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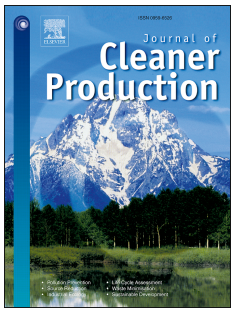

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Sustainable and responsible supply chain governance: challenges and opportunities

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Abstract

This paper introduces the Special Volume on sustainable and responsible supply chain governance. As globalized supply chains cross multiple regulatory borders, the firms involved in these chains come under increasing pressure from consumers, NGOs and governments to accept responsibility for social and environmental matters beyond their immediate organizational boundaries. Governance arrangements for global supply chains are therefore increasingly faced with sustainability requirements of production and consumption. Our primary objectives for this introductory paper are to explore the governance challenges that globalized supply chains and networks face in becoming sustainable and responsible, and thence to identify opportunities for promoting sustainable and responsible governance. In doing so, we draw on 16 articles published in this Special Volume of the *Journal of Cleaner Production* as well as upon the broader sustainable supply chain governance literature. We argue that the border-crossing nature of global supply chains comes with six major challenges (or gaps) in sustainability governance and that firms and others attempt to address these using a range of tools including eco-labels, codes of conduct, auditing procedures, product information systems, procurement guidelines, and eco-branding . However, these tools are not sufficient, by themselves, to bridge the geographical, informational, communication, compliance, power and legitimacy gaps that challenge sustainable global chains. What else is required? The articles in this Special Volume suggest that coalition and institution building on a broader scale is essential through, for example, the development of inclusive multi-stakeholder coalitions; flexibility to adapt global governance arrangements to local social and ecological contexts of production and consumption; supplementing effective monitoring and enforcement mechanisms with education and other programs to build compliance capacity; and integration of reflexive learning to improve governance arrangements over time.

Highlights.

- global supply chains and networks face substantial sustainability challenges
- six gaps hinder sustainability governance of chains and networks
- responsibility requires moving beyond narrow national and organizational borders
- multi-actor and multi-level collaboration are essential
- global sustainability standards must develop recognition of local contexts

Keywords. CSR, Globalization, global production network, value chain, environment.

Introduction

Globalized supply chains[1] strongly shape contemporary circumstances of production and consumption. Every day, people eat, drink, wear, drive, process, remake and play with products originating across the globe; often from developing and/or transitioning countries with either real or perceived deficits in regulatory capacity. Multi-national brand-owning companies in the developed world play a central role in the organization of global supply chains. These companies focus on activities such as product design, marketing and brand management, while low-skill manufacturing activities are outsourced to low-income countries. NGOs and citizen-consumers in OECD countries express concern that the social and environmental protections expected in their own countries are not necessarily enforced in the places their products are now made. While trade rules have been liberalized and the economic costs of production have been cut – favoring the growth of inexpensive consumer products – questions arise regarding the regulation of unwanted economic, social and environmental side-effects of globalized production.

Globalization, consequently, has triggered new views on the boundaries and responsibilities of the firm, as well as in relation to public procurement. Organizations are pressured by consumers, NGOs, other firms and even governments to reframe their conceptions of responsibility away from a narrow national mind-set and beyond their own organizational borders. These pressures have been manifested both in conflict (e.g. name-and-shame campaigns and consumer 'boycotts' targeting big brands) and in the pro-active development of multiple institutional and regulatory innovations for 'sustainable supply chain management', including eco-labels, codes of conduct, auditing procedures, product information systems, procurement guidelines, and eco-branding. A number of scholars interpret these innovations as evidence of a generalized shift away from the hierarchical imposition of governmental authority and a weakening of the nation state. Distributed *governance*, they argue, is replacing centralized *government*. There are certainly circumstances in which this is true. However, global supply chains must traverse complex regulatory terrains and innovations in supply chain governance are often directed towards the coordination and harmonization of multiple legal requirements rather than their replacement (e.g. Mayer & Gereffi, 2010).

Governance is therefore, conceptualized broadly in this Special Volume (SV) not as an alternative to government but as the regulation and coordination of activities by public and private institutions through a variety of formal and informal instruments. Instruments of governance may include policies and guidelines, rules or laws, norms, standards, monitoring and verification procedures, financial and other incentives, the exercise of authority, and so on. Understanding how such instruments impact businesses, communities and environments is a

[1] This article will not be concerned with the (decreasing) differences in supply chains and networks, value chains, global production networks and other conceptualizations (see Bush et al., 2014). For ease of writing all are referred to under the heading of supply chains and networks

multidisciplinary task requiring both techno-scientific and social-scientific expertise. Tools oriented towards assessing and improving environmental and economic performance of supply chains (e.g. life cycle analysis) must therefore, be complemented with social and political analyses on power, preferences, willingness and capacities. To this end, a rich literature has evolved to understand the social and political characteristics and implications of globalized supply chains and their governance arrangements.[2] Reviewing this literature, Bush et al. (In this SV) argued that we might usefully distinguish between governance *in* chains, *of* chains and *through* chains. In other words, at the same time that actors in supply chains create their own internal governance arrangements, a variety of external actors may also seek to influence chain activities and/or outcomes. This points us usefully towards the inherently multi-institutional nature of supply chain governance. In this introductory article, we are concerned less with the characteristics and implications of globalized supply chain governance and more with what may be learned from existing research to improve supply chains' social and environmental performance.

Our primary objectives for this paper are to explore the governance challenges facing globalized supply chains and networks that must become sustainable and responsible, and thence to identify opportunities for promoting sustainable and responsible governance. In doing so, we drew upon papers published in this SV of the *Journal of Cleaner Production* as well upon the broader sustainable supply chain governance literature. We used the spatial metaphor of a 'gap' to illustrate six sustainability challenges derived from the literature: geographical gaps, informational and knowledge gaps, communication gaps, compliance gaps, power gaps and legitimacy gaps. We then addressed the question of how these gaps might be bridged by drawing upon the articles in this SV and upon the wider literature to identify potential governance strategies to solve or to bridge those gaps.

The challenge: existing gaps in sustainable supply chain governance

Challenges to achieve sustainable and responsible global supply chains and networks stem from economic globalization and outsourced production. To simplify, products for our everyday consumption were previously made 'here', while they are now made 'elsewhere'. It makes sense to conceptualize the governance and responsibility challenges in terms of gaps that need to be bridged in order to contribute to sustainable supply chains and networks. Here, six gaps will be

[2] This includes the environmental sociology of flows (e.g. Spaargaren et al., 2006), commodity or value chain and network approaches (e.g. Gibbon et al., 2008; Bair, 2009), global production network approaches (Miller, 2014), studies within sustainable consumption, procurement, and certification (e.g. Boström & Klintman, 2008; Spaargaren and Mol, 2008; Tamm Hallström & Boström, 2010; Oosterveer and Sonnenfeld, 2012; Stolle & Micheletti, 2013); studies of responsible and sustainable supply chain management (e.g. De Bakker & Nijhof, 2002; Seuring & Muller, 2008), as well as the studies of codes of conduct (e.g. Locke, 2013) and standards (e.g. Brunsson & Jacobsson, 2000; Busch, 2000; Ponte et al., 2011).

explored. These gaps often have a significant degree of interdependence, and we do not suggest a hierarchy among the gaps.

First there are ***geographical gaps***, which the very 'globality' of global supply chains and networks signifies. This geographical distance between the consumption of commodities and their production also often implies a distance (unseen, unfelt, unknown) from the many serious environmental and social impacts of production, which help to contribute to public ignorance towards these circumstances and make public debate and opinion-formation difficult.

Governance of global supply chains involves 'governing at a distance' (e.g. Loconto, In this SV). Some efforts to create more sustainable or governable supply chains, involve the reduction of geographical distances, such as shortening of the supply chains, thus, a return to 'here' again. For example, Chkanikova & Lehner (In this SV) show that eco-branding can sometimes result in efforts to source products directly from local farmers, which decreases the complexity of the supply chain, and makes communication with suppliers as well as traceability much easier. Mylan et al. (In this SV) show that supermarket-induced eco-innovation in food chains (comparison of milk-, beef-, and bread-chains) were positively related with shorter and less complex chains, because this facilitated direct interaction among supply chain actors. This is being articulated in many calls for urban agriculture and local food provision.

Given the magnitude of economic globalization, the return to localized supply chains is however not likely to be a panacea for the majority of the supply chains and their products. Governance arrangements will have to face indirect and distant interactions among various supply chain actors, for instance through generic 'standards' (Brunsson & Jacobsson, 2000; Busch, 2000; Ponte et al., 2011), through advanced information flows on production and product characteristics, and through new ways of mediated communication. Sustainability risks related to such abstract and indirect communication, through, for example, standards, are big however. Several articles in this SV, for instance, show the risk of global, generic standards – which create a new kind of 'global' vs 'local' gap - and stress the importance that standard setters develop proximity and sensitivity to the norms, histories, practices and practical circumstances of production contexts, without which any sustainability improvement is unlikely to materialize (e.g. Dietrich & Auld, In this SV; Lockie et al., In this SV; Loconto, In this SV; Said-Allsopp & Tallontire, In this SV; Vellema & van Wijk, In this SV).

Second, there are ***information and knowledge gaps.*** New geographical distances created by outsourcing solutions create new needs: reliable, comprehensive, verified, and credible information about sustainability impacts of products and production processes in the different links in the chain. Getting such information is often extremely difficult, which several articles in the SV show (e.g. Babri & Helin, In this SV; Börjeson et al., In this SV; Mol, In this SV). Often, there is an information asymmetry between actors (producers, buyers, end-consumers, authorities) along the chains and the surrounding networks that needs to be handled. But how is delicate information to be retrieved in a credible manner if this information will put the informer

herself in bad light? This requires independent and disinterested information providers and verification agents, and platforms that make this information available and transparent for all supply chain actors.

Transparency, which should be addressed by tools such as certification programs, codes of conduct and product information systems, might help to reduce the information asymmetry between the producer and the buyer/retailer, as well as with other stakeholders. However, the articles by Mol (In this SV) and Egels-Zandén et al. (In this SV) show that transparency is far from an innocent tool. Transparency is socially constructed and hence it matters how transparency and the transparency infrastructures are constructed. Decisions have to be made on what to unveil, what to keep secret and for whom the information is revealed. How and by whom are such decisions made? Are these decisions transparent by themselves? And who will be in charge of controlling, managing and verifying the information transparency? Also, do transparency requirements work in the same way in different societies and contexts (Mol, 2014)? The studies reported upon in this SV show that neither is it self-evident what transparency means and contains, nor that increasing transparency in global chains automatically results in improved environmental quality or the empowerment of workers, end-consumers and citizens (see also on power gap discussed in this section below). The case study on Nudie (Egels-Zandén et al., in this SV) illustrates how selective transparency decisions can be, and that transparency is more about declaring a particular perspective than about revealing the 'truth'. Mol (In this SV) argued that it is important to scrutinize the specific design of any transparency arrangement, and that we should be aware of a variety of transparency pitfalls, such as illiteracy of environmental information, the risk of information overflow and disinformation, as well as the risk that transparency turns into surveillance rather than empowerment.

Even if information is obtained, it is another task to interpret and act upon the basis of this information (Mol, 2014, and In this SV), particularly in complex situations such as chemical management (Börjeson et al., In this SV). Pathways towards coping with uncertainty and complexity go through learning and knowledge development. Börjeson and collegues argued for the need for both in-house knowledge development among procurement actors and the development of learning through interaction between suppliers and buyers (see also Mylan et al., In this SV).

Third, ***communication gaps*** are discussed or implied in several articles and follow as a consequence from other gaps. The 'sustainable supply chain management' literature argues strongly for the need for more collaboration and communication along the chain to ensure more sustainable and responsible conduct (e.g. Seuring and Mueller, 2008; Gold et al., 2010; Seuring & Gold, 2010). This might be important or even necessary, but empirical evidence of intensive collaboration and communication along the chain is scant. There are considerable challenges involved when trying to find communication tools, strategies and systems to bridge geographical and social distances. Communication can be facilitated and enhanced through standards and information systems, but restricted by issues of language, trust, costs, different expertise, frames

and cultural codes. Complexity of supply networks and products might mean that buyers or final consumers not know who the suppliers or sub-suppliers are, further complicating communication and collaboration (Börjeson et al., In this SV). Even if this is the case, and even if standards, information systems and auditing procedures are in place, communication might not take place (Lockie et al., In this SV) or might find it very hard to play any meaningful role. The article by Helin and Babri (In this SV), centred on the negotiation on how a code of ethics is to be assessed during a supplier audit, is a good illustration of the difficulties to establish a meaningful dialogue on sustainability between the buyer, supplier and sub-supplier.

Communication is prevented by increasing complexity and fragmentation of a chain. In their comparison of milk, beef and bread supply chains Mylan et al. (In this SV) show that eco-innovation is positively related to substantial collaboration and information exchange in supplier groups (benchmarking, best practice dissemination) as well as to socio-cognitive coordination (creation of shared meanings). Such fruitful interactions happened more in milk-chains than in the other two chains. In the case of the supply chain with least eco-innovation, supermarkets had no direct interaction with farmers. The development of shared meanings, 'roadmaps' and common frames, seems crucial and could be stimulated through dialogue and debates, for instance through workshops, conferences, platforms and journals.

Communication may even be prevented by the internal complexity and fragmentation of one single actor (company) in a chain. Frostenson and Prenkert (In this SV) provide a critique of the non-complexity assumption contained in the sustainable supply chain management literature with regard to the so called 'focal firm' in the chain. These focal firms are lead actors in the chain with direct contacts to end-consumers, and which design products and govern the chain. Focal firms have to manage sustainability in internal and external networks, they argue. There is, indeed, not one vantage point within a firm from which anyone (a procurer, an environmental manager, an auditor, etc.) can govern, but a plurality of loosely connected ones and this has serious implications regarding the possibility for a focal actor in sustainability governance and communication.

Fourth, there are ***compliance or implementation gaps***. It is one thing to formulate standards, to define principles and criteria that back up an eco-labelling scheme, to define the norms in codes of conduct, to write good sustainability or CSR reports, to issue sustainability guidelines, and so forth. It is another thing to ensure on-the-ground compliance with stringent sustainability principles, criteria and guidelines (Boström, 2014). The study of regulatory gaps and regulatory interactions connected to cases of plantation agriculture and the banana industry in the Philippines is a good illustration of the difficulties involved in ensuring compliance with legislation and private standards (Lockie et al., In this SV). In this case, key regulatory efforts totally neglected critical matters related to the long, violent and continuing history of conflict over agricultural land use in the Philippines. Global standards, particularly GlobalG.A.P., were 'ignorant' and unable to confront these issues and to ensure implementation and compliance, also because they have basically no systems of monitoring and verification.

Even if auditing systems are in place, compliance gaps may remain. Egels-Zandén and Lindholm (In this SV) show the limits of codes of conduct and associated auditing by a study of the Fair Wear Foundation (FWF). FWF is a relatively ambitious multi-stakeholder driven code of conduct for workers' rights in the textile supply chain, where auditing is based on inspection of production facilities, interviews with both management staff and workers, as well as document inspection. From auditing reports the authors made a statistical analysis of compliance/non-compliance with code criteria at two points in time. Their analysis and discussion showed that serious difficulties exist to achieve improvement over time and that improvement only occurs in some outcome standards (e.g. child labour, safe and healthy measurement) and hardly in process rights (for instance, freedom of association, gender discrimination). Even more strikingly, FWF audits rarely detected violations of the codes in areas where expectations to find violations were reasonably high. Given that FWF is a multi-stakeholder driven code, including progressive NGOs and labour unions as members (in contrast to corporate-driven codes), and is generally considered having one of the most rigorous and credible auditing programs, it was argued that codes of conduct, in general, have fundamental limitations (see also Locke 2013).

Such compliance gaps are illustrated in more detail in the case study of Helin and Babri (In this SV) on how a Swedish multi-national company interacted with a Chinese supplier during an auditing process. They documented that compliance of a corporate-driven code of ethics, and the interpretation of its criteria, was largely a matter of negotiation between buyers, auditors and suppliers, and that stringent ethical principles in the code were marginalized in the auditing process.

There are, however, also examples where constructive interaction between private standards and state regulation took place in implementing sustainability standards (Lockie et al., In this SV; see also Locke, 2013). In addition, other actors can play important roles; for instance NGOs can monitor and maintain pressure on the sustainability of a particular activity in a supply chain. While such external watchdogging can be crucial, a critical issue is the durability of NGO monitoring as it is, for various reasons, hard for NGOs to continue to focus on one critical issue over longer periods of time (Dieterich & Auld, In this SV; Glin et al., 2012).

Fifth, it is important to address ***power gaps.*** More or less all contributions to this SV documented the relevance of focusing on power relations among actors in the chains and networks to understand successes and failures regarding sustainable development and responsibility. Power (gaps) are fundamental dimensions in the analyses of sustainable and responsible supply chains and networks and they relate to obstacles, prerequisites and outcomes. However, the issue is not so much a gap between something like a 'core' vs. 'periphery', but they tend to be more complex (see also Miller, 2014). Indeed, findings suggested that achieving power symmetry or more equal distribution of power among chain and network actors is pivotal for developing more responsible and sustainable governance in and of chains. This warrants further elaboration by highlighting arguments and findings from the articles of this SV.

On the one hand, from a buyer's point of view, a power gap is a problem because lack of power means lack of ability to enforce standards and requirements on producers. Power to activate sustainability innovations (Mylan et al., In this SV) or to enforce standards in the supply chains requires engagement and investments of a variety of resources, such as time, personnel, expertise, social networks, and symbolic power. Buyers' perception of being small – vis-à-vis other actors in the supply chain – imply perceptions of inability and not-being-responsible (not committed) to improve social and environmental production issues (e.g. Börjeson et al., In this SV; Helin & Babri, In this SV). In this situation, various governance arrangements in the supply chain, such as third-party certification, can help consumers, buyers and retailers to exercise influence over suppliers and producers. For example, Chkanikova & Lehner (In this SV) showed how absence of sustainability standards is a problem for retailers, because they have no means to select among suppliers or to pressure them to apply standards. Indeed, much of the sustainable supply chain literature assumes that all buyers are like IKEA, Nike or Walmart: large well-organized and powerful multinational firms that can easily enforce requirements upon suppliers. This is clearly not the case. And even in such cases, these buyers do not have total power over suppliers, and sub-suppliers – the issue of enforcement is much more complicated as we discussed above (see also Locke, 2013; Boström, 2014).

On the other hand, looking from the supplier's point of view, the power gap is a problem because lack of power means lack of flexibility and ability to retrieve and make productive use of the sustainability standards, as well as to contribute to shaping the form and content of these standards. Buyers (more than incidentally in the form of established partnerships with recognized international NGOs; Vellema & Wijk, In this SV) may forcefully impose standards on supplying smallholders in developing countries, and these standards often fit the cultural norms in developed countries, which may simply not work in the local production contexts of developing countries (Lockie et al., In this SV; Mol, 2014 and In this SV; Vellema & van Wijk, In this SV), or which may not be applicable for smaller producers (Mol, In this SV; Bush et al., 2013). Moreover, Egels-Zandén et al. (In this SV) showed, in their study of the efforts of jeans company, Nudie, to become the most transparent company in the world, that strong demands directed from buyers to suppliers to disclose sensitive information – including sustainability conditions –, factory audit reports and the names of sub-suppliers, can lead to conflicts and risks, undermining trust relations and collaboration (see also Boström, 2014).

Several articles in this SV documented how the productive power of local producers can be incorporated positively in sustainability trajectories in supply chains. For example, in their study of women's empowerment in the tea and cut-flower value chains, Said-Allsopp and Tallontire (In this SV) maintained that lead firms in developed countries can potentially foster positive changes through raising standards throughout supply chains. However, this 'power over' may potentially counteract the sustainability objectives if purchasing practices of these same lead firms narrow the scope for maneuvering among suppliers. Said-Allsopp and Tallontire argued that women's empowerment is not achieved if standards only address what they call 'outcomes'

such as adherence to minimum wages, working hours or provision of protective equipment, while failing to tackle 'process rights' such as providing space to involve women in new business projects. The latter types of rights include rights to organize and rights for decent and stable employment.

In a similar way, Loconto (In this SV) argued that standards enable distant actors to govern producers' local actions, but this power to act must not only be applied for the benefit of the former, but can also be utilized for a variety of capacity building efforts (investments, smallholder training, etc.). For example, in connection to the Fairtrade case, Loconto's study showed how fair trade standards could be used as a leverage pulling together funds and stakeholders into projects, such as smallholder training, which goes beyond mere compliance with the standard.

Vellema & van Wijk (In this SV) argued, with references to cases of Utz certification of Rooibos tea, and Aquaculture Stewardship Council (ASC) certification of shrimps in Indonesia, that local partnerships are crucial to reduce the global-local gap and frictions associated with this distance. Based on their case studies, they challenge the view of global partnerships (between multinational enterprises and international NGOs) as 'standard-setters' and local producers as 'standard-takers'. Local actors are better understood as partners in a co-creation process, as they can suggest how local guidelines and alternative practices could be incorporated into these global, generic standards, making them more context-specific. Indeed, as they argued, the efficacy of standards is determined by their flexibility to accommodate the problem-solving strategies brought by local stakeholders.

The articles in this SV convincingly demonstrated that power; power gaps and power asymmetries must be a key focus in understanding sustainability and responsibility in and of supply chains. Moreover, they demonstrated that there is neither a one-dimensional view of power nor a core centre of power in the global supply chains. There are no apparent winners and losers in this new field of sustainability governance, as Mol (In this SV) puts it. In other studies of global commodity or value chains, power has, as Oosterveer (In this SV) argued, more or less been equated with ownership of capital (economic power) or control over the state (political power). For example, global value chain studies have narrowed their focus on vertical dimensions of the chains and material and financial flows (e.g. buyers enforcing standards on producers), and neglected non-material/financial flows and horizontal power aspects and dynamics in the networks surrounding the chains. This structural and reductionist view of power neglects the role of noneconomic interests and other actors, such as smallholders, local and global NGOs and scientific experts, in shaping these sustainability initiatives. New forms of power in these initiatives result from steering (programmers) and connecting (switchers) these networks (Oosterveer, In this SV), which include selection processes of inclusion and exclusion, control of information flows and possessing legitimatory capital (high status) (Mol, In this SV).

By focusing on programmers and switchers, Oosterveer (In this SV) highlighted the agency aspect of power with illustrations from cases in palm oil sustainability initiatives. An agency notion of power is also emphasized in the study of tea and cut-flower companies in Kenya (Said-Allsopp & Tallontire, In this SV), which are supplying to retailers in the UK. Said-Allsopp and Tallontire showed pathways of empowerment activated through governance measures (social certifications) in global value chains. Employment for women in these African contexts is important because it gives women a tool to challenge patriarchal gender structures, including at the household level. In their analysis, they used positive notions of power, 'power to' (an agency notion of power), 'power with' (collective power), and 'power within' (personal level), rather than 'power over', which is associated with coercive power. If employment is to facilitate empowerment, it must contribute to an increase in these positive forms of power, while strengthening women's ability to overcome patriarchal gender structures and other people's exercise of negative 'power over' them. Their study showed that supply chain certification tools could facilitate such empowerment.

A final observation regarding power addressed the symbolic power of the sustainability instruments, and their operators, which is growing in the 'sustainability industry'. In the article by Miller and Bush (In this SV), the Dolphin safe standard and its competition with the Marine Stewardship Council (MSC), was analyzed from this perspective. Dominant network actors can use the threat of market exclusion, vested into one particular 'sustainability' standard. The standard itself can appear as a de facto law, a license to operate, despite its defectiveness. The authors argued that the NGO the Earth Island Institute, which runs the Dolphin Safe tuna label, continues to be an eco-labelling authority within the tuna global production network, despite efforts by the competing MSC to enter into this area, and despite no significant efforts to improve their sustainability standards and procedures. Companies using a standard with symbolic power, face the risk of negative publicity and reputational damage if they chose to withdraw from using that standard, because in the eyes of the general public (citizen-consumers) it still has strong value and credibility.

Following the topic discussed in the article by Miller and Bush (In this SV), and in several other articles, we suggest a final gap, which is a ***credibility*** or ***legitimacy gap***. Governance arrangements, such as GlobalG.A.P, Fair Wear Foundation, ASC, MSC or sustainability report as in the case of Asian Pulp and Paper (Lockie et al., In this SV; Egels-Zandén & Lindholm, In this SV; Dietrich and Auld, In this SV; Miller & Bush, In this SV), can continue operating despite little evidence of sustainability improvement and much evidence of flaws. The illusion of improvement (Egels-Zandén & Lindholm, In this SV), low transparency (Mol, In this SV), and a limited watchdogging and public eye on these initiatives prevents continual improvement (Dietrich & Auld, In this SV).

These governance arrangements have been ineffective in closing the geographical, informational, communicative, compliance and power gaps; but rather create new gaps that enable the maintenance of their operation and authority, and block innovation (Miller & Bush, In this SV).

Also previous literature (see the review by Bush et al., In this SV) documented how various standards can favor certain kinds of already powerful stakeholders and be subject of market capture, without their narrow definitions of sustainability reflecting the variety of concerns from different stakeholders, particularly those that were already marginal. Sustaining unsustainable activities under the name of 'sustainability instruments' is a real problem and a (credibility) risk (Blühdorn, 2007). This observation warrants a continuous critical eye from scholars of global supply chains. Are the instruments effective? Do they have any sustainability impacts? For whom and in what respect are they effective and what impact do they have? These are questions that are increasingly posed by scholars and practitioners in the field (see discussion in Bush et al., In this SV).

The opportunities: what have we learned?

Can these arrangements in supply chains and networks contribute to sustainable development beyond what Ulrich Beck labels the 'nation state container'? Is an extended notion of responsibility possible that works beyond organizational boundaries and beyond the national frame and territorial border? There is no easy answer to this. While the various contributions to this SV documented a flowering of transnational sustainability arrangements and instruments in global supply chains, assessing the causal relationships among these sustainability arrangements and outcomes is extremely complicated from a methodological viewpoint, and it might be a blind alley to even try (see Gupta and Mason, 2014). Yet, the sustainability governance arrangements are forced to provide evidence that their instruments matter in the face of a broad variety of critical stakeholders (Tamm Hallström & Boström, 2010). Therefore, it might be better to ask: What can supply chain governance arrangements *potentially do* and through what means can they do what they can potentially do?

The contributions in this SV generated a few suggestions. Indications and evidence of improvements have been reported in a number of the articles. A common denominator among the articles in which improvements were reported is the fact that *many actors were involved* in networks and in hybrid constellations. Although the challenges in organizing multi-actor and multi-scalar work are many and well documented (see e.g. the review by Bush et al., In this SV), a road towards less inclusiveness is arguably the wrong track in obtaining sustainability. Included actors need to be of different kinds, with different interests and concerns (economic, social, environmental), of different types (state, private, non-governmental associations), with different geographical belonging (local, distant), and operating on different scales (local, transnational). This plurality of constituencies is a necessity for on-the-ground improvements, and this was captured in the articles through different concepts such as 'agencement' (Loconto In this SV), 'local-global partnerships' (Vellema & van Wijk, In this SV), 'programmers' and 'switchers' (Oosterveer, In this SV); and, indeed, 'networks'. Coping with distances (gaps) for the benefit of sustainability is necessarily a multi-actor organizational/network challenge and responsibility.

There was also a general recognition that generic ('global') standards alone cannot achieve meaningful results, but that *sensitivity, familiarity, and recognition of context* must always be present. The networked, multi-actor and multi-scalar approaches need to confront the lost 'proximity' that has been created by economic globalization, and invent new types of 'distant proximities' (Rosenau, 2003; Tysiachniouk, 2013). The challenge is to include proximity and stakeholders representing local contexts in global governance arrangements without simply introducing new regulatory loopholes. How can differentiation come along with global harmonization of standards?

On the basis of the findings from the articles in this SV regarding compliance gaps (see also Locke, 2013; Boström, 2014), and from indications for positive results from active involvement of stakeholders in the production sites (e.g. Loconto, In this SV; Said-Allsopp & Tallontire, In this SV; Vellema & van Wijk, In this SV), we concluded that monitoring and enforcement mechanisms need to be supplemented with education and other programs among suppliers to build capacity for compliance. Furthermore, there has to be integration of 'reflexive' learning to improve governance arrangements over time (Börjeson et al., In this SV; Mol, In this SV). Reflexive learning goes beyond 'single loop learning' (routine based problem-solving) and involves deeper considerations about how existing practices, norms, discourses, policies, and interactions reproduce the same problems over and over again (see Voss et al., 2006). Again, reflexive learning is facilitated when different actors engage in dialogue and cross-fertilize their expertise, experiences and framings. Observed improvements of particular governance arrangements over time (see for example Dietrich and Auld, In this SV; Mylan et al., In this SV; Vellema & van Wijk, In this SV), would not have taken place without such reflexive learning.

In this context, 'responsibility' cannot be interpreted as merely looking outside one's own national and organizational boundary, formulating norms and standards the content of which reflects only the conventional norms and virtues of one particular place/region, and then imposing them on others, with corrective action when non-compliance has been detected. The evidence of failures following from this vertical and one-sided sustainability and responsibility strategy are convincing. Scholars have argued that responsibility must be seen as intensified communication among all stakeholders along and surrounding supply chains (e.g. De Bakker & Nijhof, 2002). Responsibility, seen in this way is commitment to dialogue, responsiveness and learning. Responsibility, seen as responsiveness, is a 'receptive attitude to external inputs to help in deciding what to do'. (Pellizzoni 2004: 557).

Such responsibility-taking also requires commitment to counter-act power gaps, and to build capability of various kinds (De Bakker & Nijhof, 2002), not just for enhancing one's own capabilities (power over) to enforce standards upon others, but for enhancing capabilities of all actors along the entire chain (see Said-Allsopp & Tallontire, In this SV; Mol, In this SV). At issue is the development of collaborative, long-term approaches in which 'roadmaps' (Mylan et al., In this SV), know-how (Börjeson et al., In this SV), and risks and benefits are shared among all supply chain players. Thus, capability-building cannot be achieved through one-shot training

sessions, but is a long-term, reflexive and committed learning exercise (Locke, 2013; Boström, 2014).

Conclusions

A broader social science view on supply chains is necessary if we are to understand how unsustainable practices (continue to) prevail and how more sustainable ones could be facilitated. Yet, we are only beginning to understand the enormous governance challenges involved in facing state and non-state actors, networks, organizations and individuals to – in a constructive and responsible manner – handle the economic, social and ecological complexities associated with global supply chains. In this article and in this SV, we deliberately sought to avoid developing a general theoretical framework for the study of governance, responsibility and sustainability along supply chains and networks. Rather, we highlighted a plurality of approaches and concepts that deal, in various ways, with the question: What are the conditions, barriers and opportunities for sustainable and responsible governance in, of and through supply chains and networks?

The articles in this SV include empirical examples of global supply chains of tea, palm oil, cut-flowers, clothes and other textiles, forest products, and a variety of food articles. The chains cross multiple borders – organizational, territorial, temporal and cultural – and provide evidence of a multiplicity of governance arrangements: standards, certification, transparency, auditing, procurement policy, innovation, eco-branding, and sustainability commitment. The authors asked and answered several key questions. What are the information, knowledge, and communication challenges for developing responsibility and sustainability in supply chains and networks? How can tools such as certification and social/environmental labels empower actors, both on the site of production and procurement/consumption? What is the relation between private standards and state-based regulatory regimes? How do power dynamics among various public and private actors in supply chain/networks affect the operation of the schemes?

Our view of responsibility developed in the previous section means acknowledgement that there are no one-size-fits-all methods to achieve sustainability in supply chains. Rather, sustainable and responsible governance in, of and through supply chains needs to acknowledge that there are a number of pieces in a rather complex puzzle. The contributions to this SV highlight some of the most crucial pieces in this puzzle: dialogue, commitment, capability development, public eyes, multi-actor arrangements, more equal distribution of power, context-sensitivity, process rights in addition to outcomes, and reflexivity. Here lies the research agenda for future studies on sustainable and responsible supply chains.

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