Chapter 1
Introduction

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1 Thematic Context

While accelerated economic globalization may have generated additional employment and income worldwide, it has also been one of the drivers of unsustainable production and consumption patterns across the globe. Every day, conditions of production somewhere in the world infringe on human health and wellbeing, often far away from the place where the goods and services are eventually purchased by the end consumer. Likewise, current production and consumption models exceed planetary limitations to human activity in many ways, causing irreversible damage to the environment and earth system. These impacts of economic activity are, in principle, recognized today and manifest as key sustainability concerns.

The objective of sustainability is being pursued through multiple routes at many different levels by a variety of actors. The focus of this edited volume is on sustainability standards (and sustainability regulations) as an important vehicle to make global consumption and production more sustainable. The different contributions also shed light on the link between sustainability standards and global governance. The scope of global governance has been thus described by the Commission on Global Governance:

> Governance is the sum of the many ways individuals and institutions, public and private, manage their common affairs. It is a continuing process through which conflicting or diverse interests may be accommodated and co-operative action may be taken. It includes formal

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> institutions and regimes empowered to enforce compliance, as well as informal arrangements that people and institutions either have agreed to or perceive to be in their interest. […] At the global level, governance has been viewed primarily as intergovernmental relationships, but it must now be understood as also involving non-governmental organizations (NGOs), citizens' movements, multinational corporations, and the global capital market. (Commission on Global Governance, 1995, p. 2)

Sustainability standards and regulations, in general, are meant to achieve a spectrum of societal objectives by attaching certain criteria to commodities and their production. In theory, they aspire to achieve the social, cultural and environmental values that consumers wish to see promoted in society. Given the growing quantum of commodities crossing international borders, standards, when attached to international trade, can be an extremely effective means of promoting a certain set of values. Estimates from the UN Conference on Trade and Development (UNCTAD) show that standards and regulations have an impact on approximately 80 percent of the world's trade in commodities.

The increasing use of sustainability standards in production and trade, and across global value chains, has opened up several lines of questioning and contestation—How are standards to be defined? Who defines standards (or whose interests are reflected in standards)? How are standards to be differentiated from regulations? What could be the advantages and limitations of purely voluntary approaches? How do standards deal with the problem of competition, given the multiplicity of standards that apply simultaneously to products? How do private and public standards co-exist (collaboration or competition?) with each other in the same space? What are the differential implications of standards—(1) for the developing countries with less wherewithal to meet the financial implications flowing from the use of standards vis-a-vis the industrialized countries, who are often the sources of these standards; and (2) for big firms with absorptive capacity for additional costs and small and medium-sized enterprises (SMEs), especially in developing countries and emerging economies, who suffer from both capacity and information asymmetries? Thus, both the setting and the implementation of standards are fraught with inherent complexities.

Standards are met with a level of acceptability when they are set and implemented in a domestic setting but tend to become problematic when they operate in a cross-border context. Further, standards may be intentionally designed for protectionist purposes—in order to provide domestic producers with an advantage vis-a-vis foreign ones—thereby impeding international trade. Alternatively, they may act as de facto barriers to trade, even if they are not designed with that intention, when producers are differentially equipped to meet standards. The challenge, then, in using standards in international trade lies in achieving a balance that allows for their use for genuine sustainability reasons—environmental protection or prevention of unethical business practices across global value chains—while not allowing them to turn into instruments of protectionism.

The starting point of any enquiry is definitional; it is therefore pertinent to ask: what are "sustainability standards" and "sustainability regulations"? Given the plethora of sometimes contradicting definitions and categorisations of standards, it is not an easy task to harmonize them to a common understanding but an interlinking is possible in order to provide a common reference point. At a general level, sustainability standards have been defined as "set[s] of criteria defining good social and environmental practices in an industry of product" (ISEAL, 2015). By extension, this definition can also be applied to sustainability regulations, as the legal nature of the criteria is not specified. While it is narrow enough to distinguish sustainability standards and regulations from other types of standards and regulation, it is broad enough to cover different categories within the field of sustainability standards and regulations.[1]

The term "international standard" is also commonly referred to in research and policy. Swann makes a distinction between the "purist" understanding of the word "international" and its more limited application. In the former, a standard is considered "international" only if it conforms to a standard published by an international organization such as the International Organization for Standardization (ISO) or the International Telecommunication Union (ITU), whereas in the more limited understanding, a standard will qualify as being "international" if it is commonly used by a group of countries or within a region (Swann, 2010, p. 6). As far as defining "standards" is concerned, the main distinction that is usually stressed upon is that "standards" entail voluntary compliance, whereas "regulations" impose mandatory compliance. However, it is an established fact that it is not always easy to distinguish between the actual economic effects of both (Swann, 2010, p. 6).

Sustainability standards and regulations can be distinguished from other standards and regulations on the basis of their content, i.e. their focus on social, environmental and other sustainability challenges emanating from business activity. The 17 Sustainable Development Goals (SDGs) make clear that "sustainability" or "sustainable development" is an extremely broad concept interacting with almost all aspects of life in all countries in the world. This does not mean, however, that every example of regulation or standard setting in the world economy qualifies as sustainability related. A performance standard, for instance, may only qualify as a sustainability standard if it aims at reducing environmentally and socially harmful impacts of technical products once they are in use, e.g. energy consumption of cars and electric devices. A quality standard simply defining the size of a screw is clearly *not* a sustainability standard. However, other *quality* (and as a sub-category: *safety*) standards considerably overlap with sustainability standards if, for instance, they set limits to pesticide and other chemical residues in (food) products, thereby protecting human and environmental health both at the consumption and at the production stage. In fact, sustainability standards and regulations typically address wider environmental, social and other sustainability issues at the production stage that may or may not affect the nature of a final product: local pollution, CO_2 emissions in production, harvesting practices, social rights of workers, wages, community rights, and even financial transparency and good corporate governance.

[1]Some of the conceptual parts of this chapter are taken from an earlier, internal concept note for the project.

In trying to identify different categories within the field of sustainability standards and regulations, four generic forms of sustainability standards are recognizable on the basis of their *institutional origin* and *legal nature*, following Henson and Humphrey (2009, p. 5). They differentiate between (1) *public, mandatory* sustainability standards (= regulations) set by national governments or government agencies that impose legally binding requirements for general market access and (2) *private, voluntary* sustainability standards (VSS) set up by private multi-stakeholder initiatives with often global memberships to open up high-value market segments and respond to sustainability concerns. Some private voluntary sustainability standards are also set up by large individual companies, e.g. TESCO Nurture (Henson & Humphrey, 2009, p. 6). These standards may be treated as a distinct sub-category, termed company-specific voluntary sustainability standards. About two-thirds of private standards use a logo, whereas one-third rely on business-to-business implementation without a consumer-facing label (Potts et al., 2014, p. 37).

Two more categories need to be added: governments may also promulgate public voluntary sustainability standards, and private voluntary standards can become legally mandated if referred to in binding regulations (Henson & Humphrey, 2009, p. 5). This blurs the line between *public* and *private*; all the more so as some public sustainability regulations have their origins in private standards (Smith, 2009, p. 13). For instance, the Forest Stewardship Council's (FSC) instruments for zoning high conservation values areas have been fully incorporated into public regulation by China, Bolivia and others (Djama, 2011, p. 4). Similarly, the distinction between *voluntary* and *mandatory* is not always as clear as it seems, considering that voluntary sustainability standards can become "de facto mandatory in a commercial sense" if dominant companies require their suppliers to comply with them (Henson & Humphrey, 2009, p. 5; Smith, 2009, p. 17) and/or because of consumers' preferences. The effectiveness of a standard that is not legally mandatory, but de facto mandatory due to market dynamics, is certainly limited in a number of ways, for instance when it comes to legal enforceability, remediation and compensation for harm caused by non-compliance. The toughest sanction that voluntary schemes can take against an individual member is usually just exclusion from the scheme, which does not entail any immediate remediation for victims of a company's non-compliant behaviour, nor is there a possibility without appropriate legislation to hold lead firms or the scheme itself accountable for a lack of due diligence or audit failure.

The examples of the EU Timber Regulation and EU Organic Farming in Table 1 illustrate the conceptual difference between mandatory public/governmental regulations (EU in this case may be considered a supranational government) and voluntary sustainability standards, be they private or public. The Timber Regulation prescribes that all timber entering the EU market must comply with certain criteria, e.g. it must not have been illegally logged. Non-compliance may be sanctioned by EU criminal or administrative courts. EU Organic Farming, in contrast, is a public voluntary sustainability standard; any domestic or imported product that carries the description "organic" and/or the official EU organic logo is required to comply with it. However, compliance is not mandatory for all products on the market as products below this

Table 1 Different forms of sustainability standards and regulations

	Public	Private
Mandatory	Sustainability regulations *Example: EU Timber Regulation (EU 995/2010)*	Legally mandated private sustainability standards *Example: Reference to ISO 9000 in EU Directives on CE marking*
Voluntary	Public voluntary sustainability standards *Example: EU Organic Farming (EC 834/2007 and 889/2008)*	Private voluntary sustainability standards *Examples: Fairtrade, FSC, UTZ, GlobalGAP*

Source Henson and Humphrey (2009, p. 5), complemented by Blankenbach

standard may still be sold as regular non-organic products as long as they comply with basic EU food quality and safety regulations.

Apart from variations in their *institutional origin* and *legal nature*, standards and regulations as presented in Table 1 may also differ in terms of their *geographic reach* as well as in the *ambition of their formal criteria*. Thus, the distinctions to be noted are apparently not limited to those *between* the different categories of standards and regulations, but also occur *within* these categories.

From the perspective of *geographic reach*, some advanced sustainability regulations (e.g. by the EU on timber or biofuels, 2009/28/EC) take into account production and harvesting practices abroad, while others tend to focus on domestic protections. For instance, many richer industrialized and emerging economies may have adopted strict environmental and labour regulations for domestic production. These provisions, however, do not directly apply to production abroad, e.g. in poor countries where weaker sustainability regulations might be in place. Similarly, some public regulations may focus on protecting the "domestic environment and public health in the importing country against the harmful effects of consumption or disposal of […] imported products" (Khatun, 2009, p. 8). A growing number of regulatory innovations extend this scope; for instance those striving to legally mandate corporate human rights due diligence across global value chains, which is the key operational principle of the UN Guiding Principles on Business and Human Rights (OHCHR, 2011).[2] The French Duty of Vigilance Law is a pioneering example where respect for human rights and the environment is legally mandated into transnational corporate activities (ECCJ, 2017, p. 1), in this case those of large French companies. Debates and initiatives on mandatory due diligence are currently underway in several other countries, mostly European, as well as at the regional (EU) and global (UN) levels. Voluntary sustainability standards schemes, in theory, also strive to generate sustainability benefits transnationally, especially in the global south, but their voluntary nature means that none of this is legally enforceable.

Apart from geographic reach, standards and regulations vary on the basis of *ambition*. First of all, it is notable that from a governance perspective, it is per se much

[2] See the Business and Human Rights Resource Centre's web portal and blog series on "Mandatory Due Diligence" at https://www.business-humanrights.org/en/mandatory-due-diligence.

more ambitious to introduce binding public regulation than to rely on corporate self-regulation through voluntary standards. In terms of the formal content of standards and regulations, the criteria that voluntary standards set may in some contexts be stricter than those of local regulations. In this volume, for instance, Brandi contends that the requirements of the Indonesia Sustainable Palm Oil (ISPO) regulation (a public mandatory certification scheme) are less demanding and comprehensive than those of the voluntary Roundtable for Sustainable Palm Oil (RSPO) standard, especially when it comes to environmental criteria. There are other contexts and sustainability dimensions, however, where "broad [voluntary] standards [...] rarely go further than local labour law" (Åhlberg, 2019), e.g. when they refer to (often very low) local minimum wages rather than requiring living wages. The question then is whether such voluntary initiatives at least provide for stronger internal assurance and implementation mechanisms, especially when compared to poorly enforced public regulations in countries with weak governance.

Having discussed definitions and classifications of standards and regulations, a preliminary look at institutional and normative frameworks for sustainability standards and regulations is in order for identifying their global governance linkages. Sustainability standards, even if many of them are private, do not emerge and operate in isolation from broader institutional and normative frameworks of global governance. In fact, there is ample evidence of interactions and overlaps. International treaties such as International Labour Organization (ILO) labour conventions and technical codes developed by international organizations such as the World Health Organization (WHO) Codex Alimentarius for food safety provide an important reference frame for sustainability standards and regulations. Sustainability regulations in general implement national sustainability laws, which may in turn result from the ratification of an international treaty (Altmann, 1994, p. 176). Similarly, private sustainability standards often refer to international norms. The formal standards of the Marine Stewardship Council (MSC), for instance, mainly build on those of the Food and Agriculture Organization (FAO) Code of Conduct for Responsible Fisheries (Santacoloma, 2014, p. 20).

The World Trade Organization (WTO) provides an additional institutional and legal framework to regulate the use and content of sustainability standards. Under WTO rules, member states "can adopt trade-related measures aimed at protecting the environment" (WTO, 2015) if these laws and regulations are "not applied arbitrarily and are not used as disguised protectionism" (ibid.). The WTO sets out a number of legitimate reasons for the use of sustainability-related trade barriers. It recommends that member states adopt internationally agreed sustainability standards—such as those originating from the Codex Alimentarius, the World Organization for Animal Health (OIE) and the International Plant Protection Convention (IPPC). If standards more stringent than the internationally laid-down ones are to be adopted, those are permitted as well, provided a scientific justification can be established for their use. These provisions, however, only apply to standards established or endorsed by public institutions, i.e. to public regulations and private standards legally mandated by public regulation. Purely private sustainability standards, in contrast, may "fall outside of this regime" (Henson 2008, p.76) as only states are subject to the WTO regime.

Therefore, the problem of the additional burden that private sustainability standards that are passed down supply chains "impose on small and medium producers and exporters in developing countries [...] have not yet been satisfactorily solved" (Santacoloma, 2014, p. 19). While the need for the WTO to address private standards has been highlighted, both inside and outside the WTO, they currently remain excluded from the regime.

It is important to note that general public and corporate policies do not fall into the definition of sustainability standards and regulations as established at the beginning but still interact with this field. For instance, Corporate Social Responsibility (CSR) strategies and reports of private companies will in most cases include a commitment to obey mandatory laws and regulations and refer to the type of voluntary sustainability standards the company uses.

Any study of sustainability standards therefore entails an engagement with the complex interface between the voluntary and the mandatory, the local and the global levels, the private and the public domains, the industrialized and the developing countries, states, intergovernmental and non-governmental processes, large and small enterprises, and producers and consumers—and the dynamic processes created by their interaction and overlap. Recent studies point to "...a policy ecosystem dominated by a proliferation of standards that complement, substitute, or compete against each other, with coordination mechanisms beginning to arise" (Lambin & Thorlakson, 2018, p. 369). The complex nature of the interactions between the multiple and varied actors need not always be antagonistic and can sometimes be complementary.

2 About the Book

The discussion above has made clear the significance of identifying "sustainability standards" as a theme of research. Further, "emerging economies" were chosen as the focus of the study as they represent countries that are increasingly engaged in international trade, yet continue to face challenges in implementing standards. This becomes a hindrance in their efforts to compete internationally at the level of industrialized countries as also in the attempt to provide effective protection to people and the environment through the use of standards. It was expected, therefore, that empirical inputs from this set of countries would yield rich learnings. The book is simply structured, with discussion divided into two main parts. It starts by broadly looking at global governance frameworks for sustainability standards and then moves to empirical studies of sustainability standards at work in specific sectoral and country contexts.

Part I, which focuses on global governance frameworks, begins with a discussion of sustainability standards in the context of the 2030 Agenda for Sustainable Development and the Sustainable Development Goals (SDGs), which were adopted by the United Nations (UN) at the summit meeting of 2015. **Blankenbach** examines the supposed interlinkages and interfaces between voluntary sustainability standards

(VSS) and the SDGs. He points out that while it is not for the first time that VSS have been a part of sustainable development agendas, it is the SDG framework that, in the most prominent way, helps shine a light on the said instrumental value of VSS in meeting sustainability objectives. This chapter explores to what extent VSS can or cannot play a role in taking forward the agenda of the SDGs. Using the International Trade Centre's (ITC) Standards Map, the chapter assesses whether specific formal VSS requirements align with one or more SDGs. **Blankenbach** finds that, in theory, a considerable number of VSS criteria correspond with the 17 SDGs but he also cautions that most assessments of the on-the-ground sustainable development impacts of such schemes have so far come to tentative or inconclusive results. He notes with concern the growing evidence of the failure of social auditing—a procedure also used to certify and verify standards compliance—in uncovering or mitigating human and labour rights abuses in companies' global value chains. Given the mutually reinforcing relationship between the SDGs and human rights, the pitfalls of certification and verification audits and lack of accountability may compromise any transformative potential of VSS, the author contends. This paper is thus a call for fundamental reform of VSS schemes, especially of their assurance and worker engagement arrangements and culture, as well as for more sustainability regulation—including mandatory human rights and environmental due diligence—for companies across their operations and global value chains.

Another significant locus of global governance where sustainability standards play out is the World Trade Organization (WTO). **Negi** provides an overview assessment of sustainability standards within the framework of the WTO. Her paper is methodologically a legal study that focuses on the rules and judicial interpretations that have emanated from the WTO in relation to standards and regulations. WTO rules have long recognized the conditional need for the use of standards and regulations by member states. Two WTO agreements—the *Agreement on Technical Barriers to Trade* and the *Agreement on the Application of Sanitary and Phytosanitary Measures*—recognize the right of member states to use standards and regulations to meet their legitimate objectives, provided trade is not restricted in a disguised fashion. The interpretations that have emerged in relation to standards and regulations from the WTO dispute settlement system have sometimes helped clarify the legal positions while at other times, have led to further confusion. Some select disputes relating to the use of standards are discussed in this chapter. Private sustainability standards are not currently dealt with at the WTO, and despite the argument having been made in favour of the WTO taking up private standards within its purview, the organization is reluctant to do so in the face of divergences between its industrialized and developing member states on this issue. The chapter also discusses the special concerns of the developing countries in relation to standards. **Negi** points to the fact that the WTO has grown organically since its inception to include newer issue areas; given the proliferation of private standards (many of which actually play out as mandatory requirements in a commercial sense), it remains to be seen whether the WTO will take on the additional responsibility of regulating private standards as well.

In the context of trade, given the sclerosis of the WTO's Doha Round and the troubles of the organization itself, there has been an increasing resort to preferential trade agreements (PTAs) to negotiate trade rules. Taking forward the trade-related focus initiated in the previous chapter, the chapter by **Berger, Blümer, Brandi** and **Chi** provides a detailed survey of environmental provisions in preferential trade agreements (PTAs) in emerging markets. In pursuing the SDGs, the authors point out, economic activity needs to be transformed to make it "consistent with environmental sustainability" and for this, an appropriate regulatory framework is required for the global economy. Because of the "proliferation" and "deepening" of PTAs, they are identified as potential loci for promoting sustainability goals through the global economy by integrating the use of both regulations and voluntary standards through PTAs. The authors point out that "…strong environmental provisions in PTAs may provide a context that is conducive to the effective implementation and use of standards and regulation that seek to address sustainability challenges" **(p. 61).** In this chapter, the authors assess environmental provisions in emerging market PTAs to test the assumption that emerging markets (as compared to the industrialized world) are less interested in linking environmental and labour standards to trade policies. The analysis conducted in this chapter is based on an original dataset that maps environmental provisions in emerging market PTAs. The authors focus attention on five specific case studies—China, India, Indonesia, Brazil and Mexico—and develop a dataset mapping environmental provisions in PTAs, comprising nine dimensions. All full free trade agreements (FTAs) and customs unions established by emerging markets are discussed. The central finding of this chapter is that "…the PTAs of emerging markets incorporate more and more environmental provisions over time and that they tend to include more environmental content when they have negotiated and signed with OECD countries, which in turn suggests that OECD countries can still be considered as rule-makers and emerging markets still largely as rule-takers in the context under consideration" **(p. 62)**. This chapter, by focusing on PTAs, showcases the interesting regional variations that exist in the context of their sustainability ambitions.

Moving from the intergovernmental spaces, the chapter by **Pérez-Pineda** focuses on the private sector and its engagement with sustainability standards and regulations, using Corporate Social Responsibility (CSR) a link. **Pérez-Pineda** begins by revisiting the historical context of the 1980s and 1990s, capturing the changing landscape of globalization, liberalization, free trade, etc., leading eventually to the launch of the "Global Compact" by the United Nations (UN) in 2000. The chapter reviews the role of the private sector in the realm of sustainability standards, looking at context, conceptual approaches and implications. Private firms and transnational corporations (TNCs) are understood as potentially having a positive as well as negative impact on society and there has consistently been an effort—"through guides, codes of conduct and multilateral agreements" **(p. 85)**—to try and regulate their activities in order to minimize adverse impact. The UN's Global Compact represents one of the most relevant initiatives in aligning the activities of the private sector with sustainability objectives. With the growing power and reach of the private sector (which is demonstrated by the author), the demand for accountability of their activities has also grown. CSR has developed as a concept bridging this growing power with the increasing awareness of the effects of the private sector. **Pérez-Pineda** looks at a range of different forms in which standards—public and private, global and local, market-based and non-market-based—can manifest. He uses the example of Mexico, identifying three key institutions that are relevant to standards, to show how a convergence can be brought about to contribute to the 2030 goals. He concludes that given the significance of the private sector in the current times, there is a need to ensure that its activities are aligned with sustainability goals, and he argues that CSR could provide the framework for such an alignment.

A related theme is taken up by **Santos, Sena** and **Freitas** in their paper on "sustainability reporting" (SR), which argues that companies are increasingly under pressure to be more socially and environmentally responsible. CSR has emerged as a new business paradigm and "sustainability reporting" has become an important instrument of transparency and accountability. The question being asked in this chapter is whether the tool is being used to full potential? SR is a voluntary process but there is a growing tendency to make it mandatory. The authors focus on the Group of Friends of Paragraph 47 (GoF47)—a voluntary group of national governments supported by the United Nations Environment Programme/UN Environment (UNEP) and the Global Reporting Initiative (GRI) that subscribe to the idea of SR. The chapter points to the link of GoF47 with Goal 12.6 of the SDGs ("*Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle*"). The authors argue that SR "…has a high potential to promote good governance schemes as well as social and environmental standards…" **(p. 104)** and make suggestions on how to improve it. A major shortcoming identified in the SR process is that there is little evidence of stakeholders—governments and civil society—using SR to its full potential. Weak stakeholder participation is thus identified as the missing link between SR practices and social and environmental improvements and the chapter recommends "stakeholder involvement" in order to make SR a strong instrument of good governance.

In the last chapter of this section, **Bandyopadhyay** discusses the impact of global labour standards on export performance. Contextualizing her study in the debates around "comparative advantage", "race to the bottom" and "disguised protectionism", the author empirically investigates the effects of labour standards on the export performance of a country. The chapter tests the popular view that low-standards countries enjoy a better export performance, using a robust empirical analysis of World Bank datasets. For labour standards, the author looks at whether countries have ratified the core ILO conventions, collecting data from the ILOLEX dataset. The chapter finds, contrary to traditional wisdom, that no definite relationship can be discerned between labour rights and export performance. However, "if a richer country ratifies more labour conventions its effects on exports will be less positive than what will occur if a comparatively poorer country ratifies the conventions" **(p. 124)**. Further, the author argues that in some cases, some proxies of labour standards have a positive impact on export performance, signifying that "…countries do have an incentive to strengthen their labour conditions to improve export performance, especially if it is a poorer country" **(p. 127)**. Undoubtedly, the presence of emerging economies in the global value chains is rising, both via the supply side and the demand side participation as well as via the participation of civil society; thus their participation in global standard setting needs to be studied carefully.

A wide canvas is thus covered in the first section relating to governance frameworks, touching upon important players such as the UN, the WTO, regional trade frameworks, the private sector, GoF47 and the ILO. These studies collectively provide the backdrop for the case study based research focusing on “emerging economies” that is contained in the subsequent section. The country context includes experiences ranging from Indonesia, Thailand, India, China, Mexico and Brazil while the sectoral context spans the palm oil sector, forestry, farming, vehicular emissions, tourism, and fruit and vegetables.

Part II opens with two chapters focused on Indonesia. Interestingly, both chapters delve into the theme of the interactive dynamics between private and public standards. The first chapter, by **Brandi**, describes the “…changing landscape of voluntary sustainability standards in Indonesia…” **(p. 133)** and discusses the challenges of making global value chains more sustainable. The chapter focuses on standards in the palm oil sector, including the Roundtable on Sustainable Palm Oil (RSPO), which is a private standards scheme, and the recently introduced Indonesian Sustainable Palm Oil (ISPO) initiative, which is a mandatory government-led certification scheme. The author points out that “[t]he interaction between private and public authorities in the governance of environmental and social challenges is still an understudied field of global governance” **(p. 134)**. The chapter highlights the importance of including smallholders into certification schemes, while recognizing that this is challenging. Field research for this chapter included interviews with smallholder certification projects in Indonesia. An interesting point that this chapter raises is the potential trade-offs between the environmental and social dimensions of sustainable (inclusive) development. The chapter also suggests some ways in which such trade-offs can be managed. The findings of this study can easily relate to other sectoral examples as well.

The second case study from Indonesia is by **Kartika**, **Hariyadi** and **Cerdikwan**. This chapter focuses on the forestry sector and the practice of sustainable forest management (SFM) in the country. Two internationally recognized certifications that are available to a forest concession holder in Indonesia—the Forest Stewardship Council (FSC) and the Programme for the Endorsement of Forest Certification (PEFC)—are studied. The chapter points out that generally, these VSS complement public standards and regulation, but it also notes that multiple standards are challenging for producers due to increased compliance costs. The research is based on interviews conducted with forestry research and certification institutions in Indonesia. A variety of government regulations are assessed in order to determine whether PEFC fills the gap in what was lacking. The findings of the chapter are that PEFC seems to substitute and is preferred to FSC; they both complement government regulations, while requiring higher standards. The PEFC standard will potentially enjoy higher acceptability because its requirements are not as stringent as the FSC. The twin challenges faced by PEFC, however, are that it does not enjoy high domestic stakeholder support and it has low legitimacy as a non-state scheme.

The chapter by **Holzapfel** and **Hampel-Milagrosa** traces a "transformation of the agricultural sector in the developing countries" **(p. 163)** and points out how meeting the market requirements in high-value supply chains, has become more challenging for the developing countries. They pick as a case study a well-known private standard for good agricultural practices—GlobalGAP—that focuses on food safety but also covers aspects of environmental protection. The authors make a point similar to the one made by **Brandi—**that smallholders are particularly disadvantaged in meeting the requirements of standards. The chapter takes the example of smallholders in the fruit and vegetable value chain in Thailand and India and bases its findings on both secondary data and field work. The authors conclude from their study that mostly smallholders do not have to face GlobalGAP requirements as they serve domestic or lower value export markets and even when they do, "…it is the wealthier and more educated small-scale farmers who adopt and benefit from the GlobalGAP standard…" **(p. 180)**. During the course of their research, the authors found co-existing public and private GAP standards in both countries (APEDA's IndiaGAP and QCI's IndGAP in case of India); since the governments enjoy low credibility as a monitor of compliance, the private entities tend to introduce their own standards. The chapter points out that "[p]arallel standards, as found both in Thailand and India, lead to high transaction costs and confusion among producers, exporters and consumers" **(p. 181)** and underscores the need for harmonization. The authors also suggest institutional arrangements allowing for more smallholders to adopt local GAP standards.

Another comparative study that is carried out by **Mendoza** and **Jiahan** is between China and Mexico in the context of vehicular emissions. The comparison flows from three justifications. The transport sectors of both countries are significant contributors to overall greenhouse gas (GHG) emissions in their respective countries. Both countries rank among the ten largest automobile producers and are thus leading automobile exporters. They have to fulfil their individual commitments in combating climate change as they have committed to climate mitigation and adaptation targets under the United Nations Framework Convention on Climate Change (UNFCCC) mandate. Aside from these similarities, the standard setting and implementation process in China and Mexico has been quite different. The main dissimilarity is the adoption of different reference standards: while China has been working under the EU's regulatory framework, Mexico has set a partial homologation with the US EPA regulation. Vehicular emissions efficiency standards, the authors claim, are targeted at reaping not merely local advantages but also global advantages in the form of GHG emissions reduction. The authors show—through their case studies of China and Mexico—that "global" (EURO VI/US EPA 2010) standards cannot automatically be transposed to the emerging economies as they do not always fit the national contexts and the sectoral specificities. Rather than being treated as "one-size-fits-all" solutions, the "global" standards should serve as a reference point on which national agendas can be superimposed. **Mendoza** and **Jiahan** make the argument that vehicle efficiency standards in emerging economies should be aligned with national sustainability goals.

Moving to Brazil, the focus of study shifts to the tourism sector, in particular the use of "grey water" in this sector. The chapter by **Coelho**, **Domingues**, **Mousinho** and **Saretta** highlights the special role that tourism plays in impacting natural resource use, "responsible for a great amount of aggressive use of resources such as water…" **(p. 201)**. This chapter seeks to assess to what extent standards and regulations apply to the use of water in the hotel industry, comparing the tourist areas in two major cities—Rio de Janeiro and Berlin. The study reveals that the actions undertaken by the hotels analyzed were more to do with self-compliance rather than external pressure. Also, in most cases, they were not based on the demands of particular standards but related to the image-building of the hotel vis-à-vis its clients. The quantitative results from the study show that recycling systems are relevant for volume savings; however, most of the analyzed standards are not oriented properly to sustainability. This is a gap that could be turned into an opportunity by the different stakeholders involved (public and private). The authors propose the creation of a common regulatory framework with public and private intervention that can create benefits for both. The chapter makes a case for a strong focus on the impact of tourism on the use of water and possible standards to be developed in this area. The UN World Tourism Organization (UNWTO), it is suggested, could play a more proactive role in this. Linking with the SDGs could have a positive benefit in addressing specific issues areas like the one focused upon in this chapter.

As the summaries of the chapters above reveal, the issue of "sustainability standards" has been accorded a wide interpretation. Taking advantage of the confusion in discourse over the definitional limits, no strict definitional scope was retained for the contributions in this book. Depending on a more intuitive understanding of "sustainability standards" was a deliberate decision taken in order to gain from an expanded canvas of discussion. Thus, many of the chapters included move freely between "standards" and "regulations" and typologies of "sustainability standards" are not strictly uniform.

What is noteworthy is how studies located in different parts of the world have come up with common concerns and questions in relation to sustainability standards. A key finding that repeatedly finds mention, for instance, is that voluntary standards are clearly not sufficient to meet sustainability concerns and need to be complemented with enforceable, mandatory regulations. The fact that the dynamic interface between public and private standards, and the role of lead firms, need to be better understood in order to minimize the burden on less powerful producers emerges more than once. The special focus on smallholders is of utmost importance as there are differential impacts of standards implementation on different sizes of enterprise. Capacity limitations—in setting as well as meeting international standards—in emerging economies (let alone in other developing countries), emerges as a central theme in most chapters. Thus, many common findings have emerged during the writing and collation of this book, written from a cross-country, trans-disciplinary perspective. Multiple pathways of enquiry remain that need to be pursued in order to achieve the twin goals of attaining the sustainability objectives embodied in the SDGs through the optimal use of sustainability standards while, at the same time, watching out for the pitfalls and taking cognizance of the particular concerns of the "emerging economies".

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