which they are already engaged in sustainability governance. We then highlight three benefits and three potential challenges that are specific to traders as agents of sustainability governance, and why they stand apart from other influential corporate actors in the value chain such as retailers or manufacturers. We close with a suggested research agenda for the years to come, which will be particularly important given that traders are intensifying their activities in the area of sustainable production, trade, processing, and marketing of agricultural commodities. To illustrate our argument, we draw on examples and evidence from three soft commodities: coffee, cocoa, and palm oil. These commodities have exhibited a frontrunner status in current debates around sustainable commodity value chains (Bakhtary et al. 2020; Carodenuto 2019; Donofrio et al. 2017; Grabs 2020a; Grabs and Ponte 2019; Thorlakson 2018).

2. Methods and case selection

We selected cocoa, coffee, and palm oil as representing a range of land-based, tree crop commodities where traders play a significant role in the value chain (both historically and presently).[3] All three commodities have seen a significant growth and evolution of sustainable supply chain policies and initiatives in recent years. This makes them 'frontrunner' commodities that are likely to influence sustainability measures in other agricultural commodities as well. Cross-analyzing these commodities allows for insights from a range of typical trader business models, as these commodities reflect a broad spectrum of dominant production geographies, timelines for harvesting, processing, and consumption, and consuming regions and demand characteristics, amongst others. This allows us to propose a research agenda that reaches beyond these three commodities.

First, we systematically reviewed the sustainability activities of 30 traders who dominate the market in terms of traded volumes (see Figure 2). Given the limited availability and opacity of trade data, we identified these companies through a combination of own assessments (e.g. Grabs 2017) as well as third-party publications (Fountain and Huetz-Adam 2018; Panhuysen and Pierrot 2018; Steinweg et al. 2017). We aimed to include 10 traders for each commodity; given market concentration and overlap between traders, our final sample includes 9 traders of cocoa, 10 traders of coffee and 11 traders of palm oil. Using a novel bottom-up coding scheme developed by the authors, we categorized traders' sustainability activities by analyzing publicly available data from corporate websites, sustainability reports, as well as news sources. The knowledge gaps resulting from this baseline assessment of sustainability activities was then triangulated with commodity-specific as well as global value chain literature, industry- and firm-level sustainability documents and policies, participatory observation of industry association meetings and workshops, and informational interviews with key industry members and producers in the field. We conducted 18 informational interviews (5 in cocoa, 5 in palm oil, and 8 in coffee) specifically for this article, and further draw on past interviews undertaken for separate research projects (Carodenuto 2019; Grabs 2020b, 2020a). These interviews were used to corroborate general trends in the findings, rather than as a primary source of data to be separately analyzed.

3. Traders: A specific but diverse set of actors

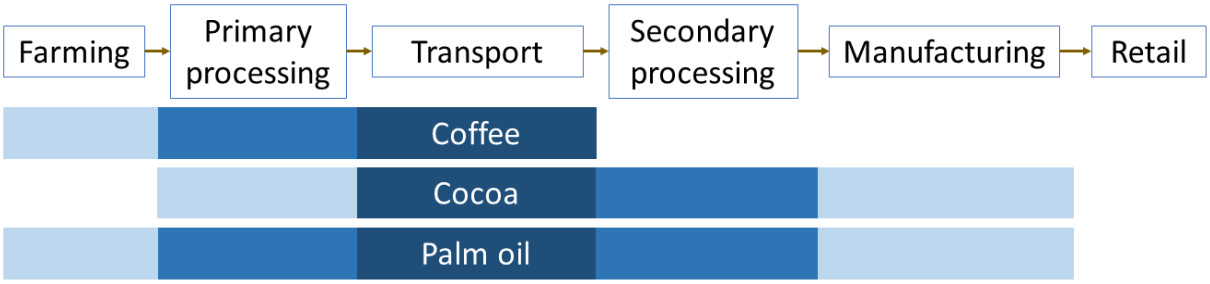

Figure 1: A typical (simplified) agricultural commodity value chain and the potential roles of traders in the three analyzed commodities (including forward and backward integration). The darker shaded, the more common the function.

Agricultural commodity value chains are notoriously complex. Yet, in any value chain, the good needs to be moved physically from the point of production to the point where it can be used in manufacturing and prepared for consumption. Our focus in this piece on 'traders' hence lies on companies whose main activity is this movement of the commodity from the point of production to the point of manufacturing or further use. This movement of goods from one location to another is far from simple,

[3] Other industries that rely on factory labor (such as apparel) may not be directly comparable.

however, requiring comprehensive risk mitigation strategies relating to global market fluctuations, temporal price risk, logistical challenges, product quality control, and enforcement of other production standards.

Many times, the trading process requires some form of primary processing of the agricultural commodity – for instance, the depulping, drying and dehulling of coffee beans, the milling of palm oil fruits into crude palm oil, or the fermentation and drying of cocoa beans (as shown in Figure 1). Depending on the commodity and capacity in origins, this processing step can be taken up by producers and producer organizations or be taken over by the trader organization. Many traders are also engaged in further vertical integration upstream – e.g. acquiring and running plantations of coffee or palm oil (including through outgrower schemes) – and downstream – e.g. engaging in processing cocoa beans into cocoa butter and cocoa powder (this is also called grinding), [4] or refining crude palm oil, as well as manufacturing industrial inputs as well as consumer goods. This vertical integration is relevant for their role as agents of sustainability governance as well. Alternatively, some companies started with a focus on upstream (plantation) or downstream (manufacturing) activities, but through vertical integration now control large shares of the trade of the commodity in question. This complexity leads us to use a two-pronged central definition of traders. We thus focus on *companies (1) whose main business lies in the trade of agricultural commodities between producers and manufacturers*, or (2) *whose activities control a major share of the trade of the agricultural commodity in question*, even if they also have major stakes in other upstream or downstream activities.

Given that global prices for many commodities are set at the stock exchange through futures markets, an important part of traders' business activity – besides the trading of physical goods – lies in the trading of commodity futures contracts. The main focus of such trading is to hedge the trade of physical supplies (that is, to lock in an advantageous price by taking a contrary position in the futures market), which increases buyers' willingness to purchase commodities during periods of price volatility (Dand 2010). As physical traders have developed increasing skill and capital, they have also moved into speculative trade with the main goal of making short-term profits through buying and selling futures at a high frequency (Newman 2009).

In order for agricultural commodity trading to be a profitable business, traders invest significantly in intelligence gathering, infrastructure development, and service provision. These non-trading activities include collecting fine-grained data on the ground regarding current and expected production volumes in order to better anticipate supply-demand relations. Traders also often invest in storage infrastructure to accumulate sufficient volumes of goods to ship. They may sell inputs such as fertilizers, agrochemicals, seeds or equipment to producers in rural areas (frequently at discounted rates or on credit in exchange for future supply of goods); and engage in producer outreach and extension activities to supplement public extension services, which are often only weakly present or ineffective (Benson and Jafry 2013; David and Samuel 2014; Ferris et al. 2014).

The range of traders' activities is conducted at different levels of intensity by different categories of actors. The first category of trading businesses we can identify are *multinational traders* such as ADM, Bunge, Cargill, ECOM, ED&F Man, Louis Dreyfus, Olam, or Wilmar. Most of these are engaged in trading several commodities at the same time. For instance, ED&F Man trades coffee, sugar, grains and liquid products; ECOM is leading in coffee, cocoa, cotton and sugar; OLAM is involved in coffee, palm oil, cocoa, cashew, rice and cotton; Louis Dreyfus' portfolio includes coffee, cotton, dairy, fertilizers, grains, juice, metals, oilseeds, rice and sugar; COFCO Agri is mainly focused on grains and oilseeds, sugar and cotton in addition to coffee; and Wilmar is the globally largest palm oil trader, but also trades in other

[4] Although the majority of cocoa processing takes place in consumer geographies, a fair amount happens in origin. For example, roughly 20% of processing happens in Côte d'Ivoire (World Bank 2019).

oilseeds, grains and sugar. However, some multinational traders specialize in a single commodity such as Neumann Kaffee Gruppe, the worldwide leading coffee trader; Barry Callebaut, which takes on this function in the cocoa sector; and Apical, which specializes in palm.

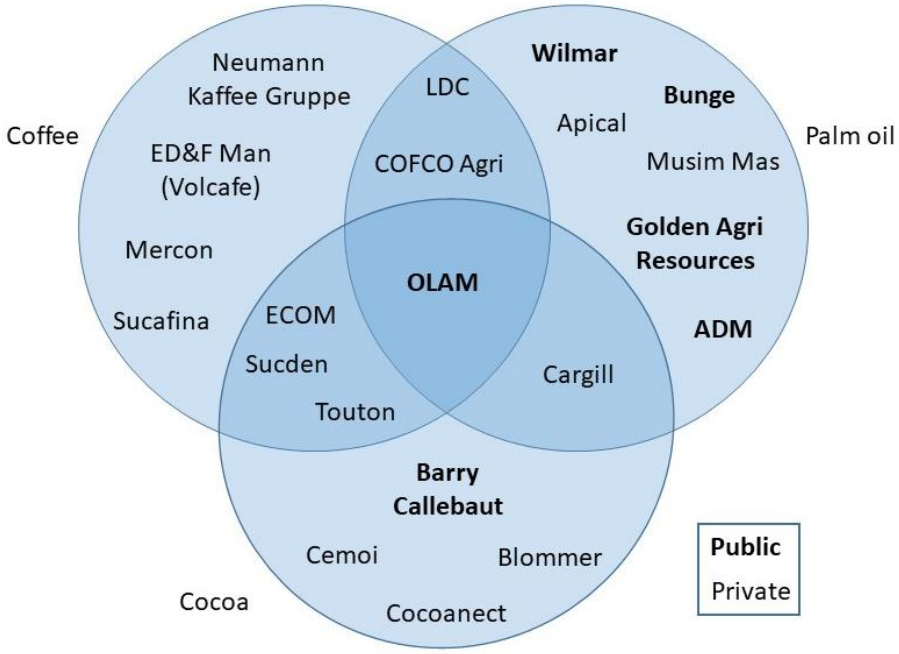

Figure 2: A sample of the most influential traders in the three case study sectors

Beyond multinational traders, a second category comprises *national-level exporters* that tend to be specialized in one commodity and operate in one or several producing regions. Such national-level exporters however have been squeezed in the recent past by more stringent financing expectations and competition from multinational actors that can leverage economies of scale and mitigate price risk by trading in several commodities at a time (Cohen 2015; Grabs and Ponte 2019; Newman 2009). In several instances, mergers and acquisitions have incorporated such local traders into the global networks of multinational trading umbrellas (e.g. Neumann Kaffee Gruppe or Mercon) that pursue a global strategy through their national subsidiaries. Yet, others have remained independent and have frequently aimed to balance their lack of scale by specializing in higher quality goods (e.g. the Costa Rican Panamerican Coffee Trading Co. for coffee).

On the extreme end of the specialization strategy lie the so-called *connective businesses* (Borrella et al. 2015) that have emerged to fulfill the consumer demand to know precise origins for goods such as coffee and cocoa where supply chains have become increasingly complex and obscure. These businesses help high-quality producers to connect to the international market by providing a platform for exchange (such as Cocoanect for cocoa). While single-origin palm oil has not yet become a strong consumer-facing trend, initial steps in that direction exist with 'identity-preserved' supply chains of certified palm oil, which require extensive efforts at traceability from the involved trader.

Finally, a frequently overlooked category of traders is that of independent intermediaries that connect (especially small-scale) producers to the first level of aggregation and processing for export. Such intermediaries are a common occurrence in the vast majority of supply chains that involve unorganized smallholder farmers as without them, smallholders would have difficulty in marketing and transporting their product. Yet, they have a mixed reputation. In the Latin American coffee sector, such intermediaries are called 'coyotes' for their tendency to defraud producers that are reliant on them. The term 'pisteur' (also known as 'coxeur') similarly describes informal opportunistic traders of cocoa in West Africa. Despite their bad reputation for taking advantage of vulnerable farmers in need of

immediate cash, these are often the farmer's only point of contact with the supply chain and thus can play a crucial role in communicating sustainability measures (Wilcox & Abbot 2004). A range of supply chain interventions focus on organizing farmers to increase their collective bargaining power and eventually cut intermediaries out of the supply chain. Yet, this risks upsetting local power dynamics as intermediaries and farmers may be involved in patron-client relationships, and intermediaries may have considerable power in rural regions.

In sum, the on-the-ground value chain is likely to be complex. Figure 3 illustrates a representative coffee value chain, which includes multiple actors that connect farmers to the final sales markets. Promoting sustainable value chains requires all elements of these intermediary relationships to be engaged. The next section will present a range of strategies that traders use to achieve this.

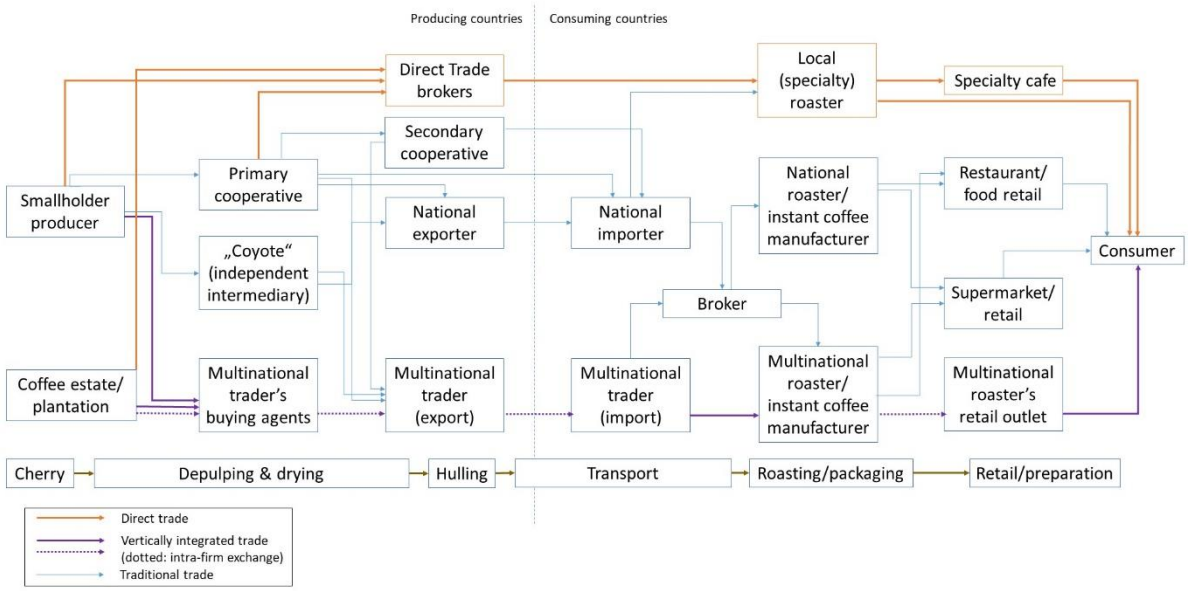

Figure 3: Example of a coffee supply chain

4. Sustainability activities of traders

Corporate supply chains that span across national borders reflect the transnational nature of many of today's pressing environmental issues, such as climate change and biodiversity loss. Traders pursue a range of activities in the sustainability space that vary according to their size, international brand exposure, and level of on-the-ground activities. Described in the literature on sustainable sourcing practices (SSPs) (Dentoni and Peterson 2011; Thorlakson et al. 2018), these private governance mechanisms are generally voluntary, but companies increasingly see sustainability as necessary to secure profitability moving forward. Before proposing a more systematic research agenda to better understand traders in operationalizing the sustainability goals of global agriculture supply chains, we provide a general categorization of traders' existing sustainability activities below. This overview is based on a bottom-up coding exercise of the sustainability activities of our sample of relevant traders (as shown in Figure 2) in the three commodities in question that can be reviewed in Appendix 1. The coding is furthermore summarized in Figure 4 (below).

1) Traditional CSR (building schools, health clinics, orphanages, youth programs…) through own foundations (e.g. ECOM Foundation, NKG Stiftung)

Corporate social responsibility (CSR) initiatives have existed for decades as a way for companies to not only address social and environmental issues in their own operations, but also as a way to provide

tangible benefits in neighboring communities. This includes the creation of foundations (e.g. ECOM Foundation, NKG Stiftung), or donations to NGOs working in sourcing regions. Poverty reduction and community development is often at the forefront of CSR strategies, given that commodity production often occurs in some of the most impoverished areas of the globe. In many cases, CSR acts as a form of offset, whereby companies may continue to engage in harmful practices, but invest in value-generating activities in origins.

2) Participation in pre-competitive platforms and initiatives (Cocoa & Forests Initiative, Global Coffee Platform, Sustainable Coffee Challenge, Roundtable on Sustainable Palm Oil, Indonesian Palm Oil Pledge, NY Declaration on Forests)

Recently, industry initiatives have realized the importance of collaborative approaches to address sustainability challenges across an entire sector, often in collaboration with government and civil society partners. Traders frequently, but not always, participate in these initiatives which tend to be led by consumer-facing companies (e.g. RSPO was initiated by Unilever; Sustainable Coffee Challenge by Starbucks) in collaboration with NGOs.

3) Rolling out third-party and multi-stakeholder certifications (Rainforest Alliance, RSPO, Fairtrade, organic)

In response to downstream demand, traders may take on the responsibility of guiding their suppliers toward the adoption of third-party and multi-stakeholder sustainability certifications. In some cases, the trader becomes the certificate holder and group manager of a group of certified smallholder producers. In this case, smallholder producers are dependent on this particular trader for access to certified markets. In other cases, traders pay the certification and implementation fees of upstream suppliers who cannot afford to get independently certified, and organize trainings in good agricultural practices and farm management. In return, they retain a share (or all of) of the certification premium paid through the market (Grabs 2017; Grabs et al. 2016; Grabs and Ponte 2019; Steemers 2016).

4) Implementation of lead company schemes (Nespresso AAA, Starbucks CAFE Practices, Lindt & Sprüngli Farming Program, Mondelēz Cocoa Life)

Consumer-facing companies are also increasingly developing their own sustainability programs. This approach is seen as a way to generate brand value while addressing the environmental and/or social challenges related to direct supplier activities. In contrast to third-party certifications, these company-led schemes often have limited external oversight and companies choose to publicly disclose as they see suitable. Given that consumer-facing companies only rarely have boots on the ground, they rely on traders to implement these policies. For example, the Mondelēz Cocoa Life verification program recently replaced third-party verification (Rodionova 2016), and has Barry Callebaut, Cargill, ECOM, and Olam as partner organizations; the Lindt & Sprüngli Farming Program for cocoa is implemented by ECOM and Olam; and the Nespresso AAA program for coffee is implemented inter alia by ED&F Man (Volcafe), NKG, Olam, and ECOM.

5) Imposition of own-company supplier policies

A range of traders have furthermore taken on significant responsibility for the environmental and social impacts of their own operations and those of their suppliers. In response to stakeholder pressure (coming from both their buyers as well as civil society organizations), they have thus designed and implemented internal policies and supplier codes focusing on the protection of forests and ecosystems, and the respect for human rights in the countries they operate in. For instance, palm oil traders have adopted their own “no deforestation, no peat, no exploitation (NDPE)” policies that engage or suspend suppliers that are found to be non-compliant with downstream expectations of

sustainable behavior. A number are using sophisticated monitoring tools relying on satellite imagery, farm-level databases, and traceability efforts. The implementation of such policies is frequently supported through partnerships with NGOs and external consultancies.

6) Development of own-company sustainability initiatives and producer empowerment programs

Finally, traders have in recent years moved toward developing their own sustainability initiatives, with the aim of replacing or supplementing third-party certification and lead company schemes as guarantors of sustainability. In coffee, such schemes include OLAM AtSource, the Volcafe WAY, Mercon LIFT, and NKG BLOOM program; in cocoa, there is the OLAM Cocoa Compass, Barry Callebaut Cocoa Horizons and Chocolate Forever programs, and the Cargill Cocoa Promise. Rather than setting and enforcing strict behavioral rules, these programs aim to support and empower smallholder suppliers through training activities (often focused on productivity improvements), the provision of credit and input, and the collection of farm-level data and traceability information to be shared with buyers.

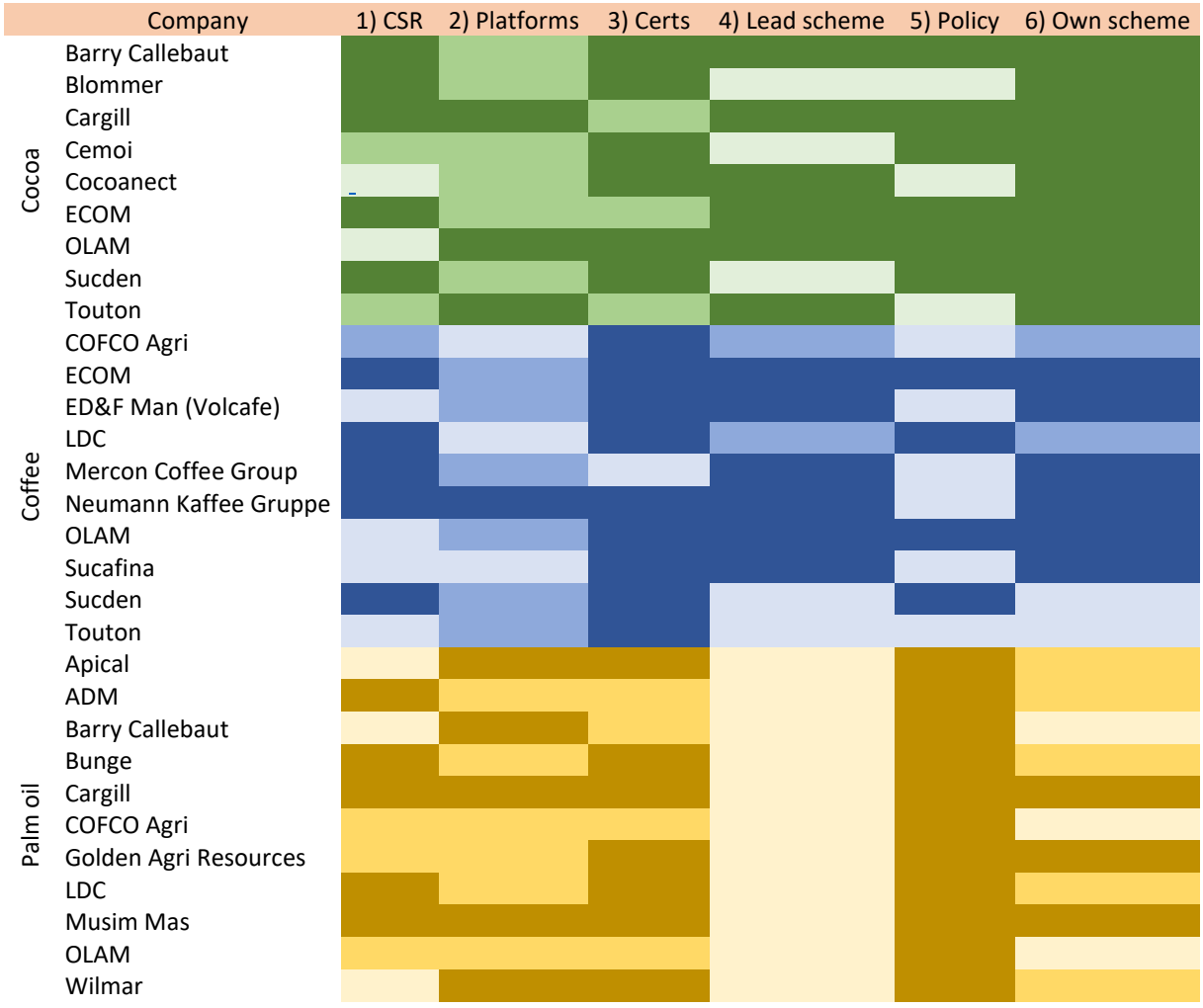

Figure 4: Overview of sustainability activities in our sample of influential traders. Activities were assembled in a spreadsheet (Appendix 1) and color coded by intensity of activity: light = no activity identified; medium = some activity identified; dark = strong activity identified

Figure 4 shows some distinct patterns between traders in different commodities, even in the case of companies that trade various goods. These patterns likely reflect the priority sustainability issues of each commodity, their set-up and key players, as well as isomorphism in corporate strategy in response to external pressure as well as competition for reputational gains (Roszkowska-Menkes and Aluchna 2017). For instance, we can see that the pressure for corporate accountability for deforestation,

alongside the dominance of large-scale industrial plantations on the production side, has resulted in all sampled palm oil companies adopting sustainable sourcing policies that regulate the behavior of their supplier; conversely, such sourcing policies are less established in other commodity sectors. Traders that do specify sourcing policies for their cocoa and coffee supply chains are more likely to be trading other commodities (e.g. LDC, Cargill, or OLAM), compared to more specialized traders. On the other hand, cocoa is a commodity that stands out with large numbers of trader-internal schemes to build the capacity of smallholder farmers and empower them, followed by the coffee sector. Adversely, such schemes are less present in the palm oil sector, though here too large shares of oil palm (up to 40% in Indonesia) is grown by smallholders (Direktorat Jenderal Perkebunan 2016). Reportedly, this is partially due to the supply chain organization, as many traders buy crude palm oil from mills, rather than directly from (smallholder) farmers as in the case of coffee or cocoa (interview, 2020). Finally, we can note that lead company schemes are absent in palm oil, while fairly common in the coffee and cocoa sector, where consumer-facing companies such as coffee roasters and chocolatiers have frequently aimed to differentiate their brand via sustainability efforts.

The range of these activities, alongside their diversity in different commodity sectors and impacts on the ground, shows that traders are becoming increasingly aware of their role and comparative advantage in implementing sustainability governance on the ground and warrants further study for reasons explained in Sections 5 and 6.

5. Comparative advantages of traders as sustainability agents

From an analytical perspective, there are three reasons why their specific role in the supply chain makes traders disproportionally important in private sustainability governance when compared to other corporate actors.

1. Traders as place-bound champions of sustainable supply chain initiatives

First, many traders have considerable resources and investments sunk into specific production origins. This may include infrastructure investments, such as aggregation, processing and storage facilities, and local offices, as well as human resources (local staff, long-term local relationships with suppliers, connected businesses and governments) and specialized context-specific knowledge that has been acquired over decades. In cases where businesses have integrated further upstream, traders may even own plantations or land that is zoned for development, such as Neumann Kaffee Gruppe and OLAM in coffee, and Cargill, OLAM, and Golden Agri Resources in Indonesia. This means that their business model relies on the sustainability of local production areas, both in terms of long-term productive capacity (considering climate change and its impacts) and continued access to international markets. Powerful traders with a keen interest in safeguarding their supply bases may thus drive sectoral innovation forward in their search for pragmatic solutions to ensuring continued production, and even go as far as lobbying local governments for additional support. For example, in Indonesia a conglomeration of the five most powerful palm oil exporters (Cargill, Musim Mas, Wilmar, Golden Agri Resources, and Asian Agri) created the Indonesian Palm Oil Pledge (IPOP) in 2014 to collectively implement their zero-deforestation commitments and lobby the government to adjust legislation in order to ensure that the legal basis for outlawing deforestation matches companies' commitments. However, two years later IPOP disbanded under the threat of prosecution for violating competition law (Dermawan and Hospes 2018). Some traders have globalized and diversified their sourcing strategies to such an extent that they are less reliant on single origins. However, the specific climate and biophysical requirements of crops such as cocoa, coffee, and palm do generally bind traders to certain geographies, although climate change is shifting these key growing regions (Ovalle-Rivera et al. 2015; Ruf et al. 2015). Sunny Verghese (Co-Founder and CEO of Olam), summarizes this as an opportunity and challenge for traders: "Agriculture is at a tipping point. Unless we address the multiple

environmental and social issues affecting our supply chains, our future volumes are at risk. We already have many policies and codes in place but we must now go beyond simply doing less harm, and instead aim for a 'net-positive' impact towards the creation and restoration of natural and social capital."[5]

2. Traders as vertical connectors and translators

Beyond their investments in physical infrastructure, traders are key communicators that can bridge gaps in terms of values, understanding, and awareness between consumers in the Global North and producers in the Global South. The trader's business model by definition engages with cultural differences and translates demands and expectations that may be helpful when dealing with thorny issues surrounding sustainability. Given that they interact with producers on a regular basis, they are able to voice concerns around implementation challenges and impracticalities of sustainability expectations in a continuous way, and suggest improvements that are based on practical experience. Their reach into farmer communities is also helpful for distributing resources and expertise in an efficient manner. For instance, the NKG Bloom initiative[6] aims to reach 300,000 coffee producing families in 10 years and provide them with access to financing, inputs, and expertise through the establishment of permanent farmer service units. It is financed by a $25 million 'Coffee Smallholder Livelihoods Facility', a revolving facility that is backed by three banks and two development agencies (USAID and IDH). A second example is the recent effort put in place by palm oil traders to map their supplier bases and monitor deforestation via satellite-based systems. While deforestation risk can appear on satellite imagery, a satellite image cannot identify the perpetrator or reasons behind tree cover loss. Such monitoring activities thus have to be accompanied by ground-truthing verification and remediation, which is commonly done through specialized teams employed by traders (and supported by consultancies or NGOs).

3. Traders as horizontal connectors and translators

A third advantage is that many traders, as explained above, are involved in the trade of multiple commodities that may have similar challenges regarding environmental and social sustainability. Yet, solutions tend to be debated in commodity-specific forums such as the Roundtable on Sustainable Palm Oil or the Cocoa and Forests Initiative. This holds the danger that best-practice insights are not shared across commodities, or that they are shared only by particular stakeholders (e.g. environmental NGOs) that do not represent business insights. Traders in turn, if they pursue an integrated commodity sustainability strategy, have done the internal work of aligning goals and indicators, ensuring that these are appropriate in context, and may share these lessons in various commodity-specific working groups. Of course, this requires the strong collaboration between a company's sustainability and sourcing officers that are focused on different commodities within the organization, which depends on the organizational set-up. For example, the Olam Living Landscapes Policy, launched in 2018, applies across commodities globally to support a 'Net-Positive' approach to sustainable development in agricultural supply chains and landscape management. The policy pertains to direct and indirect sourcing, covering Olam's plantations and farms, as well as its extensive third-party sourcing network of more than 4 million small and large-scale farmers. In addition to its non-enforceable supplier code, which Olam views as 'soft documentation' of use for the socialization of expectations, it also includes its supplier requirements in contract terms itself, and allows the sustainability unit to act as a veto-player on acquiring new suppliers and continuing business with existing ones. Cargill, in turn, set up a company-

[5] https://www.olamgroup.com/news/all-news/press-release/net-positive-cross-commodity-sustainability-policy.html

[6] https://nkgbloom.coffee/wp-content/uploads/2019/09/2019-10-01-NKG-Bloom-Press-Release-re-signing-of-smallholder-facility.pdf

internal 'Sustainability Hub' in 2019 to ensure that its sustainability operations are operationalized across the organization, and to allow for company-internal diffusion of best practices.[7]

6. Risks and challenges of traders as sustainability agents

Although traders are well-placed to play a key role in operationalizing sustainability aims in global agriculture production and trade, the devolution of authority to traders as sustainability agents and implementers also bears risks and challenges. These include potential conflicts between commercial and sustainability goals; principal-agent problems; and a potential danger of undermining pre-competitive initiatives.

1. Goal conflicts

If the main goal of a trader is to ensure continued access to raw materials in order to turn a consistent profit in the medium- to long-term, this may include some activities that are in line with sustainability considerations (e.g. organizing training related to climate change adaptation and good agricultural practices, funding crop replanting and supporting the integration of agroforestry trees into the farm, providing access to credit and inputs). However, traders arguably have inherent conflicts of interest when it comes to sustainability expenditures if the return on investment is not considered high enough. Further, if sustainability requirements further consolidate the relationship between traders and farmers (which in many cases is already exclusive in practice if not on paper), farmers may be placed at heightened risk of losing precious bargaining power. In particular, it is likely that traders that have made considerable upfront investments into a growing area will expect privileged access to supply from farmers in that particular area. If this need is translated into long-term contracts with fair and stable prices, win-win outcomes may occur. Yet, if this transforms formerly competitive supply regions into areas with local monopsonists, it may increase farmers' dependence on value chain actors, further skewing power imbalances. In a worst-case scenario, the company might decide to retroactively recoup their investment by purchasing their supply at prices below the local average. In addition, farmers aiming to diversify their buyers might be discriminated against in the provision of extension services and inputs. Public and private actors need to carefully monitor for this exacerbation of dependency relationships as a result of sustainability goals, and if necessary, incorporate safeguards into the local policy and legal framework regulating agribusiness. An example where this problem has come to the forefront of practitioners' thinking is the recent innovation of jurisdictional approaches to sustainability where companies, including traders, support a particular jurisdiction in moving toward sustainability.

2. Principal-agent problems

Given that downstream companies such as manufacturers or retailers source from a plethora of different areas, traceability down to the farm level has been difficult for them, and they have mainly relied on traders to provide evidence of adherence to environmental and social practices related to production. While the use of third-party certification schemes is a tried-and-tested avenue for this purpose (though not without its own challenges), there are increasing movements toward trusting company-internal traceability and engagement schemes to provide transparent information on the supplier base and sustainability activities in the field, known as the so-called "own-supply chain era" (Thorlakson et al. 2018). Yet, traders that are reliant on particular sourcing areas have an inherent interest to avoid losing market access for this particular location, and thus may have incentives to downplay potential problems, outsource the responsibility for such problems to agents outside of their immediate supply chain, or oversell the sustainability improvements on the ground when faced with implementation problems. Traders with long-term relationships may also be unwilling to break those

[7] https://www.supplychainmovement.com/cargill-launches-sustainability-hub-for-supply-chains/

relationships off even if it means continuing to turn a blind eye to unacceptable practices. Finding ways to ensure the credibility of information passed on through the supply chain – though in a way that is less cumbersome and costly than individual-level certification – is thus of high priority. One possible approach has recently been developed by a consortium of NGOs: The Accountability Framework Initiative. It details how corporate commitments can be specified and implemented in a credible manner across a diversity of global commodity chains, and sets out expectations for credible first-, second-, and third-party verification systems. A solution specific to NDPE (no deforestation, peat and exploitation) commitments is currently under development in form of the NDPE Implementation Reporting Framework[8] for palm oil, which in the future aims to include independent verification of self-reported data. It is currently being used by over 30 firms along the value chain. Other approaches include hiring NGOs or consultants for data verification; yet, given that they are hired by the company in question, their independence may be questioned as well.

3. Pre-competitive versus competitive activities

A final concern is that devolving authority in implementing private sustainability governance to traders risks dissolving pre-competitive multi-stakeholder approaches that have been built with great care to tackle issues at the farm-level, which for manufacturers and retailers is deemed 'pre-competitive' – as all actors in the group benefit from an overall improvement of the sustainability of their supply base. For traders, in turn, activities that happen at the farm level are fiercely competitive, as this is where they usually make or break their margins. Hence, for a number of actors, sectoral engagement has been a challenge. In the coffee sector, in two instances traders showed resistance to collaboration. First, in 2008, ECOM, Neumann Kaffee Gruppe and Volcafe decided to leave the Sustainable Agriculture Initiative Platform over competitiveness concerns regarding on-the-ground sourcing practices. Second, in 2019, the Global Coffee Platform, which ostensibly aims to represent the major players in the coffee sector, still suffered from a proportional lack of trader participation. As one attendee of the Global Coffee Platform General Assembly lamented: "Where are the traders? It's a shame they are not present, they are the boots on the ground; we need them to implement any of this!" (Field notes, 2020). On the other hand, a trader in this same sector noted that "we are leaving the language of sustainability initiatives behind. We want to start a new way of doing business that places farmers at the center, but also make money out of providing these services. That is necessarily competitive" (interview, 2020).

7. A new research agenda for studying traders as agents of supply chain sustainability governance

The global value chain literature on sustainability governance has focused on producers (Lee et al. 2012; Lutz and Tadesse 2017), retailers (Elder et al. 2014; Elder and Dauvergne 2015), and manufacturers (Healy et al. 2014), but less so on traders. Traders range from the visible (multinational firms) to invisible (informal buyers that collect products from farmers as first point of commodity aggregation). The closer the trader to the farmer, the further they operate outside the purview of the consumer and the less is known about their business practices, motivations, and relationships with other supply chain actors. Future research must address this dearth of information in the literature about the middle nodes of the supply chain, especially those operating in close proximity to producers. In the following, we propose three main directions for future research in this field.

1. Trader-producer relationships and producer-level impacts

Local-level behavior change is at the core of transforming agriculture commodity production towards a more sustainable approach, where farmers are expected to adopt multiple new farming practices. It

[8] https://ndpe-irf.net/

is known that behavior change and adoption of innovation does not occur in a fast or easy fashion (Meijer et al. 2015). Producer training and education alone cannot lead to the desired sector transformation and widespread adoption of new practices (Kroeger et al. 2017). Economic, social, cultural, demographic, and psychological factors, as well as barriers related to land tenure, access to finance and policy, all play a significant role in determining behavior change (Schulte 2020). We argue that traders are key actors not only in furthering producer-level learning and investment, but in helping to understand the local, contextual factors that inhibit change. Hence, future research should recognize the crucial role of traders as the first point of contact between farmers and the supply chain. Better understanding this relationship is critical because this is how information is shared and incentives for improved production practices are shaped. Scholars should inquire into what changes are required in the relationship between the farmer and traders in order to reach corporate sustainability goals. Recognizing the growing dominance of transnational corporations that continue to consolidate their market share (Folke et al. 2019), it is important to pay sufficient attention to dimensions of justice, equity, and power. Relevant research questions include: What incentives and disincentives are traders currently employing to improve the sustainability behavior of associated producers in their value chain? How are existing commercial relationships, market power, and normative factors employed to those aims? How effective and equitable are such practices? Under what conditions are small-scale and marginalized producers empowered and their livelihoods enhanced? Adversely, under what conditions are relationships of dependence and producer-capture exacerbated through the increasing authority that traders employ in value chains?

2. Changes in supply chain organization and governance

The rising influence of traders in governing supply chains that have traditionally been framed as either 'producer-driven' or 'buyer-driven' may substantially change the organization of global supply chains, including the actors involved in them, the relationships and power dynamics between these supply chain actors, and the resulting pay-offs of different types of economic activities. One example, as mentioned, is that many land-based commodity sectors traditionally rely on informal intermediaries that connect producers to the downstream value chain. In the case of cocoa, for instance, dried beans are bought by an intermediary, who sells it to another intermediary, and so on (Aboa et al. 2011). By the time a bag of cocoa beans reaches the port, a sack of cocoa may have changed hands ten times (World Bank 2019). Many global traders aim to reduce these intermediaries and create a more direct link with the farmers. It is important that these reorganization processes are accompanied by research to better understand the profit and power distribution along the supply chain, and the implications of these changes for actors with less of a voice. In many rural contexts, local intermediaries tend to be individuals in relative positions of power who may have built extensive patron-client relationships with producers they buy from. Eliminating their business model may give rise to conflict within rural communities that needs to be carefully managed. At the other end of the value chain, it is also necessary to more closely analyze the commercial and supply chain governance relationships between lead firms (retailers and consumer goods manufacturers) and traders. Questions to be asked in this proposed research stream include: How are supply chains changing in their make-up, organization, power, and relative profitability as traders take on new roles? How are delegated governance responsibilities taken up, monitored, and verified? How do various actors exploit new roles and spaces for increased commercial gain, or alternatively, for deepened corporate social responsibility implementation?

3. Interactions with state actors and other existing sustainability governance arrangements

Given that the authority for land allocation and for planning land-based investments lies in the hand of government, corporate actors are increasingly realizing that they cannot realize impact without the support of the state. Especially to achieve any up-scaling beyond the small "islands of excellence" of

certification projects, multi-stakeholder collaboration is required (Nelson and Phillips 2018). Previous research on cocoa has shown that positive synergies can exist between public and private agendas to scale up sustainability efforts, with the government creating the enabling environment and enforcing legislation, while the private sector provides its technical skill and broad reach to jointly mobilize action towards sector transformation (Carodenuto 2019). However, this positive collaboration remains limited to agenda setting and action planning, and the value of such partnerships for making change on the ground remains to be seen. In a worst case, there may be a displacement of the burden to make the first step towards transformation, as the private sector waits for the government to approve strategies while the government waits for the private sector to release progress reports, for example. It is important to ensure that public-private governance interactions are mutually reinforcing and not shifting the responsibility from one to another. In addition, traders' increasing uptake of sustainability governance initiatives might strengthen, undermine, and shape existing pre-competitive governance arrangements, multi-stakeholder platforms or collective sectoral agreements that were previously dominated by lead firms. It is thus of relevance to examine the following questions, inter alia: How do traders' sustainability actions rely on, reinforce, collaborate with, or undermine existing public and private governance arrangements? What additional roles (e.g. of vertical and horizontal translation and cross-sectoral innovation diffusion) may traders play in strengthening existing governance structures? What are the most promising ways of harnessing synergies and avoiding goal conflicts on the ground? How does the sub-contracting of service providers to carry out technical functions outside the capacity of the state or trading corporations affect the durability of sustainable sourcing strategies?

8. Conclusion

Traders have been called the "invisible players" that are in many ways the most influential segment of the supply chain but are seldom discussed (Leissle 2018, p. 76), especially in the context of sustainable sourcing (Thorlakson 2018). However, they are well-positioned to 'go the last mile' in reaching sustainability since they have wide-reaching networks with producers on the ground. We present a research agenda which should consider the transnational corporations under study also as knowledge co-production partners (Folke et al. 2020). We argue this specific focus on traders can fill the implementation gap between sustainability commitments and the reality on the ground. It is our hope that researchers in a wide range of disciplines including business ethics, corporate social responsibility, global governance, political economy, economic geography, and development studies, will take up some or all of the research themes and questions set out above to illuminate the crucial role of traders in sustainable value chains and implications for supply chain governance and environmental, social and economic sustainability outcomes on the ground.

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