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How Regulation and Standards Can Support Social and Environmental Dynamics in Global Value Chains

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International Centre for Trade
and Sustainable Development

Issue Paper

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LIST OF ABBREVIATIONS

CSO	civil society organisation
CSR	corporate social responsibility
CTE	Committee on Trade and the Environment
EICC	Electronic Industry Code of Conduct
EPA	Economic Partnership Agreement
ETI	Ethical Trading Initiative
EU	European Union
FSC	Forest Stewardship Council
GATS	General Agreement on Trade in Services
GFTN	Global Forest and Trade Network
GVC	global value chain
HACCP	hazard analysis and critical control points
IAF	International Accreditation Forum
IFOAM	International Federation of Organic Agriculture Movements
ILO	International Labour Organization
ISO	International Standards Organisation
JIT	just-in-time
LDC	least developed country
LIC	low income country
MSC	Marine Stewardship Council
NGO	non-governmental organisation
RoHS	Restriction of Hazardous Substances
RTA	regional trade agreement
SAABC	South African Automotive Benchmarking Club
SCM	supply chain management
SDG	Sustainable Development Goal
SDP	supplier development programme
SIZA	Sustainability Initiative of South Africa
SMMEs	small, medium, and micro-sized enterprises
SPS	Sanitary and Phytosanitary
TBT	Technical Barriers to Trade
UK	United Kingdom
WFTO	World Fair Trade Organization
WIETA	Wine and Agricultural Ethical Trading Association

FOREWORD

Value chains, both global and regional, buttress the bulk of international production and trade taking place in the global economy today. Participation in these fragmented production networks can help countries, especially least developed (LDCs) and low-income countries (LICs), to generate economic growth while building innovation, skills enhancement, and market development—which all can lead to inclusive economic transformation provided the right conditions are in place.

As global trade increases, there is a growing number of requirements demanded by customers around the world—intended in general to ensure more sustainable production and consumption—which also requires producers to upgrade their capabilities. Private sustainability standards and technical regulations are often viewed as a tool to address social and environmental concerns in value chains. Although producing at or above these standards ensures quality products and processes—facilitating entry into higher margin market niches—some producers, particularly in LDCs and LICs, may lack the capacity or resources to do so. Indeed, many developing countries' firms with limited capacities to trade face various types of barriers while entering in value chains which are more and more standard-intensive. These obstacles often include the cost of compliance as well as important supply-side constraints such as inadequate productive capacity, insufficient access to finance and lack of trade-related infrastructure.

In this conceptual study, Professors Mike Morris and Raphael Kaplinsky examine how regulations and standards can support social and environmental dynamics in GVCs. Based on concrete examples, the authors assess the extent to which regulations and standards can affect the capacity of producers to position themselves in global value chains in a manner which provides for socially and environmentally sustainable growth. In doing so, they highlight both the inclusive as well as the exclusive effect on market access arising from standard compliance, and they propose policy measures which could lead to possible positive sustainable development outcomes.

This study is the first in a three-part series of research papers developed by ICTSD with the support of the German Development Cooperation (BMZ), devised in three parts: (i) the first paper aims at analysing how regulation and standards can support social and environmental dynamics in value chains—noting that private sustainability standards can carry great potential to contribute meaningfully to all dimensions of sustainable development and thus to the implementation of SDGs; (ii) the second paper explores the role of aid for trade in facilitating compliance and adaptation to socio-environmental regulations and standards; and (iii) the third paper looks into the function of the rules-based multilateral trading system and the development of private sustainability standards.

The objective of the ICTSD research series under which this paper has been produced is to provide input into the policy debate on how least developed countries can utilise value chains to achieve sustainable and inclusive economic transformation. We hope that this paper on regulations and standards, and indeed the series, will prove to be a useful contribution to researchers and policymakers in this important endeavour.



Ricardo Meléndez-Ortiz

EXECUTIVE SUMMARY

Trade barriers to market entry in the high income economies have moved from the purview of the nation state to the corporation and transnational agencies. Insofar as governments control import restriction, these place a reduced emphasis on prices and a growing role on regulations. The lead firms which dominate importation into *high income economies* employ a battery of standards in order to achieve multiple objectives. Directly and indirectly, standards and regulations not only determine the terms of market-entry but also the extent to which different producers position themselves in global value chains (GVCs) in a manner which provides for socially and environmentally sustainable income growth.

This paper locates standards (economic, social, health, and environmental) as a means to achieve sustainability goals within a GVC approach to introduce dynamism and the potentially contradictory impact of chain power dynamics on sustainability goals.

There are two families of regulations and standards which affect the character of *products* (be they raw materials, intermediates, final goods or services) and the character of the *processes* involved in the production of these products.

The lead firms imposing standards on their suppliers generally seek to respond to *Triple Bottom Line* (TBL) imperatives. They need to promote their *Economic Bottom Line* in the pursuit of profit, and standards increase the effectiveness of supply chains by driving continuous improvement through the chain. They also need to meet their Social (e.g. labour standards, ethical trade) and *Environmental Bottom Line* (e.g. forestry sustainability, organic standards) objectives. These linked objectives determine their economic performance and social licence to operate in final markets.

To ensure these standards are achieved throughout the chain's operations, and transform policy into practice, lead firms have adopted three responses:

Sink or swim in the supply chain - lead firms in non-demanding markets adopt a passive policy towards standards and supplier performance by publishing their requirements, and then simply verify supplier performance.

Lead firm supply chain management - in demanding markets requiring Triple Bottom Line conformance, the lead firm cannot afford to adopt a sink-or-swim approach. Hence they engage in Supply Chain Management (SCM) programmes, and Supplier Development Programmes (SDP), to assist suppliers attain the required standards.

Using intermediaries - lead firms encourage suppliers to obtain assistance from specialised intermediaries or contract them to run SDPs, particularly with small farmers/enterprises.

The regulations and standards which determine market entry in high income markets have a demonstrable and often positive impact in achieving the Sustainable Development Goals (SDGs). Inclusion is central to the SDG agenda. This paper analyses the evidence from a number of countries and sectors to illustrate these developmental outcomes

But the evidence also suggests complex outcomes. Regulations and standards can be an absolute barrier to entry in GVCs - because products do not meet regulatory requirements and cannot be imported; or lead firms set productivity, social, health, or environmental standards which suppliers are unable to meet, hence excluding suppliers from global markets, or particular market niches. However, developing regional final markets often have lower standards than global markets with lower barriers to entry.

Beyond assisting in meeting SDG objectives, regulations and standards play an important role in the *sustainability* of these outcomes. Unless producers are able to systematically upgrade their offerings, the development gains from standards and regulations at best only offer temporary progress. This paper provides evidence to show that in some circumstances, meeting the requirements of regulations and standards assists in developing the dynamic capabilities which producers require to enter and sustain an upgrading trajectory.

There are three major obstacles to introducing standards and achieving upgrading capabilities:

1. The costs of achieving the necessary certification exclude disadvantaged groups - small producers, small farms, women and older producers.
2. Many standards require basic skills which marginalised groups may not possess.
3. Health and safety standards often require pre-existing knowledge about basic health practices.

To demonstrate the role of regulations and standards in GVCs/SDGs the paper reviews a variety of case study experiences drawn predominantly from low and middle income economies, and sectors in which small producers and unskilled labour play important roles. These are fresh fruit and vegetables, wine, fish, apparel, organics, handicrafts, leather products, the marine sector and electronics. The economies are Benin, Burkina Faso, Côte d'Ivoire, Gabon, Gambia, Guinea-Bissau, Kenya, Morocco, Senegal, South Africa and Uganda in Africa; Cambodia, China, India and Malaysia in Asia; Argentina, Bolivia, Brazil, Chile, Mexico, Paraguay and Peru in Latin America.

The review concluded:

- Regulations affecting market entry are promulgated by governments and inter-government agreements and are binary in nature.
- Standards are set by non-state actors - GVC dominant lead firms use standards to target both an improvement in the competitiveness of the chain and the social licence to operate in global markets.
- Unlike mandatory regulations, there is more leeway in suppliers meeting the standards of lead firms.
- Standards compliance promotes inclusion in GVCs. Wages have frequently risen, working conditions improved, health and safety enhanced, environmental outcomes progressed, and in some cases, unionisation strengthened. There is extensive documented evidence therefore that complying with standards and regulations promotes SDGs, including for example those affecting income generation, gender inclusion and organic production and the environment
- However, standards compliance can also exclude marginal and disadvantaged producers. Small producers who had participated in GVCs before standards-compliance became widespread, find themselves ejected. Or high standards compliance demands mean small producers cannot enter the GVC.
- Often, achieving standards has resulted in labour forces within firms being segmented. A minimum cadre of skilled core workers is retained, and the remaining tasks outsourced to informal enterprises and casualised (and often migrant) labour.
- Standards importance in GVCs is critically affected by the nature of the final market - low income consumers and low income economies are less demanding. Regional markets have lower barriers

to entry and open up important regional value chain opportunities for smaller farmers and processors who lack the capabilities to export to global markets.

- Certification to standards in itself does not provide for sustainable income growth. Global competitiveness is a moveable frontier, so for *gainful and sustainable insertion* into GVCs, suppliers are required to develop the capabilities to continually upgrade.
- Certification to regulations and standards is an important contributor to the upgrading of capabilities in producers.
- Achieving certification can be a costly process - not only paying for certification, but more importantly, the cost of the process changes required to meet the lead firms demands. These exclude small scale producers and unskilled workers and this is often hidden in the supply chain monitoring of standards.
- Conflicts and trade-offs between different objectives are unavoidable.

Standards in GVCs are thus of considerable relevance to the SDGs, and the impacts are Janus-like in nature. They assist in meeting targets imposed on supply chains by governments, lead firms and civil society organisations (CSOs), providing the opportunity for sustained income growth, improving working conditions and health and safety, inclusion of women in GVCs, prevention of child labour, and environmental protection. However, standards are demonstrably excluding, placing barriers to entry to the participation of small producers and less skilled workers.

In policy terms governments, lead firms and CSOs can act to tilt the standards balance more favourably in the direction of meeting the SDGs. These are:

- greater inclusion of low and middle income country producers in GVCs through information sharing,
- reducing certification costs,
- enhancing the skills of marginalised populations to increase their participation in standards-intensive GVCs,
- monitoring the effective implementation of GVCs throughout the chain,
- assisting producers in accessing suitable markets.

Developments designed to promote the achievement of the Economic Bottom Line and the incorporation of small producers and unskilled labour may conflict with those designed to promote equity and foster the Social and Environmental Bottom Lines embodied in other SDGs. Consequently, exclusion and inclusion may in many cases be intrinsic outcomes of participating in GVCs.

1. INTRODUCTION

Regulations and standards have become an increasingly important factor affecting the capacity of producers to participate in global markets. Directly and indirectly, they not only determine the terms of market entry but also affect the extent to which different producers are able to position themselves in global value chains (GVCs) in a manner which provides for socially and environmentally sustainable income growth.

There is a renewed global commitment to achieving sustainability through a complex set of recently adopted Sustainable Development Goals (SDGs). These are numerous, and the temptation is to reduce them to single-issue objectives depending on the predilection of the particular viewer. But in practice, the sustainability challenge is much broader than focusing on individual issues deemed to comprise sustainability rights. It requires paying attention to the complexity, interactions, dependent interrelationships, and potential trade-offs occurring between the economic, social, and environmental aspects comprising sustainability. It also means bearing in mind that we live in a globalised world where international trade, driven by GVC dynamics, is deeply competitive. This creates major pressures on firms and countries to respond adequately in order to ensure survival and future growth. It prefigures the importance of skills as firms cannot change their place in the international division of labour unless they upgrade skills and building capabilities. Economic upgrading is hence crucial to achieving sustainability goals and may well be a precondition for attaining desirable social upgrading within companies and more broadly in society.

For example, focusing only on gender rights without economic sustainability can mean that one achieves no, or limited, employment, and hence these rights become meaningless. Similarly, emphasising environmental issues to the exclusion of other aspects may result in a degradation of social conditions of work and living. Alternatively, reducing sustainability to a focus on organic products may exclude a range of enterprises and workers (many women) employed in developing countries. Likewise, treating

economic stability as the only issue underpinning sustainability may result in economic growth but no, or limited, development gains—i.e. immiserising growth.

This conceptual paper addresses the complexity of these issues, and locates the role of standards and regulations within a GVC framework. Locating standards (economic, social, health, and environmental) as a means towards achieving sustainability goals within a GVC analytic approach has the advantage of introducing dynamism and the potentially contradictory impact of chain power dynamics on sustainability goals. Clearly, “sustainable rights” are a critical thing to strive for and should not be under-emphasised, but a rights-based approach is essentially static. It cannot deal with the levels of complexity inherent in these issues, and inexorably drives one towards a single-issue mindset. Moreover, given its static underpinnings, a rights-based approach struggles to analytically comprehend and find ways of resolving trade-offs between different SDGs. By situating the analysis of standards in a GVC approach we bring out the dynamic nature of how standards relate to the challenge of achieving sustainable development in all its interrelated complexity.

Section 2 explains why standards have become an important determinant of market entry in global trade. Section 3 briefly describes the major types of regulations and standards and the drivers for their introduction. Section 4 provides examples of various types of regulations and standards which affect global trade. In Section 5, the paper reviews the manner in which suppliers can be assisted to upgrade their certification performance. Section 6, considering the issues at a general level, sets out the manner in which standards and regulations in GVCs may foster inclusion and exclusion. This is followed in Section 7 by a review of on-the-ground experiences: Who drives the standards agenda and which SDGs are affected in the process? Does the achievement of standards build capabilities? In section 8 we address the impact of standards on inclusion and exclusion—key SDG objectives. The paper concludes in Section 9 with a discussion of the policies required to meet these challenges.

2. WHY REGULATIONS AND STANDARDS HAVE GROWN IN IMPORTANCE

Historically, economic growth in the high-income economies (mimicked later by developing countries) occurred in the framework of extensive protectionist measures of domestic industries and agriculture against imports. These tariff and quota barriers to imports (raising prices and restricting volumes) were defined and exercised by national governments or regional custom union agreements. In the second half of the twentieth century a series of international agreements—General Agreement on Tariffs and Trade (GATT) and the World Trade Organization (WTO)—limited the government rights to impose control over imports and pursue import-substituting industrialisation. Simultaneously, an increasing number of international regulations covering the characteristics of allowable imports were introduced to protect final consumers.

At the same time as governments were reducing their capacity to regulate imports, developments in the corporate sector were leading to the introduction of new restrictions on imports into the high-income economies. These restrictions took the form of standards and regulations which suppliers were required to meet. Thus, as a general trend, the trade barriers to market entry in the high-income economies moved from the purview of the nation state to the corporation and transnational agencies. Insofar as governments played a role in restricting imports, these controls placed a reduced emphasis on prices and a growing role on regulations.

There are five reasons why the private sector intensified its use of standards in its global supply chains. First, GVCs by definition involve the outsourcing of production. Unless the suppliers in the chains meet the requirements of the lead firm, the lead firms cannot operate competitively. Imposing standards which suppliers have to meet is one way of ensuring synergistic chain integration. Second, the predictability of quality and the batch size and

regularity of delivery were critical conditions for the implementation of just-in-time (JIT) production systems (Kaplinsky 1994). Third, drawing on the slogan used in the Total Quality Control movement (“In God we trust; everything else we measure”), standards are an important conduit into processes of incremental technical progress. Standards provide the capacity to measure process and product parameters, and these measures are then utilised to stretch and improve performance. Fourth, the growing role played by brand names and the increasing competition in the retail sector in the high-income economies means that the corporate sector is vulnerable to reputational damage: pesticide residues in salads can knock a retailer’s reputation badly; the use of child labour in the supply chain can cause heavy damage to a branded manufacturer, as can an environmental spillage by a supplier. Fifth, and related, civil society organisations (CSOs) have taken advantage of the very strengths of global brand names and large-scale retailers (their brand images) to pressure them with regard to the character of their supply chains and the provenance of their inputs and products.

These five factors have led the lead firms dominating importation into the *high-income economies* to place a growing emphasis on standards in their supply chains. But to a considerable extent—and the same is true of government regulations—these pressures to introduce standards governing imports are reduced in *low- and middle-income economies*. In these markets, low per capita incomes mean that final consumers are less sensitive to the provenance of the products they consume. Similarly, governments in these lower-income economies are less sensitive to the quality characteristics of imports, in part because of the absence of pressure from consumers and CSOs, and in part because they do not believe that low-income consumers have the wherewithal to pay for the higher standards incorporated in global supply chains.

3. TYPES OF REGULATIONS AND STANDARDS

There are two families of regulations and products: those relating to the character of *products* (be they raw materials, intermediates, final goods, or services), and those relating to the character of the *processes* involved in the production of these products.

There are important differences in the motivations of public and private stakeholders in imposing regulations and standards on imports (Figure 1). From the public perspective, virtually all of the import regulations are designed to protect consumer safety or the environment. As a general rule, government-imposed regulations (as well as those determined by inter-governmental agreement) apply only to products, and are mandatory. There is no discretion available to importers; either the regulations are met or the products cannot be imported. For example, the EU Food Safety Regulation (178/200) addresses the procedures involved in protecting European consumers from food imports which are considered to be a danger to health. Article 53 of this regulation states that this requires the commission to take the following steps:

... in the case of food or feed imported from a third country, [suspend] imports of the food or feed in question from all or part of the third country concerned and, where applicable, from the third country of transit ... [lay] down special conditions for the food or feed in question from all or part of the third country concerned (European Communities 2012).

Corporate standards are of secondary importance to government regulations in determining market entry. Only once government product regulations are met do corporate standards come into play. These corporate standards are more complex than government regulations. They are generally discretionary—incorporating degrees of achievement and often involving trade-offs between standards. (For example, enhanced environmental performance may inflate costs

and reduce economic profitability.)

The lead firms who impose standards on their suppliers generally seek to respond to “triple bottom line” imperatives. First, they need to promote their “economic bottom line.” Here, in the pursuit of profit, standards play the role of increasing the effectiveness of supply chains. Typically the corporation drives three families of standards through their global supply chains, referred to as “T-Q-C.” “T” refers to the timing and size of deliveries from their suppliers. Just-in-time production, which now dominates global supply chains, requires the on-time delivery of relatively small batches of inputs; this contrasts with the mass production era in which companies held large stocks to buffer any disruptions to production. “Q” refers to the quality of these supplies. This is important for two reasons: the quality of inputs determines the quality of the final outputs; and in the context of JIT production, limited stocks mean that faulty components are a major hazard for continuous production. “C” refers to pressures by buying firms to reduce the prices charged by their suppliers. This often takes the form of mandatory cost reductions imposed on suppliers.

The second and third factors driving the imposition of standards through corporate supply chains is the need for the lead firms to meet their “social and environmental bottom line” objectives. These linked objectives determine their social licence to operate in final markets. Standards are imposed by lead firms in order to avoid the reputational damage arising from products and processes in their supply chains which do not meet the demands of consumers in their chosen niche markets. However, in addition, the capacity of individual lead firms to excel in meeting these social and environmental standards provides them with a competitive marketing advantage over their rivals.

Figure 1 sets out the major categories of standards in corporate supply chains, as well as the objectives of the standards. Although

the lead firms are generally responsible for driving these standards through their global supply chains, there are important differences in the factors driving these standards. Economic

bottom line standards are driven by the lead firm; in the case of social and environmental standards, the lead firm is generally responding to pressures external to the chain.

Table 1: Types of corporate standards and their motivations

Standard	Type of standard	Function of standard	Primary driver
Economic bottom line	<ul style="list-style-type: none"> - Time - Quality - Cost 	<ul style="list-style-type: none"> - T: Reduce inventories - Q: Enable JIT production and ensure quality of final product - C: Reduce cost of production in value chain 	Lead firm and first-tier suppliers
Social bottom line	Working conditions in supply chain	<ul style="list-style-type: none"> -Competitive advantage -Licence to operate 	Parties external to the chain (e.g. International Labour Organization (ILO))
Environmental bottom line	Environmental character of supply chain	<ul style="list-style-type: none"> Competitive advantage Licence to operate 	Parties external to the chain (e.g. Greenpeace)

Source: Author data

4. EXAMPLES OF CORPORATE STANDARDS

Standards in the supply chain can be multifaceted and complex. In this section we provide examples of standards in each of the three domains of corporate behaviour: the economic bottom line, the social bottom line, and the environmental bottom line. This illustrates the types of demands which suppliers have to respond to in operating in GVCs.

4.1 Corporate Standards Targeting the Economic Bottom Line

Standards targeting the economic bottom line are used to drive continuous improvement through the chain. For example, during the late 1990s, a leading Indian manufacturer of motors, fans, and pumps (Crompton Greaves Limited) sought to improve its competitiveness by demanding higher standards from its suppliers. This led to “fewer and closer” relationships with suppliers, and intensive processes of certification in its supply chain, namely:

- Establishing the conditions for quality control: introducing improved housekeeping; identification of quality characteristics and agreement on a quality plan; and documentation of inspection records. In some plants, it also meant providing measuring equipment and training quality control staff. The aim was to ensure that defective items were not supplied to Crompton Greaves Limited.
- Achieving better control over the production system: introducing documentation of in-process and inspection procedures; process documentation; identification and traceability system; audit systems; and gauge control system. This represented the core of the ISO9000 system. The aim was to produce better quality at source, which should reduce costs and reduce the number of defective items reaching Crompton Greaves Limited.
- Establishing the beginnings of corrective action for non-conformities: this not only ensured that quality standards would be

maintained, but it was also intended to begin the movement towards continuous improvement.

Suppliers who met these standards were rewarded with reduced costs of monitoring deliveries to Crompton Greaves Limited and long-term contracts. The evaluation of its supply base (on a points system) gave much greater weight to quality and delivery than to price competitiveness of its suppliers (Humphrey et al. 1998).

However, not all of the economic bottom line supply chain standards are firm specific. Many lead firms also draw on standards set by bodies such as the International Standards Organisation (ISO). These standards involve the documentation of processes during production in order to achieve enhanced quality (ISO9000) and environmental compliance (ISO14000). In itself, these ISO standards do not deliver better outcomes. This depends on how the firms respond to the data which have been collected.

4.2 Corporate Standards Targeting the Social Bottom Line

The predominant set of standards focusing on the social bottom line are those addressing labour standards. Much of the impetus for this derives from a series of ILO initiatives. Although many firms have individual standards in their supply chains, there is growing pressure to draw on generalised labour standards since large suppliers in developing countries have found it costly to meet the variety of different standards set by individual firms. One large Bangladeshi firm complained that it had to meet labour standards of more than 150 different customers—a costly process.

One set of labour standards which is widely used is that developed by the Ethical Trading Initiative (ETI), drawing on the labour standards promoted by the ILO. These standards are listed in Box 1, which shows the nine categories of ETI labour standards along with an example of detailed standards which suppliers need to meet.

Box 1: Labour standards: Ethical Trading Initiative base codes

1. Elimination of forced or compulsory labour;
2. Allow freedom of association and agree workers' rights to collective bargaining;
3. Improve health and safety in the workplace;
4. Abolition of child labour;
5. Provide a fair living wage (remuneration) to the worker;
6. Work within the legal limits of maximum working hours;
7. Eradicate discriminative practices;
8. The provision of regular employment; and
9. Not to adopt physical or sexual abuses.

An example of detailed codes: Ethical Trading Initiative Code 5

- 5.1. Wages and benefits paid for a standard work-ing week meet, at a minimum, national legal standards or industry benchmark standards, whichever is higher. In any event, wages should always be enough to meet basic needs and to provide some discretionary income.
- 5.2 All workers shall be provided with written and understandable information about their employment conditions in respect to wages before they enter employment and about the particulars of their wages for the pay period concerned each time that they are paid.
- 5.3 Deductions from wages as a disciplinary measure shall not be permitted, nor shall any deductions from wages not provided for by national law be permitted without the expressed permission of the worker concerned. All disciplinary measures should be recorded.

Source: Ethical Trading Initiative (2016)

4.3 Corporate Standards Targeting the Environmental Bottom Line

An increasing number of firms have introduced environmental standards into their supply chains. In some cases these standards draw on parameters defined by external bodies. This is the case in the forest, timber, and wooden products sector where many firms seek certification under the aegis of the Forest Stewardship Council (FSC), based in Germany.

The FSC sets a series of standards which are wide-ranging in their remit. Most importantly, these standards involve sustained application throughout the chain, as well as a “chain-of-custody” formal certification which follows the materials all the way from the forest (including the cutting of trees) to the final

product sold in the retail outlet. For a product to be FSC certified, there must be an unbroken chain of FSC auditing from the certified forest to the various stages of manufacture—to the point where the final product is sold under the FSC label.

Organic standards have become one of the fastest growing means of certification globally—primarily serving industrialised high-income markets, and arising in part from the 20-40 percent price premiums supermarkets apply to organically certified products. The International Federation of Organic Agriculture Movements (IFOAM) established a globally accepted singular organic definition based on farm management practices involving the use of natural methods of enhancing soil fertility and resisting disease, the rejection

of synthetic chemical fertilisers, pesticides, pharmaceuticals, and the protection of ecosystems. It promotes certification systems oriented towards high-income country consumers, based on commercial market specifications—often at the expense of locally based sustainable farming practices in developing countries. The focus is on codified standards controlling production inputs rather than traditional agricultural methods. It requires rigorous third-party monitoring enforcing uniformity dependant on scientific and industrial criteria.

Originating as a voluntary private standard, IFOAM certification has become incorporated into government official regulatory systems; for example, the EU has harmonised its organic regulations setting organic criteria for crop and livestock production following IFOAM standards. Globally, the United Nations Codex Alimentarius Commission has incorporated standards, monitoring, and certification in

governing organic agro-food networks for all its 160 member countries—largely following EU and IFOAM specifications.

But, in many cases, in addition to responding to standards set by parties external to the chain, lead firms introduce their own specific standards. For example, Walmart sought to deflect attention from its reluctance to address labour standards by focusing on a programme of environmental standards. This was designed both to respond to the demands of CSOs and to reduce costs, for example, with regard to energy efficiency. Walmart began restructuring its global supply chains in China and then extended this to its chains in other regions—most recently in Africa. In each case, suppliers were forced to achieve minimum standards across a range of environmental indicators, and then to improve on this performance through processes of continuous improvement (as in the case of T-Q-C standards).

Box 2: Greening of Walmart's supply chain in China

In 2009, Walmart announced the development of a worldwide Sustainability Product Index, which established a uniform survey to be completed by all Walmart suppliers. The survey consists of 15 questions surrounding energy use, climate impact, material efficiency, natural resource usage, and local community involvement. The surveys feed into the Sustainability Index Consortium, an open platform database that allows for analysis and dispersion of the information collected from Walmart's 100,000 suppliers.

By 2012, 500 suppliers and 107 product categories had participated in the Sustainability Product Index. At the Global Sustainability Milestone Meeting in Beijing, CEO Mike Duke announced plans to expand participation to 70 percent of suppliers by 2017. At the event, he made it clear that failure to participate in the Index would result in removal of the firms from Walmart's supply chain. He also announced five key initiatives to accelerate progress in supply chain greening:

- Increasing the use of recycled materials and increasing the recyclable content in packaging;
- Offering products with greener chemicals, following the introduction of Walmart's Consumable Chemicals Initiative;
- Reducing fertiliser use in agriculture, requiring suppliers who use commodity grains to develop a fertiliser optimisation plan;
- Expanding the sustainability index to international markets, beginning with Walmart Chile, Walmart Mexico, and Massmart South Africa in 2014; and
- Improving energy efficiency in factories.

5. FACILITATING STANDARDS COMPLIANCE IN THE CHAIN

As can be seen from the prior discussion, the setting of standards is high on the corporate agenda, as lead firms respond to the twin imperatives of improving their economic performance and ensuring their social licence to operate. But how are these standards to be achieved—not just in the lead firm's internal operations, as well as in first-tier suppliers—but throughout the operations of its chain? How can policy be transformed into practice? Three sets of responses by lead firms to these challenges can be identified.

5.1 Sink or Swim in the Supply Chain

Many firms, particularly those which are relatively new in their use of global supply chains and/or which are not exposed to consumer pressure because they produce capital or intermediate goods rather than branded consumer goods, operate a passive policy towards standards in their supply chains. The degree to which their inputs are commoditised products, as well as the global availability of alternatives, are additional factors which support passive approaches towards supplier conformity to these standards. The approach of lead firms towards standards in these global supply chains is to publish their requirements to suppliers (including the required certification to international standards such as those produced by the ISO and the ETI), and then to limit their actions to the verification of supplier performance. Non-compliant suppliers—assuming that a credible process of monitoring exists—are sanctioned with lower prices, or delisted. In these chains, suppliers are left to sink or swim. This approach towards supplier performance is heavily dependent on certification to standards set by international norms.

5.2 Supply Chain Management by the Lead Firm

In chains where lead firms face demanding conditions for triple bottom line performance,

a passive approach towards supplier conformance to standards is inadequate. The assembly of complex products, involving many components (more than 3,000 in the case of automobiles) makes it essential that suppliers meet the requirement of T-Q-C lead firm standards. In chains where final product quality or consumer safety is important, there is little leeway with regard to supplier performance to achieve quality standards. Moreover, consumer backlash regarding product safety can severely damage a lead firm's brand and make it vulnerable to civil society pressure.

In these cases, the lead firm cannot afford to adopt a sink-or-swim approach to supplier performance with regard to standards. Depending on the context (for example, the sector and the capability of suppliers) lead firms will engage to varying degrees in supply chain management (SCM) programmes, and often supplier development programmes (SDPs), to assist suppliers in attaining the required technical and social standards. These programmes were first developed in the Japanese auto industry during the 1970s and 1980s, and then rapidly diffused and adapted to other sectors where they are deemed to be necessary for lead firm competitiveness.

Supply chain management consists of seven (generally sequential) steps (Box 3). In the most developed forms—for example, the Japanese auto industry (Monden 1983; Cusumano 1985)—the lead firm expects its first-tier suppliers to work with second-tier suppliers; the second-tier suppliers to work with third-tier suppliers; and so on down the chain. The standards in these lead firm-governed chains may be specific to a particular firm (for example, Toyota sets specific standards for suppliers) or may require formal certification to agreed upon global standards such as those defined by ISO and the ETI.

Box 3: Seven steps in supply chain management

1. Lead firm develops and implements the standards in its internal operations;
2. Drawing on its own operations, lead firm establishes what it wants from suppliers;
3. Lead firm communicates these requirements to suppliers;
4. Lead firm monitors supplier performance;
5. Lead firm communicates supplier performance to suppliers and shows how this performance compares with benchmarks (other suppliers, other sectors);
6. Supplier performance is sanctioned: in the case of good performance, suppliers are trusted and released from some monitoring; in the case of underperformance, there may be price penalties; in the case of persistent underperformance, suppliers are delisted; and
7. Where suppliers do not meet standards, the lead firm sends in “hit teams” to assist suppliers in diagnosing problems and improving performance.

Source: Bessant et al. (2003)

5.3 Using Intermediaries

During the 1970-90 period, when lead firms were coming to recognise the importance of standards to their competitive performance, many corporations developed their own SCM programmes (Box 3 above). However, it became increasingly apparent that in many cases this was a distraction from their core competences. In other cases, particularly as will be shown below, when working with small and informalised producers, lead firms lacked the competences to assist marginalised firms and farms in their development of the capabilities to meet the required standards. In these cases, lead firms encouraged suppliers to obtain assistance from specialised intermediaries or contracted them to run SDPs particularly with small farmers or enterprises.

Many of these business services providers are guided by industry bodies such as the International Accreditation Forum (IAF). In assisting suppliers to meet chain standards, the IAF provides a template of charges, by person per day, varying by establishment size and sector. This provides suppliers seeking accreditation

with a guideline for the charges for achieving accreditation. Table 2 sets out these parameters for quality and environmental standards. Standard industry charges per person are in the region of US\$800-\$850 per day, and this varies little between high-, middle-, and low-income economies. For an initial quality certification, as can be seen from Table 2, environmental certification is more costly. An establishment of less than five employees would require an audit of between one and two days, and would expect to pay around US\$1,300-\$1,400 per type of certification (for example, a basic quality certification).¹ Establishments of 20 employees would expect to pay US\$2,500; plants with 50 or more employees would expect US\$4,200. These costs cover only the initial certification, which lasts for three years. In the interim, two annual surveillance visits are required, and then a recertification after three years. These annual visits are priced at one-third of the set-up costs, and recertification costs two-thirds of the initial audit cost. In the round, therefore, this means that an establishment seeking a single quality certificate and employing five people would face costs of around US\$3,100 every three years, and these costs would

1 Suppliers who require multiple forms of certification (there is more than one category of ISO quality certification) generally benefit from some measure of scale economy, but this is subject to negotiation with the auditing firm.

be US\$5,750 and US\$10,000 for enterprises employing 10 and 20 people respectively. These costs only cover the costs of certification, and not the cost of the supplier establishing the practices which allow them to achieve certification; as will be shown below, these often dwarf the certification costs. In the case of environmental audits, certification costs

over a three-year period are more than 50 percent higher than quality certification.

In addition to the initial certification costs in Table 2, two additional annual revisits are required (one-third of initial certification costs) to maintain certification. Recertification is priced at 1.3 times initial certification costs.

Table 2: International Accreditation Forum mandatory costing structure (2017 costs by person at approximately US\$850 per day)

Quality certification (per ISO quality standard)

Effective number of personnel	Audit time stage 1 + stage 2 (days)	Effective number of personnel	Audit time stage 1 + stage 2 (days)
1-5	1.5	626-875	12
6-10	2	876-1,175	13
11-15	2.5	1,176-1,550	14
16-25	3	1,551-2,025	15
26-45	4	2,026-2,675	16
46-65	5	2,676-3,450	17
66-85	6	3,451-4,350	18
86-125	7	4,351-5,450	19
126-175	8	5,451-6,800	20
176-275	9	6,801-8,500	21
276-425	10	8,501-10,700	22
426-625	11	>10,700	Follow progression above

Environmental management system (per environmental standard)

Effective number of personnel	Audit time stage 1 + stage 2 (days)				Effective number of personnel	Audit time stage 1 + stage 2 (days)			
	High	Med	Low	Lim		High	Med	Low	Lim
1-5	3	2.5	2.5	2.5	626-875	17	13	10	6.5
6-10	3.5	3	3	3	876-1,175	19	15	11	7
11-15	4.5	3.5	3	3	1,176-1,550	20	16	12	7.5
16-25	5.5	4.5	3.5	3	1,551-2,025	21	17	12	8
26-45	7	5.5	4	3	2,026-2,675	23	18	13	8.5
46-65	8	6	4.5	3.5	2,676-3,450	25	19	14	9
66-85	9	7	5	3.5	3,451-4,350	27	20	15	10
86-125	11	8	5.5	4	4,351-5,450	28	21	16	11
126-175	12	9	6	4.5	5,451-6,800	30	23	17	12
176-275	13	10	7	5	6,801-8,500	32	25	19	13
276-425	15	11	8	5.5	8,501-10,700	34	27	20	14
426-625	16	12	9	6	>10,700	Follow progression above			

Note: Audit time is shown for high, medium, low, and limited complexity audits. These categories vary by sector, set out in Table EMS 2 (International Accreditation Forum 2015, 22).

Source: International Accreditation Forum (2015)

6. HOW DO STANDARDS IN GVCs AFFECT INCLUSION, THE SDGs, AND UPGRADING BY PRODUCERS?

At the heart of the SDGs adopted in 2015 lies the question of inclusion—who gains, and in what ways, from economic growth? The extension of GVCs affects this SDG agenda in three ways: Are producers in low- and middle-income economies included in GVCs? If they are, which SDGs are affected? And, do standards help to build the capabilities in low- and middle-income economies which allow producers to achieve sustainable progress across one or more of the triple bottom line agendas?

6.1 Do Regulations and Standards Create Barriers to Entry in GVCs?

Regulations and standards can be an absolute barrier to entry in GVCs. This might be because the products which are produced do not meet the regulatory requirements of governments and are therefore not permissible imports. Or it might be that the lead firms in GVCs set standards which suppliers are unable to meet. These might be standards affecting productivity (typically, T-Q-C standards), the social conditions in which production occurs (for example, the use of child labour), health considerations (for example, pesticide residues in fruit and vegetables), and environmental impacts (for example, agricultural chemicals polluting the water table). In these cases, suppliers are excluded from global markets.

However, global markets are not homogeneous. Therefore, with respect to standards, the exclusion may not surface as an absolute bar on participation in GVCs, but rather an exclusion from particular market niches, such as Fairtrade and organic markets. Typically, these standards' intensive niche markets provide higher prices to producers,² so that exclusion takes the form of limiting participation in markets which offer the prospect of higher and more sustainable incomes. In addition, local markets in developing regions often have lower standards than global markets with lower barriers to entry.

6.2 How Might Inclusion in GVCs Affect SDGs?

The majority of the SDGs are directly or indirectly affected by regulations and standards in GVCs, as well as by the extent and manner through which different groups are included:

- SDG1 (ending poverty in all forms), SDG2 (ending hunger/sustainable agriculture), SDG3 (lifelong learning), SDG9 (infrastructure), and SDG12 (sustainable consumption and production) are affected by incomes which may be earned in GVCs.
- SDG3 (healthy lives for all ages), SDG4 (education/learning/training), SDG5 (gender), SDG8 (inclusive and sustainable growth, employment and decent work), and SDG10 (reducing inequality) are affected by the inclusion of different groups in GVCs, and how suppliers effectively meet chain standards.
- SDG6 (access to water and sanitation), SDG13 (climate change), SDG14 (impact on the marine sector), and SDG15 (impact on the terrestrial physical environment) are affected by the character of GVCs and how this impacts the inclusion of particular groups in society.
- SDG16 (peaceful environment/justice for all) and SDG17 (citizenship/global partnerships/implementation) are affected by the role which participation in GVCs plays in promoting empowerment of particular sets of producers.

Clearly, other than being excluded or included in GVCs, there is no predetermined outcome of the role played by regulations and standards in the achievement of these SDGs. What emerges is a consequence of the responses of different parties to the structure of GVCs, and this will be considered in Section 9 below.

² As will be shown below, higher final product prices may not mean higher returns, since higher costs of producing for these niche markets may outweigh the benefits of greater prices.

6.3 Do Regulations and Standards Contribute to Sustainability?

Global value chains are complex and dynamic. This *complexity* means that the character of supply chains will depend on the final market which is being sold into, the niches which are targeted in these markets, the technologies involved in production, and the policies of individual lead firms. (As observed above, higher-income economies have much more standards-intensive markets than low- and middle-income economies.) The *dynamic* nature of GVCs means that competition and technology are moving frontiers. Thus, the achievement of competitiveness at any one period of time does not ensure that this competitiveness will be sustained as the competitive frontier changes.

Achieving *sustainable* income growth requires that producers develop the capacity to upgrade their offerings in the value chain, and on an ongoing basis. Unless they develop these upgrading capacities, “inclusion” in GVCs may result in the producers participating in highly competitive chain activities which involve them in a race to the bottom. In these cases, “inclusion” in the chain may be associated with “exclusion” from sustainable incomes.

But the upgrading of capabilities is not only important because it delivers sustainable income growth. It also has material impacts on the lives of those working in the chain and the physical environment in which they live and work. Consequently, upgrading is important in all three dimensions of the bottom lines: economic upgrading, social upgrading, and environmental upgrading.

Within GVCs, there are four primary forms of upgrading: the capacity to improve processes, improvements in products, changing positions within the GVC (for example, moving from assembly to manufacture, adding design to production skills, selling under own brand names), or moving to a new value chain.

Standards play an important role in the building of capabilities for two reasons. The processes which producers are required to introduce in

order to achieve standards (for example, the monitoring of in-process performance) are often a capacity-building conduit to improving performance. As shown above, the continuous improvement practices which drive incremental technological change result from an ongoing capacity to monitor performance and to use this process of monitoring to improve performance. This is particularly important in low- and middle-income economies where productivity improvements are less likely to be driven by science- and technology-intensive innovations than in high-income economies.

However, there are three major obstacles to the introduction of standards. These obstacles explain why some producers are unable to achieve the regulations and standards required for GVC participation, or why they achieve these regulations and standards in a sub-optimal manner. This has obvious significance for the manner in which GVC participation affects the achievement of SDGs. The first explanatory factor for why disadvantaged groups such as small producers, small farms, women, and older producers may be excluded from the fruits of GVC participation is the costs of achieving the necessary certification. As was shown in Table 2, these costs may be trivial for large firms, but very substantial for small or poorer producers. Second, many standards require basic skills which marginalised groups may not possess—for example, in-process monitoring will characteristically require both literacy and numeracy in the labour force, and organisational skills on the side of management. Third, health and safety standards often require pre-existing knowledge about basic health practices (such as children not urinating on crops) which are not always applied in a small farm household.

Before addressing what measures can be taken to enhance the capacity of marginalised groups to overcome these barriers to the achievement of the standards necessary to satisfy the regulatory authorities in importing countries and the demands of lead firms in GVCs, it is helpful to briefly review some relevant experiences in a number of countries and sectors.

7. WHAT IS HAPPENING ON THE GROUND?

As noted above, there is considerable heterogeneity in the manner in which regulations and standards in GVCs affect producers and the SDGs. This complexity of impacts is affected by the economic context (both in exporting and importing economies), the sector, the lead firm, and the period in which exports occur. Given the focus of this conceptual paper, the experiences which are used in illustration are drawn predominantly from low- and middle-income economies and relate predominantly to sectors in which small producers and unskilled labour play important roles. The sectors are fresh fruit and vegetable, wine, fish, apparel, handicrafts, leather products, the marine sector, and electronics. The economies in question are: Benin, Burkina Faso, Côte d'Ivoire, Gabon, Gambia, Guinea-Bissau, Kenya, Morocco, Senegal, South Africa, and Uganda in Africa; Cambodia, China, India, and Malaysia in Asia; and Argentina, Bolivia, Brazil, Chile, Mexico, Paraguay, and Peru in Latin America. The studies from which these data are drawn are predominantly concerned with the social licence to operate—that is, with the social and environmental bottom lines—and provide less data on Q-C-D standards addressing the economic bottom line. This is unfortunate since the impact of economic growth on the SDGs should not be overlooked.

7.1 Who Drives Compliance to Regulations and Standards in the Illustrative GVCs?

As can be seen from Table 3, diverse sectors in diverse economies are subject to a wide range of labour and environmental standards.³ Some of these standards are specific to, and specified by, lead retailers and buyers of timber and electronic components: for example, Hewlett Packard's suppliers in Malaysia are subject to external health and safety standards, as well as those defined by Hewlett Packard. These standards are pushed through the tiers of the supply chain. Similarly, Walmart's suppliers are required to meet its specific environmental standards. But, in many cases, the standards are defined by, and set by, industry bodies. These industry bodies are based both in the emerging economies (for example, in the South African fruit and wine industry) and globally (for example, FSC timber and GlobalGap in fruit and vegetables). There are also a number of cases where market entry is determined by regulations, such as in the case of the EU Restriction of Hazardous Substances (RoHS) regulations (affecting the electronics sector), and CSO standards, such as those promoted by the ETI.

Table 3: Nature and drivers of standards and regulations in a selection of low- and middle-income economies

Country (sector)	Standards	Drivers of standards
- Kenya/Uganda (floriculture) - South Africa (fruit)	Labour & environmental standards	- Kenya/Uganda: multipolar - South Africa: lead firms - Foreign supermarkets are more demanding than domestic supermarkets
South Africa (horticulture)	GlobalGap, Hazard Analysis and Critical Control Points (HACCP), Fairtrade, BRC, nurture, domestic retailer packhouse audit, & ETI social audits	In general foreign supermarkets are often more demanding than many domestic supermarkets

³ The results in this section are drawn from a diverse set of empirical studies. Rather than referencing every point in the discussion which follows, the reader is encouraged to draw on reports and papers cited in the references section of this paper.

Table 3: *Continued*

Country (sector)	Standards	Drivers of standards
Supermarkets in emerging economies and high-income markets	Labour standards: corporate codes of labour practice & multi-stakeholder & fair trade initiatives addressing rights & conditions of wage labour & smallholder livelihoods	Supermarkets in high-income economies and foreign-owned supermarkets in emerging economies are more demanding than locally owned firms
Morocco (apparel)	QCD and labour standards	Lead firms (predominantly in Europe)
Cambodia (apparel)	Labour standards	Lead firms, CSOs
West Africa (cashew nuts)	Food safety, labelling and packaging standards. EU traceability regulation, US Food Safety Management Act	Lead firms, supermarkets, third-party certification
- Senegal (beans) - Peru (asparagus)	GlobalGap	High-income economy supermarkets & multinational food companies require certification
Organics: - Uganda (fruit/veg, coffee) - Argentina (fruit, sugar, tea, coffee, soya, wheat) - Mexico (coffee, fruit/veg, sesame seeds) - Peru (coffee, cotton) - Paraguay (sugar, soya) - Chile (asparagus, berries, honey, kiwis) - Bolivia (cocoa, coffee, nuts, coconuts, mangos)	IFOAM, Codex, EU	Supermarkets in high-income countries
Malaysia (computer industry)	Occupational health and safety—the Electronic Industry Code of Conduct (EICC) and the EU's RoHS directive	EICC is driven by lead firms. RoHS is driven by market access regulation
- Brazil (clusters in sugar-cane harvesting, charcoal & fireworks sector) - India (leather goods) - China (clusters generally)	- Brazil: labour - India: environmental - China: environmental & labour	- Brazil: government - India: German ban on imports & government regulatory response - China: government
South Africa (fruit & wine)	Labour standards. Private sector Sustainability Initiative of South Africa (SIZA) in fruit and the Wine and Agricultural Ethical Trading Association (WIETA)	Monitor working conditions
Gabon (timber)	Environmental standards for EU market access prevalent, but limited in Chinese market	EU regulations and CSOs in high-income markets

Source: compiled by authors

7.2 How Do these Standards and Regulations Affect the Achievement of SDGs?

In these illustrative case studies, Table 4 summarises the manner in which regulations and standards affect the SDGs in each of the three development bottom lines. The evidence for the links in these case studies is compelling— affecting nine of the 17 SDGs. In order of most frequent linkage, these affect:

- SDG 8: good jobs
- SDG 12: sustainable consumption
- SDG 3: good health; SDG 10: reduced inequalities
- SDG 5: gender; SDG 15: life on land
- SDG 6: clean water; SDG 11: sustainable cities; SDG 14: life below water

A wider selection of case studies would also have shown linkages to some of the SDGs not evidenced in this review of on-the-ground impact of GVCs on SDGs.

Table 4: Relevance of regulations and standards for SDGs

Country (sector)	Standards	Relevant SDGs
<ul style="list-style-type: none"> • Kenya/Uganda (floriculture) • South Africa (fruit) 	Labour and environmental standards	<ul style="list-style-type: none"> • SDG 3 (good health) • SDG 5 (gender) • SDG 8 (good jobs & economic growth) • SDG 10 (reduced inequalities) • SDG 12 (responsible consumption) • SDG 15 (life on land)
South Africa (horticulture)	GlobalGap, HACCP, Fairtrade, BRC, nurture, domestic retailer packhouse audit, & ETI social audits	<ul style="list-style-type: none"> • SDG 5 (gender) • SDG 8 (good jobs & economic growth) • SDG 10 (reduced inequalities) • SDG 11 (sustainable cities & communities) • SDG 12 (responsible consumption)
Supermarkets in emerging economies and high-income markets	Labour standards: corporate codes of labour practice and multi-stakeholder & fair trade initiatives addressing rights and conditions of wage labour & smallholder livelihoods	<ul style="list-style-type: none"> • SDG 8 (good jobs & economic growth) • SDG 10 (reduced inequalities) • SDG 12 (responsible consumption)
Morocco (apparel)	QCD and labour standards	<ul style="list-style-type: none"> • SDG 3 (good health) • SDG 8 (good jobs & economic growth) • SDG 10 (reduced inequalities) • SDG 12 (responsible consumption)
Cambodia (apparel)	Labour standards	<ul style="list-style-type: none"> • SDG 8 (good jobs & economic growth) • SDG 10 (reduced inequalities)

Table 4: *Continued*

Country (sector)	Standards	Relevant SDGs
West Africa (cashew nuts)	Food safety, labelling, and packaging standards. EU traceability regulation, US Food Safety Management Act	<ul style="list-style-type: none"> • SDG 5 (gender) • SDG 8 (good jobs & economic growth) • SDG 15 (life on land)
<ul style="list-style-type: none"> • Senegal (beans) • Peru (asparagus) 	GlobalGap	<ul style="list-style-type: none"> • SDG 8 (good jobs & economic growth) • SDG 10 (reduced inequalities) • SDG 12 (responsible consumption) • SDG 15 (life on land)
Organics: <ul style="list-style-type: none"> • Uganda (fruit/veg, coffee) • Argentina (fruit, sugar, tea, coffee, soya, wheat) • Mexico (coffee, fruit/veg, sesame seeds) • Peru (coffee, cotton) • Paraguay (sugar, soya) • Chile (asparagus, berries, honey, kiwis) • Bolivia (cocoa, coffee, nuts, coconuts, mango) 	IFOAM, Codex, EU	<ul style="list-style-type: none"> • SDG 8 (good jobs & economic growth) • SDG 10 (reduced inequalities) • SDG 15 (life on land)
Malaysia (computer industry)	Occupational health and safety (EICC) and the EU's RoHS Directive	<ul style="list-style-type: none"> • SDG 3 (good health) • SDG 8 (good jobs & economic growth)
<ul style="list-style-type: none"> • Brazil (clusters in sugar-cane harvesting, charcoal & fireworks sector) • India (leather goods) • China (clusters generally) 	<ul style="list-style-type: none"> • Brazil: labour • India: environmental • China: environmental & labour 	<ul style="list-style-type: none"> • SDG 3 (good health) • SDG 8 (good jobs & economic growth) • SDG 12 (responsible consumption)
South Africa (fruit & wine)	Labour standards. Private sector SIZA in fruit and WIETA.	<ul style="list-style-type: none"> • SDG 3 (good health) • SDG 8 (good jobs & economic growth) • SDG 12 (responsible consumption)
Gabon (timber)	Environmental standards for EU market access prevalent, but limited in Chinese market	<ul style="list-style-type: none"> • SDG 3 (good health) • SDG 6 (clean water & sanitation) • SDG 8 (good jobs & economic growth) • SDG 12 (responsible consumption)
Marine sector in developing countries	MSC environmental standards	<ul style="list-style-type: none"> • SDG 12 (responsible consumption) • SDG 14 (life below water)

Source: compiled by authors

7.3 Do Regulations and Standards in the Illustrative Case Studies Promote Upgrading Capabilities?

Upgrading in GVCs is a complex issue. As shown in preceding discussion, there are various forms of upgrading, relating to processes, products, and functions in the value chain and having implications for the SDGs in each of the three bottom lines—the economic, the social, and the environmental. Moreover, there are many standards in play and much variation between sectors, economies, policies of lead firms, and destinations of final markets over time.

Nevertheless, as a general conclusion, it is clear that the diffusion of standards along supply chains is associated with and generally leads to upgrading in one or more of these dimensions. This conclusion is evidenced below in a number of the chains under review, for example in horticulture, floriculture and wine, in the apparel sector, in the mining sector, in the forestry sector, and in the auto components sector. Whilst these examples are drawn from Africa, they are also observed in Latin America and Asia.

7.3.1 Triple bottom line upgrading: African agricultural exports to the EU

Standards compliance in this chain is prevalent.⁴ In Kenya, for example, 93 of 177 flower-exporting farms are certified to a private social or environmental standard, whilst 73 are certified to both standards. Upgrading is evidenced in each of the three bottom lines.

Economic Upgrading. In the Uganda floriculture chain, standards compliance was driven in the vertically integrated operations of Dutch-owned multinational propagators. The lead firms provided financial and technical support—enabling producers to meet rising environmental and social standards.

In the fruit value chain, European (and a few domestic and regional) supermarkets demand economic upgrading of their African producers,

requiring the introduction of new processes to reduce costs and improve quality and delivery performance. Lead firms place stringent standards on quality, cost, and delivery and require firms to obtain relevant certification—some of which is specific to the lead firms while others (such as ISO standards) are generic in nature. Certification designed to promote the economic bottom line has important implications for upgrading in the supply chain. For example, in the South African horticulture chain, lead firm standards spurred functional upgrading. A company with an export focus originally started as a family farm/packhouse in the 1980s, and slowly expanded the number of farms/packhouses within its group and diversifying the varieties of fruit produced. Following deregulation in the fruit sector in the late 1990s, it expanded into logistics and established offices overseas in Europe and Asia. It now exports to supermarkets in different destinations and sells to high-end South African supermarkets.

A second case—also resulting in functional upgrading—is of an upgrading strategy by a group of firms. Following deregulation, a small group of growers set up their own packhouse and export company which also sourced from other growers. After achieving certification in external markets, it linked with a dedicated logistics company and established a marketing presence in Europe, and became a preferred supplier to a major supermarket chain. More recently it began selling to South African supermarkets, drawing on its compliance with global standards.

Social upgrading. In response to pressures from trade unions and non-governmental organisation (NGO) campaigns for compliance with labour standards in both Kenya and Uganda, the lead firms in the floriculture value chain introduced improvements in the terms and conditions of employment. Workers in both economies report better health and safety conditions and less on-farm sexual harassment. In Kenya, job security increased in the core

4 This case study is drawn from Barrientos (2014), Barrientos and Visser (2012), Barrientos et al. (2016), Barrientos, Knorringa, and Pickles (2016), and Visser (2017).

labour force, but this was largely confined to farms that experienced economic upgrading. There was little evidence, however, that these improvements in working conditions were complemented by higher wages.

In the fruit value chain, social upgrading amongst South African suppliers was driven by the need to employ more skilled workers to achieve and maintain certification to the standards demanded by predominantly EU-based buyers. This particularly affected skilled female workers who benefited from better job security and increased remuneration.

Environmental upgrading. Producers in South, East, and West Africa selling flowers, fruit, vegetables, and other agricultural products into high-income markets are invariably required to meet the standards of GlobalGap certification. GlobalGap addresses the impacts of farming and processing activities on a variety of environmental dimensions, with implications for product health and safety performance. It involves process improvements with regard to soil, water, and animal husbandry, and results in environmentally relevant outcomes. For example, GlobalGap requires the introduction of environmentally protecting agronomic techniques such as reduced pesticide use and reductions in pesticide residues. This, in turn, requires the introduction of improved agricultural practices such as integrated crop and pest management.

7.3.2 Economic upgrading drives social upgrading: Moroccan apparel exports to the EU

The apparel value chain has been increasingly affected by the demand from lead firms for improvements in production processes designed to deliver better T-Q-C performance.⁵ This has had spin-off with regard to social upgrading as, in some cases, advances in social standards are linked to the imperatives of meeting the demands of lead firms for greater efficiency. This can be evidenced in the case of a Moroccan

exporter of apparel to the EU. The weaving and serigraphic printing of fabrics occurred in the same building, which became very hot since it was poorly ventilated. The very large machines used for weaving were also noisy and bulky and created difficulties for the workers in fabric printing. Two sets of efficiency-driven process changes were introduced. First, the factory was reorganised and this resulted in cleaner and safer factory floors with clear access to emergency exits. Second, weaving and printing were separated into two different buildings, leading to a significant improvement in working conditions. However, despite this improvement in working conditions, this process had only a limited impact on enabling rights and the capacity of workers to bargain for improvements in wages.

A further consequence of meeting the demands of EU buyers for process improvements through certification was that the reorganisation of the production methods led to improvements in human resource management and in administrative procedures, including in the management of contracts with suppliers. This enhanced managerial and organisational capabilities in the firm with indirect spillovers to domestic suppliers.

7.3.3 Corporate social responsibility (CSR) standards drive social upgrading in Ghana's mining sector

In 2002, the Ghana Mining Commission required all mining corporations to incorporate a sustainable community development programme within their CSR models.⁶ Newmont Ghana Gold designed its CSR programme to challenge the assumption that mining in Africa was an inherently enclave activity. Their strategy was implemented through public-private partnerships with local government institutions and NGOs. The programmes included projects to establish community forums, write individual community responsibility agreements, promote agro-processing subsectors, and upgrade health facilities. The most significant project—the

⁵ This case study draws on Rossi (2013).

⁶ This case study is drawn from Kaplinsky and Morris (2014).

2006 Ahafo Linkages Programme, undertaken in partnership with the International Finance Corporation—involved a three-year plan to increase local content in the Newmont supply chain. Beginning from a low base, the number of local content transactions was increased by 395 percent, and the number of local small, medium, and micro-sized enterprises (SMMEs) by 400 percent. Twenty-two SMMEs were taken through a managerial mentoring programme, and 282 new jobs (of which 181 were skilled jobs) were created. The value of contracts in the CSR programme grew from US\$1.7 million to US\$4.7 million. Moreover, the programme was designed to generate backward supply chain linkages into the local economy. In Ahafo, there are roughly 300 enterprises registered as operating within the mining sector. Local companies, mostly SMMEs, play a large role in the provision of goods and services to the third and fourth tiers of the supply chain.

7.3.4 FSC standards drive the greening supply chains in the timber industry in Ghana

In response to public criticism and pressure from shareholders to become more environmentally friendly, both Travis Perkins (Britain's number one supplier of building and construction materials) and one of its biggest suppliers (Timbnet Silverman) began seeking solutions to green their supply chain in Ghana.⁷ They jointly pressured Samartex Timber and Plywood, a company with a long history in the Ghanaian timber industry, to undergo a transformation of their timber sourcing practices in return for an increase in the price and quantity of wood demanded by Timbnet Silverman. In 2004, Samartex signed an agreement with the World Wildlife Fund to become the first certified sustainable timber supplier under the Global Forest and Trade Network (GFTN). Since Samartex's successful certification, a number of timber suppliers in Ghana achieved certification. GFTN, with the help of the United States Agency for International Development and the UK Department for International Development, coordinated and funded the technical assistance

and expertise required for the greening of Samartex's supply network. Samartex greatly reduced the amount of damage caused by poor timber felling and hauling practices, and provided new roads and hauling equipment to reduce the environmental impact of transporting timber. In addition, the company developed CSR agreements and established a joint forum with local communities intended to give rise to sustainable development solutions as well as to educate the locals about sustainable forestry practices.

7.3.5 Lead firm standards drive economic upgrading in the auto components supply chain in South Africa

In 1998, the South African component suppliers were faced with the need to rapidly become internationally competitive.⁸ Utilising a government matching grant support scheme to provide 65 percent funding, a learning network was established by a local business services firm to assist local component suppliers to benchmark themselves and upgrade their capabilities against international standards. By the early 2000s this network had matured into a national organisation—the South African Automotive Benchmarking Club (SAABC)—with membership from most of the major lead assembler firms and a substantial sample of their component suppliers. Central to the SAABC was a certification and benchmarking model of key competitiveness drivers derived from the lead assemblers' technical standards within the automotive industry. These centred on measuring supplier firm performance in terms of cost control, quality, lead times, operational flexibility, human resources, and innovation capacity. This led to a substantial improvement in performance standards between 1989 and 2014. Supplier firms also substantially improved their performance compared to internationally benchmarked standards, and in many instances they were approaching the international frontier. Eventually the SAABC ceased to depend on government funding and became financially self-sustaining.

⁷ This case study is drawn from Kaplinsky and Morris (2014).

⁸ This case study is drawn from Kaplinsky and Morris (2014).

8. INCLUSION AND EXCLUSION: THE IMPACTS OF STANDARDS AND REGULATIONS IN GVCs

Compliance with regulations and standards has complex effects on inclusion, with both positive and negative outcomes.

8.1 Standards Compliance Promotes Inclusion in GVCs

As observed above, there is abundant evidence that in a great many traded goods and services, particularly those selling into high-income markets, state and inter-state regulations are an essential requirement for market entry. Compliance with corporate and civil society standards can also facilitate entry into higher-margin market niches. Moreover, as observed above, compliance with GVC regulations and standards contributes to the building of capabilities which allow producers to upgrade their offerings in GVCs. This upgrading affects the relative positioning of producers and may either allow them to increase their incomes in a sustainable manner, or to avoid downgrading and being pushed into a “race to the bottom.”

However, set against these benefits is the question of “net gain.” As shown in Section 5, compliance with standards involves considerable costs. Do higher prices delivered through standards compliance outweigh the costs of achieving standards compliance? For many larger and formal sector producers, who benefit from scale and already possess many of the necessary capabilities required to perform to required standards, the net balance is positive. But, for other producers, particularly small-scale and informal sector producers, this may not be the case.

This experience of South African craft workers evidences the case of net losses rather than net gains from meeting global standards.⁹ The enterprise started in 2002 in Cape Town to uplift craft workers engaged in innovative and specialised craft products. (In fact, the majority of craft workers were Zimbabwean refugees, illustrating the inclusionary potential

of insertion into global markets.) The products are mostly wire, bead work and recycled materials, producing décor, homeware, furniture, and ornamental pieces.

The enterprise joined the World Fair Trade Organisation (WFTO) in 2005 because it believed that the WFTO principles (such as transparency, “fair remuneration,” gender equity, utilising non-child labour, and environmental protection) provided important benefits to producers. They assumed that membership and certification to standards would assist in finding suitable and appropriate customers and increased returns for the crafters. But becoming a WFTO member required paying a membership fee, filling in a self-assessment form (“the guarantee system”), and being subject to external auditing.

Certification by the WFTO did indeed open up new export routes. However, the initial higher prices earned through *fair trade standards* were eroded since buyers had access to numerous fair trade exporters. Hence the enterprise was unable to pass any price advantage on to the local producers. Second, whilst the initial membership fee (€250 per year) was not unreasonable given the euro/rand exchange rate in 2005, over the subsequent decade the membership fee increased by 60 percent to €400; during the same period, the rand depreciated by 50 percent against the euro. Third, the annual self-assessment form became increasingly complex and onerous as the WFTO sought to counter fraud. The enterprise was required to keep records of every single transaction made with a crafter at every point in time throughout the year, equivalent to “taking minutes of a meeting of every negotiation made with a crafter.” For a small organisation with many suppliers, this was onerous. As the enterprise manager observed, “a small business cannot operate like this, dedicating a staff member to constantly report on every single transaction visiting a crafter and purchasing a product. The transaction costs are too high.”

9 This case study draws on interviews with the previous CEO on 24 March and 30 November 2017.

As a consequence of these factors, the enterprise was unable to pay their fees and submit their Self Assessment Report in time. The enterprise was consequently delisted by the WFTO from the platform, and relinquished its Fairtrade certification. However, once this became known, their clients expressed great unhappiness at the absence of certification. This came to a head with a major client, who purchased a significant amount of their products, placing great pressure on the enterprise to sort out certification or face losing further orders.

8.2 Standards Compliance Can Exclude Marginal and Disadvantaged Producers

The primary aim of standards targeting the social licence to operate of firms in GVCs is to promote the welfare and to enhance the capabilities of relatively disadvantaged producers in the chain. This agenda has direct relevance for the achievement of the SDGs.

As shown above in the review of global experience, for those *included* in GVCs, particularly women and children, standards have indeed played their designed role. Wages have frequently risen, working conditions have been improved, health and safety enhanced, and, in some cases, workers' rights to free association have been strengthened. There have also been clear gains with regard to the environmental outcomes of participation in GVCs, particularly with regard to the impact in the agricultural, mining, and marine sectors. Moreover, in many (but not all cases), there has been a synergy between achievements promoting the economic, social, and environmental bottom lines.

However, as a general outcome, these gains have simultaneously been associated with significant *exclusionary* trends within the value chains, undermining the positive contributions which standards have made to the achievement of the SDGs. Two primary types of exclusion can be observed: the exclusion of small producers from the supply chain and the exclusion of less skilled workers from formal employment.

8.2.1 The exclusion of small producers

The exclusion of small producers takes both “active” and “passive” forms. “Active exclusion” arises from the displacement from the chain of small producers who had participated in the chain before standards compliance became widespread, and are then ejected from the chain. “Passive exclusion” arises because the demands of standards compliance are so high that small producers have no chance of entering the value chain in the first place. Both of these forms of exclusion can be observed.

In the South African fruit chain, growers have had to meet rising supermarket standards largely at their own cost, in a context of high interest rates on loans to finance the necessary investment and rising input costs (labour, fertilisers, pesticides, and packing).¹⁰ Many farmers have been unable to remain competitive, and the takeover of smaller producers by larger producers has led to an increased concentration of a few large growers. This represents a process of “active exclusion”—the displacement of producers who were formerly included in value chains. But, perhaps more important, is the extent of “passive exclusion”: that is, global buyers and domestic supermarkets replicating global standards in their local stores are characteristically reluctant to source from small-scale growers and processors. Thus the net effect is that the economic upgrading in the southern and east African fruit and floriculture sectors has benefited a restricted set of larger farms and firms.

A similar trend of consolidation arising as a consequence of standards compliance in GVCs can be observed in the Senegalese bean export sector (Maeertens and Swinnen 2015). There, increasing standards have induced a shift from smallholder contract farming towards vertically integrated estate production by the exporting companies. Smallholder procurement under contract decreased from 95 percent of export produce in 1999 to 52 percent in 2005. In Peru's asparagus export sector, smallholder

¹⁰ This case study is drawn from Kaplinsky and Morris (2014).

farmers are increasingly excluded from contract-farming schemes, and hence from supplying export chains as well. In addition, within contract farming, there has been a shift towards larger farms. Consequently, certified export firms source only 1.5 percent of their produce from smallholder producers compared to 25 percent by non-certified firms.

In the marine sector, compliance with the standards set by the MSC is largely inaccessible for small-scale and developing world fishermen because of the organisational, administrative, and financial burden of the certification process (Ponte 2012). These standards entail economies of scale and scope that require managerial resources and access to networks, favouring larger-scale, better-endowed, and generally foreign-owned producers. For example, Cambodian seafood is currently denied access to the huge EU market because it is non-compliant on responsible fisheries standards measures.

The increasing importance of global trade in organics, with its concomitant emphasis on rigorously meeting process and product standards and regulations driven by retailers and food corporations in high-income markets, has reinforced the dominant position of large producers and encouraged their growth in Latin America since they can guarantee a continuous supply of large enough volumes. Legally sanctioned organic certification requirements are onerous and expensive—constructing significant barriers to entry and participation for small, poor producers. Small-scale producers entering these organic export value chains find themselves subject to tighter controls than non-organic producers, and are often marginalised. These smaller producers are able to flourish by primarily seeking alternative retail outlets or blending their organics into other standard certification processes such as Fairtrade (Raynolds 2004).

8.2.2 Exclusion within producing firms and farms

A second form of exclusion relates to the labour force. As observed, compliance with standards

requires a literate and numerate workforce, and has often resulted in wage increases and enhanced working conditions. Faced with these rising labour costs, firms and farms have segmented their labour forces. A minimum cadre of skilled workers has been retained in the core workforce, and the remaining tasks have been outsourced to informal enterprises and casualised (and often migrant) labour. Since these casualised workers are not formal “employees,” they are therefore invariably not considered during the certification process; similarly the informal sector suppliers are generally hidden from the view of audits, since they are not on the certified producers’ books. In the South African wine sector, permanent workers declined from 28 percent to 20 percent of the total table grape workforce between 2007 and 2011 (Barrientos and Visser 2012). This not only lowered wage costs for some of the workforce but also allowed farmers to cope with market volatility by outsourcing insecurity to their casualised labour force. A similar trend is observed in a recently certified Moroccan apparel exporter where low-skilled workers in assembly lines were dismissed, with the firm drawing on a mix of fewer workers (as a result of mechanisation and enhanced process organisation), a cohort of permanent skilled workers, and the use of casual labour (Rossi 2013).

Certification standards such as Fairtrade ensure market entry can have a contradictory effect with regard to small and large producers in developing countries. Whilst Fairtrade certification has developed in its vision as a means to promote inclusiveness of small producers, in doing so it has historically also acted as a mechanism to marginalise unions in the governance decision making and to exclude hired workers in large producer enterprises. This has been the result of the power of small farmer cooperatives, social movement groups, and NGO struggles to protect their control over the benefits of certification. However, in recent years unions and labour activists have come to play an important role in reshaping Fairtrade’s standard setting; their interests are clearly embodied in certification policies which now include living wage requirements and proactive support for unions (Raynolds 2017).

9. POLICY CONCLUSIONS

The policy implications of the analysis of how standards and regulations in GVCs impact on sustainability pertains both to how they affect achieving the SDGs, as well as considerations for broadening trade policy discussions in a more inclusive manner.

The review in preceding sections of the role which regulations and standards in GVCs play with respect to the SDGs concluded that:

- It is clear that to varying degrees and with sectoral, locational, and temporal specificities, regulations and standards in GVCs have considerable implications for a large number of the SDGs. In general, these SDG impacts are positive, but there are cases in which the achievements of some SDGs (for example, SDG8 on growth and good jobs) may conflict with other SDGs (for example, SDG14: life below water, and SDG15: life on land). As in the case of all multidimensional development processes, conflicts and trade-offs between objectives are an unavoidable fact of life.
- Regulations affecting market entry are promulgated by governments and inter-government agreements. They are binary in nature—either the products meet regulatory standards (in which case market entry is permitted), or they do not (in which case the products cannot be imported). These regulations are targeted at product characteristics, but have implications for the processes used in production.
- Standards are set by non-state actors. Primary amongst these actors are the lead firms that dominate the GVCs which currently account for more than two-thirds of global trade. These lead firms use standards to target both an improvement in the competitiveness of the chain and the social licence to operate in global markets. CSOs play an important role in defining those standards addressing the social licence to operate.
- The importance of standards in GVCs is critically affected by the nature of the final market; low-income consumers and low-income economies are less demanding of the attributes driving standards certification in GVCs. Regional markets with lower technical and sanitary and phyto-sanitary standards have lower barriers to entry and open up important regional value chain opportunities for smaller farmers and processors who lack the capabilities to export to global markets.
- Certification to standards in itself does not provide for sustainable income growth. Global competitiveness is a moveable frontier, so for *gainful and sustainable* insertion into GVCs, suppliers are required to develop the capabilities to continually upgrade their offering by changing production processes, improving and changing their product offerings, and changing the roles which they perform in GVCs.
- Certification to regulations and standards is an important contributor to the upgrading of capabilities in producers. The changes in production processes and the upskilling of labour and management which are required to meet GVC regulations and standards are invariably an important conduit to productivity growth. Further, meeting standards in GVCs requires the systematic monitoring and alteration of working procedures. This not only embeds greater discipline and regulatory adherence in production, but it provides key indicators which can be used to institute the processes of continuous incremental improvement which are particularly important in non-science intensive production in low- and middle-income economies.
- Unlike regulations which are mandatory, there is more leeway in suppliers meeting the standards of lead firms. Whilst in many cases lead firms only allow entry to

standards-compliant suppliers, in other cases suppliers who are unable to achieve these standards may be barred from some profitable markets, be paid lower prices, or be subject to intensive auditing. The achievement of standards may in some cases cascade down the supply chain and be subject to “chain-of-custody” certification. But there are also many instances in which certification is limited to the first tier of the supply chain.

- Achieving certification can be a costly process. In some cases suppliers are left to sink or swim and to achieve certification independently. In other cases, the lead firms and their first-tier suppliers may assist lower-tier suppliers to meet standards. In yet other cases, independent business services companies are contracted to assist supplier certification. The costs of meeting standards are not confined to the payment for certification, but are generally dwarfed by the cost of the process changes required to meet the demands of lead firms in GVCs.
- Achieving certification to standards almost always requires a literate and numerate workforce and some measure of new management skills. Together, these two factors act to exclude small-scale producers and unskilled workers, and this exclusion is often hidden in the monitoring of standards in supply chains.

Standards in GVCs are thus of considerable relevance to the SDGs. But these impacts are Janus-like in nature. On the one hand they assist in meeting targets imposed on supply chains by governments, lead firms, and CSOs. This provides the opportunity for sustained income growth, for an improvement in working conditions and health and safety, for the inclusion of women in GVCs, for the prevention of child labour, and for the protection of the environment. However, on the other hand, standards are demonstrably exclusive, placing barriers to entry for small producers and less-skilled workers.

What is the balance between these two sets of factors promoting and undermining the achieving of the SDGs, and what steps can governments and other actors take to ameliorate these negative outcomes? There are four dimensions in which governments, lead firms, and CSOs can act to tilt the balance more favourably in the direction of meeting the SDGs: the greater inclusion of low- and middle-income country producers in GVCs; enhancing the skills of marginalised populations to increase their participation in standards-intensive GVCs; monitoring the effective implementation of GVCs throughout the chain; and assisting producers in accessing suitable markets.

9.1 Including Low- and Middle-Income Producers in Entering GVCs

There are a number of ways in which key chain stakeholders—notably lead firms, governments, and CSOs—can act to promote the inclusion of low- and middle-income economy producers in GVCs. Foremost amongst these actions is information, with many suppliers and potential suppliers often being unaware of the basic preconditions and requirements for standards compliance. Although some of the stakeholders driving GVCs do currently provide relevant information, often this information is made available reactively. What is required is a proactive campaign informing producers of requirements and how they might achieve compliance.

A second step is for the certification costs of entry to be reduced. As observed above, these costs of entry take both direct pecuniary forms (paying for auditing and re-auditing) and indirect forms (bearing the cost of reorganisation, administration, and training). Insofar as non-marginalised producers are concerned (the needs of marginalised will be discussed in Section 9.2 below), the key requirement is the know-how required to develop appropriate procedures, and the manner in which this compliance can be used to promote upgrading through programmes

of continuous improvement. This assistance may either be provided by the lead firms (and their first-tier suppliers) through SDPs or by the employment of specialist business services providers. In some countries, such as South Africa, these initial steps have been partly subsidised by government or independently financed by the lead firms.

Third, compliance with standards requires enhanced skills, and whilst some of these skills are best promoted within and by the producing enterprises themselves, in other cases there are important roles which can be played by external training bodies. For example, this may address the building of skills required to achieve ISO quality standards and the metrification required to meet environmental standards and health and safety standards in food-related value chains. Governments may also facilitate the development of specialised business services providers to assist the productive sector in achieving certification.

A number of stakeholders have potential roles to play in these areas, perhaps acting independently, but often by collaborating with each other. Agencies external to the country, such as aid agencies and foreign NGOs, are also in the frame for these programmes of capability building.

9.2 Enhancing the Skills and Capabilities of Marginalised Producers

The various market failures—particularly with regard to information, skills, and upgrading—which inhibit certification and participation in GVCs by all enterprises in low- and middle-income economies (including large formal sector firms and skilled and semi-skilled workers) apply with even greater force to marginalised and excluded producers in these economies.

One set of excluded producers are those who are too small to achieve the costs of certification which, as shown in Table 2, can often be well beyond the reach of small and poor producing firms and farms. This is a problem of scale, so that one policy response

might be to subsidise certification processes whilst another might be to get producers to join together to share the costs of certification. A second set of excluded producers are those workers who lack the experience, confidence, literacy, and numeracy to participate in certification-intensive production processes. Various training programmes can be introduced to meet these deficiencies in the labour force. A third set of excluded producers are those who lack the capabilities, technological capacity, and capital to alter their production processes to meet higher quality cost, technical, and reliability standards. This requires multiple support initiatives (perhaps as a first step focused on less-demanding regional markets) aimed at incentivising large retailers to develop local SDPs specifically aimed at marginalised and excluded producers.

However, the key element in these various and necessarily linked initiatives designed to promote the inclusion of the marginalised in certification-intensive GVCs is that they should be focused on particular target groups. Thus, specific programmes are required to meet the needs of these various producers. For example, since women often find it difficult to handle their dual responsibilities as producers and carers, community and social provision (health, education, transport, energy, and childcare facilities) may be essential in facilitating their incorporation in production and the upgrading of their skills. Similarly, excluded youth face particular challenges, as do informal sector producers and small-scale farms.

Whilst lead firms and governments clearly have a role to play in strategising and funding these interventions, most often the execution of these programmes lies within the domain and competences of CSOs, specialised private agencies, not-for-profit organisations, and local governments.

9.3 Monitoring Effective Implementation of Regulations and Standards in GVCs

There is a demonstrable gap between strategy (a commitment to certification) and the capacity to achieve this throughout the supply chain. A

key to unlocking this gap is the thorough and accurate monitoring of what actually occurs. Is the certification programme robust and does it adequately capture what happens within production? How far down the chain does the change in production processes penetrate?

These challenges of monitoring are relevant to all of the stakeholders in GVCs. They apply to governments and CSOs in the importing countries; to lead firms in the organisation and monitoring of their supply chains; to governments in low- and middle-income economies monitoring compliance with legislation (for example, on health and safety); and to the domestic and international CSOs who are responsible for setting standards relevant to the social and environmental licence to operate—and for assisting producers in meeting the relevant standards.

9.4 Promoting Access to Markets

As observed in earlier sections, very few of the regulations and standards in GVCs come from the “bottom up” in low- and middle-income economies. Invariably, the parties responsible for imposing regulations and standards in GVCs include governments in the importing higher-income economies, lead firms in these economies protecting their brand names from reputational damage and seeking competitive advantage in niche markets, and CSOs in these markets.

It follows from this that producers who are unable to meet these regulations and standards, or who do this sub-optimally, may benefit from entry into less-demanding markets. This may lead to them feeding into more basic and commoditised product markets (for example, into low-end retailers) or into economies which have less-demanding regulations and consumers (for example, other low- and middle-income economies).

A variety of stakeholder actions may assist in achieving these ends. Mass-market and low-end retail chains may be introduced as buyers; information gaps between these buyers and marginalised producers may be filled by lead

firms and governments; governments in low and middle-income economies may seek to promote new and deepened trade exchanges with economies with similar income and consumer profiles.

However, what this effectively entails is that marginalised producers gain access to global markets *by stepping outside of regulation- and standards-intensive GVCs*. In so doing they may reduce the positive impact of GVC participation on those SDGs which target the social and environmental impact of development. Thus, developments designed to promote the achievement of the economic bottom line and the incorporation of small producers and unskilled labour may conflict with those designed to promote equity and foster the social and environmental bottom lines embodied in other SDGs.

9.5 Implications for Trade Policy

In terms of the implications of regulations and standards for trade policy, given that “agreement on the definition of private standards remains elusive” (Mavroidis and Wolfe 2016, 11), it is difficult to draw trade policy recommendations at the World Trade Organization (WTO) level. Discussions within the Sanitary and Phytosanitary (SPS) and Technical Barriers to Trade (TBT) Committees, Committee on Trade and the Environment (CTE), and General Agreement on Trade in Services (GATS) Working Party on Domestic Regulations have been polarised. Broadly speaking, developing countries argue for collective disciplines on private standards on the ground of the de facto mandatory nature of many private standards, whilst developed countries argue that the WTO Agreement is not applicable to standards developed by non-governmental organisations. The fact that no dispute has been brought to the Dispute Settlement Body corroborates the view that, so far, they are not regulated by the WTO (Mavroidis 2016).

A proposal that is receiving significant backing by scholars focuses on meta-regulations which set minimum standards to which private

standards should adhere. Mavroidis and Wolfe (2016) argue that this should be in the form of a Reference Paper adopted by willing member states. The paper should include commitments on critical areas such as: providing clarifications on the application of WTO provisions to private standards; transparency mechanisms, including opportunities for consultations with affected parties; and the establishment of an ad hoc Code of Good Practice for private standards. National Focal Points, similarly to the SPS and TBT focal points, may be established to manage concerns on private standards (Thorstensen et. al. 2015). At the organisational level, the WTO could establish a specific committee to address this issue (Mavroidis 2016), or set up joint meetings of all the relevant committees (Thorstensen et. al. 2015).

Least developed countries (LDCs) and low income countries (LICs) tend to be standard-takers, including when it comes to private standards. Given capacity constraints, their challenges in complying with private standards are more binding compared to middle and upper income developing countries. It is important to create a solid constituency of LDCs and LICs that are in a position to advocate for change and put forward realistic solutions at the multilateral level. More effort should be made to increase awareness and share knowledge among officials from these countries on the legal and economic implications of the discussions taking place within the WTO and international standards development bodies with regard to private standards. As a policy recommendation, an element of capacity building is therefore required for LDC and LIC trade negotiators and technical officials involved in standard-setting in capitals. At the same time, trade negotiators should ensure that these discussions are accompanied by deliberations on Aid for Trade to support compliance.

Within regional trade agreements (RTAs), the highest potential to address private standards rests on them being inclusive of both developed and developing countries. Several agreements that have been concluded, or are under negotiation, fit into this category. This includes the Economic Partnership Agreements (EPAs) between the EU and various ACP regions, the

Regional Comprehensive Economic Partnership (RCEP), the Trans-Pacific Partnership (TPP), and the Pacific Agreement on Closer Economic Relations (PACER) Plus. These RTAs include countries where voluntary sustainability standards are being set, and those where the challenges for compliance by small scale producers are acute. However the inclusion of text covering private standards does not seem to be common practice within such RTA negotiations.

The EPA between the EU and Cariforum (Caribbean Forum) sets an important precedent and provides an illustrative example of how member states can move beyond the impasse at the multilateral level. Article 190 provides for cooperation between the parties in, among others, the promotion and facilitation of private and public voluntary and market-based schemes including relevant labelling and accreditation schemes; and facilitation of trade between the parties in natural resources, including timber and wood products, from legal and sustainable sources. At the same time, in article 191, the parties agree that labour standards should not be used for protectionist trade purposes; and recognise the benefits of commerce in fair and ethical trade products, and the importance of facilitating such commerce between them.

RTAs provide an interesting platform to address private standards because developing countries can include private standards as a clear offensive interest during the negotiating process, and link this issue to commitments on technical and financial support for compliance and monitoring of private standards by developed countries.

In conclusion, if significant progress can be made in achieving these trade policy recommendations it may well begin to minimise some of the negative exclusionary impact of regulation- and standards-intensive GVCs on marginalised producers. Development is never easy, but an important aim of inclusive growth is to try and reduce the various trade-offs that it necessarily seems to entail, and bring about greater harmonisation within Triple Bottom Line demands, in order to foster greater equity and growth in least developed and low income countries.

REFERENCES AND ADDITIONAL BIBLIOGRAPHY

- Barrientos, S. 2014. "Gender & Global Value Chains: Challenges of Economic and Social Upgrading in Agri-Food." *EUI Working Paper RSCAS 2014/96*. Florence: European Union Institute.
- Barrientos, S., and M. Visser. 2012. "South Africa Horticulture: Opportunities and Challenges for Economic and Social Upgrading." *Capturing the Gains Working Paper No 12*. Manchester: The University of Manchester.
- Barrientos, S., P. Knorringa, B. Evers, M. Visser, and M. Opondo. 2016. "Shifting Regional Dynamics of Global Value Chains: Implications for Economic & Social Upgrading in African Horticulture." *Environment & Planning A* 48(7): 1266-83.
- Barrientos, S., P. Knorringa, and J. Pickles. 2016. "New End Markets, Supermarket Expansion & Shifting Social Standards." *Environment & Planning A* 48(7): 1284-301.
- Bessant, J., R. Kaplinsky, and R. Lamming. 2003. "Putting Supply Chain Learning into Practice." *International Journal of Production Management* 23(2): 167-84.
- Cattaneo, O., G. Gereffi, and C. Staritz (eds.). 2010. *Global Value Chains in a Post-crisis World: A Development Perspective*. Washington: World Bank.
- Chang, H-Joon. 2002. *Kicking Away the Ladder: Development Strategy in Historical Perspective*. Wimbledon: Anthem Press.
- Cusumano M.A. 1985. *The Japanese Automobile Industry: Technology and Management at Nissan and Toyota*. Cambridge: Harvard University Press.
- Ethical Trading Initiative. 2016. "The ETI Base Code." <http://www.ethicaltrade.org/resources/eti-base-code>
- European Communities. 2002. "Regulation (EC) No 178/2002 of the European Parliament and of the Council of 28 January 2002, Laying Down the General Principles and Requirements of Food Law, Establishing the European Food Safety Authority and Laying Down Procedures in Matters of Food Safety." www.food.gov.uk/sites/default/files/multimedia/pdfs/1782002ecregulation.pdf
- Fernandez-Stark, K., S. Frederick, and G. Gereffi. 2011. *The Apparel Global Value Chain: Economic Upgrading and Workforce Development*. Durham: Duke University.
- Fessehaie, J. 2016. "Regional Integration and High Potential Value Chains in West Africa." *Inclusive Economic Transformation Issue Paper*. Geneva: ICTSD.
- Humphrey, J., R. Kaplinsky, and P. Saraph. 1998. *Corporate Restructuring: Crompton Greaves and the Challenge of Globalisation*. N. Delhi: Sage Publications Ltd.
- International Accreditation Forum. 2015. "Determination of Audit Time of Quality and Environmental Management Systems." *IAF Mandatory Document IAF MD 5:2015*. <http://www.iaf.nu/upFiles/IAFMD5QMSEMSAuditDurationIssue311062015.pdf>
- Kaplinsky, R. 1994. *Easternisation: The Spread of Japanese Management Techniques to Developing Countries*. London: Frank Cass.
- Kaplinsky, R., and M. Morris. 2014. "Developing Industrial Clusters and Supply Chains to Support Diversification and Sustainable Development of Exports in Africa." *Composite Report*. Cairo: African Import-Export Bank.

- Keane, J., and K. Ratha. 2009. "Maintaining a Competitive Edge for Cambodian Industry: Widening or Deepening the Standards Spectrum." *Overseas Development Institute Background Note*. London: Overseas Development Institute.
- Natsuda, K., K. Goto, and J. Thoburn. 2009. "Challenges to the Cambodian Garment Industry in the Global Garment Value Chain." *RCAPS Working Paper No. 09-3*. Oita: Ritsumeikan Center for Asia Pacific Studies.
- Knorringa, P., and K. Nadvi. 2016. "Rising Power Clusters and the Challenges of Local and Global Standards." *Journal of Business Ethics* 133: 55-72.
- Maertens, M., and J. Swinnen. 2015. "Agricultural Trade & Development: A Value Chain Perspective." *WTO Working Paper ERSD-2015-04*. Geneva: World Trade Organization.
- Mavroidis, P. C. 2016. *Regulatory Cooperation: Lessons from the WTO and the World Trade Regime*. E15 Initiative. Geneva: International Centre for Trade and Sustainable Development (ICTSD) and World Economic Forum.
- Mavroidis, P. C. and R. Wolfe. 2016. "Private Standards and the WTO: Reclusive No More". *European University Institute Working Paper RSCAS 2016/17*. www.eui.eu/RSCAS/Publications/
- Monden Y. 1983. *Toyota Production System: Practical Approach to Production Management*. Atlanta: Industrial Engineering and Management Press.
- Morrison, A., C. Pietrobelli, and R. Rabellotti. 2008 "Global Value Chains and Technological Capabilities: A Framework to Study Learning and Innovation in Developing Countries." *SLPTMD Working Paper Series No. 005*. Oxford: Department of International Development, University of Oxford. <http://www.tandfonline.com/doi/abs/10.1080/13600810701848144>
- Nadvi, K., and G. Raj-Reichert. 2015. "Governing Health and Safety at Lower Tiers of the Computer Industry Global Value Chain." *Regulation and Governance* 9: 243-58.
- Ponte, S. 2012. "The Marine Stewardship Council (MSC) and the Making of a Market for 'Sustainable Fish'." *Journal of Agrarian Change* 12(2): 300-15.
- Raynolds, L.T. 2004. "The Globalization of Organic Agro-Food Networks." *World Development* 32(5): 725-43.
- Raynolds, L.T. 2017. "Fairtrade Labour Certification: The Contested Incorporation of Plantations and Workers." *Third World Quarterly* 38(7): 1473-92.
- Rossi, A. 2013. "Does Economic Upgrading Lead to Social Upgrading in GPNs? Evidence from Morocco." *World Development* 46: 223-33.
- Thorstensen, V., R. Weissinger, and X. Sun. 2015. *Private Standards -Implications for Trade, Development, and Governance*. E15 Initiative. Geneva: International Centre for Trade and Sustainable Development (ICTSD) and World Economic Forum.
- Visser, M. 2017. *Farm Workers' Living and Working Conditions in South Africa: An Abridged Report*. Geneva: International Labour Organization.

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