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Book

Kicking away the ladder, or building new scaffolding? : assessing the nexus of economic, social and environmental upgrading within the textiles and clothing value chain: a focus on Bangladesh, Vietnam and Kenya

Report

Kicking away the ladder, or building new scaffolding?

Assessing the nexus of economic, social and environmental upgrading within the textiles and clothing value chain: a focus on Bangladesh, Vietnam and Kenya

Jodie Keane and Linda Calabrese

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Abstract

The textiles and clothing (T&C) industry is one of the oldest, largest and most global in the world. It is characterised by the fragmentation of stages of production across firms and countries and by its organisation within global value chains (GVCs). Efforts have long been made to deal with social issues in the sector, but only recently have environmental concerns begun to be addressed. It is this nexus of how to address new environmental and longstanding social concerns, while also enabling continued economic opportunities through upgrading, that is the focus of this paper. We explore these aspects for Bangladesh, Kenya and Vietnam and assess outcomes based on a review of the existing literature and data on related indicators. The evidence is mixed in relation to social and environmental upgrading but, overall, there has been no market-led path. The findings reinforce longstanding concerns regarding the ability of smaller and less resourceful firms to remain included within the T&C GVC without appropriate support measures.

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Contents

Acronyms

ACCTS	Agreement on Climate Change, Trade and Sustainability (WTO)
AGOA	African Growth and Opportunity Act
CM	Cut and Make
CMT	Cut, Make and Trim
CO_2	Carbon Dioxide
CSDDD	Corporate Sustainability Due Diligence Act
CTE	Committee for Trade and Environment (WTO)
EIA	Environmental Impact Assessment
EU	European Union
GATT	General Agreement on Tariffs and Trade
GDP	Gross Domestic Product
GSP	Generalised System of Preferences (EU)
EPZ	Export processing zone
FDI	Foreign Direct Investment
FOB	free-on-board
FTA	Free Trade Agreement
GHG	Greenhouse Gas
GVC	Global Value Chain
IEEP	Institute for European Environmental Policy
ILO	International Labour Organization
ITC	International Trade Centre
LDC	Least Developed Country
LMIC	Low- and Middle-Income Countries
MFA	Multifibre Arrangement
MNE	Multinational Enterprise
NIC	Newly Industrialised Country
ODM	Original Design Manufacturer
OEM	Original Equipment Manufacturer
PPP	Purchasing Power Parity
RoO	Rules of Origin
SDG	Sustainable Development Goals
SMEs	Small and Medium sized Enterprises
SOE	State-Owned Enterprise
T&C	Textiles and Clothing
TESSD	Trade and Environmental Sustainability Structured Discussions (WTO)
TNC	Transnational Corporation
UN	United Nations
UNCTAD	United Nations Conference on Trade and Development

UNFCCC	United Nations Framework Convention on Climate Change
UNIDO	United Nations Industrial Development Organization
US	United States
USSR	Union of Soviet Socialist Republics
VITAS	Vietnam Textiles and Apparel Association
VSS	voluntary sustainability standards
WDI	World Development Indicators
WRI	World Resources Institute
WTO	World Trade Organization

Executive summary

The textiles and clothing (T&C) sector is a major contributor to greenhouse gas (GHG) emissions. It is energy-intensive and has a large environmental footprint, given water use and wastage. It is also a major driver of poverty reduction, through the expansion of employment opportunities. It has historically played a profound, catalytic role within broader industrialisation processes. However, socioeconomic progress has come with environmental costs, given the negative externalities associated with production.

New National regulations now seek to address global governance deficits regarding social and environmental issues. Participation within the T&C global value chain (GVC) increasingly requires commensurate actions to avoid adverse social and environmental outcomes. The changes in lead firm sourcing strategies are being driven by the demands of buyers, prompted by changes in government policy and consumer demand. At the global level, all governments have committed to the Paris Agreement and the global ambition to reduce GHGs and address the climate emergency.

The recent actions to address the environmental footprint of the industry stand in contrast to the longer history of different measures to address social impacts in the T&C GVC. More recently, the mutual assurances of World Trade Organization (WTO) members assurances regarding protection of the environment are no longer considered sufficient. New initiatives now seek to address global governance deficits associated with both the social and environmental impacts of the T&C GVC.

It is this nexus of how to address new environmental and longstanding social concerns, while enabling continued economic opportunities and upgrading for different types of producers, that is the focus of the analysis in this paper. The nexus of economic, social and environmental concerns are coming together to shape engagement with the T&C GVC and associated outcomes. Within this context, this study seeks to answer the following question: what are the economic (contribution to gross domestic product growth, productivity and upgrading, exports), social (creation of decent jobs, poverty reduction, women's economic empowerment) and environmental (carbon intensity of industry, carbon intensity of electricity generation, air quality, water quality, water intensity of industry) effects of participation within the T&C GVC in Bangladesh, Kenya and Vietnam?

We refer to firm-level participation as either a producer or a supplier of T&C within the GVC – which is coordinated by lead firms and buyers. Each of the selected case study countries – Bangladesh, Kenya, Vietnam – entered the T&C GVC in its own way and occupies a different position; each has different challenges in upgrading economically, as well as socially and environmentally. By 'upgrading', we mean improving the associated outcomes of production. For example, economic upgrading can refer to higher-quality production and therefore value; social upgrading can refer to improvements in labour conditions and higher wages. Finally, environmental upgrading can refer to reduced use of inputs, such as freshwater use, or improved outputs, such as reduced emissions from production.

We review the available evidence across the three case studies regarding economic, social and environmental upgrading. We then bring together the results and assess overall sustainability by developing a scorecard across selected indicators. Our approach towards assessing the nexus of outcomes for producers across economic, social and environmental indicators differs from those that have more systematically assessed upgrading processes in value chains: we do not analyse changes in indicators over time. Instead, we assess outcomes in a static sense based on the most recent available indicators and data indicative of economic, social, and environmental upgrading.

We find no market-led path to either social or environmental upgrading in the case studies reviewed. However, active measures are being taken in each of the three case study countries to improve outcomes. This includes undertaking investments at the firm-level (Bangladesh) and updating public policy frameworks (Vietnam). These have been driven by major changes in value chain governance, prompted by supranational structures. In comparison, Kenya has the largest share of renewable energy powering the T&C sector and so should be well positioned in terms of green competitiveness, but greater linkage development with the textiles industry is needed.

Despite the active measures being taken to address the nexus of economic, social and environmental upgrading, longstanding concerns regarding the ability of smaller and less-resourced firms to adapt to changes in production methods and new environmental standards remain. If the T&C GVC is to continue to provide a foothold into sustainable economic transformation, the appropriate support measures, backed up by public policy frameworks, are needed.

1 Introduction

The textile and clothing (T&C) sector contributes significantly to employment, production and trade in many low- and middle-income countries (LMICs). In the same countries, the sector is or has been crucial to kickstarting (export-led) industrialisation (Keane and te Velde, 2008; Calabrese and Balchin, 2022).

Major changes in production methods and trade in the T&C sector are now driven by large firms and buyers, prompted by governments and consumers; these changes are being shaped by concerns regarding climate change (e.g. energy use and emissions) as well as environmental sustainability (e.g. wastewater, circular economy). The social aspects of production, related to the conditions of the workers and their families, have also continued to rise in priority for consumers and buyers. The nexus of economic, social and environmental issues is therefore coming together to shape engagement with the T&C global value chain (GVC) and associated outcomes.

However, very few value chain studies explicitly document the impact on poverty, gender and the environment or, conversely, how GVC restructuring is in turn mediated by local history, social relations and environmental factors (Bolwig et al., 2010). Krishnan et al. (2022) draw attention to the effects on actors beyond the value chain and develop an analytical framework that distinguishes between the process of environmental upgrading within the chain and resultant biophysical outcomes. The results from our analysis similarly emphasise the need to look beyond the value chain, to consider how observed outcomes are related to different types of and influences on value chain governance and public policy frameworks.

Overall this study seeks to answer the following question: what are the economic (contribution to gross domestic product (GDP) growth, productivity and upgrading, exports), social (creation of decent jobs, poverty reduction, women's economic empowerment) and environmental (carbon intensity of industry, carbon intensity of electricity generation, air quality, water quality, water intensity of industry) effects of participation with the T&C GVC in Bangladesh, Kenya and Vietnam? We refer to firm-level participation as either a producer or a supplier of T&C within the GVC – which is coordinated by lead firms and buyers.

Producers are integrated into the GVC dependent on their respective capabilities, within networks of suppliers and intermediaries. The

tasks involved in production are divided between countries, with buyers and lead firms mainly located in the Global North and low-level manufacturers and assemblers in the Global South. Each of the selected case study countries – Bangladesh, Kenya, Vietnam – entered the T&C GVC in its own way and occupies a different position. Each has experienced different challenges in upgrading economically, as well as socially and environmentally. However, there are some commonalities in that there has been no market-led path to social or environmental upgrading.

To compare the experiences of the three country case studies, we develop a scorecard. We populate this with indicators related to the nexus of economic, social and environmental outcomes. We draw together the different strands of research on economic, social and environmental upgrading within the T&C GVC for the three case studies. This allows us to interpret the experience of each country across some specific indicators that apply at the sectoral level, as well as more broadly, at the country level.

This report is organised as follows. Section 2 briefly describes the T&C GVC and its historical development to its contemporary organisation. Section 3 describes governance of the T&C GVC and the different concepts of economic, social and environmental upgrading. Section 4 introduces our scorecard and the results for the country case studies. Finally, Section 5 concludes by drawing together the major findings and considering how outcomes across the nexus of economic, social and environmental upgrading could be improved.

2 Expansion and organisation of the T&C GVC

2.1 Expansion of the T&C GVC

The T&C industry is one of the oldest, largest and most global in the world. It has been an archetypal step on the ladder of industrialisation (Gereffi, 2002; Keane and te Velde, 2008). Its expansion globally, characterised by the fragmentation of stages of production across firms and countries and organised within GVCs, was underpinned by a set of rules that became incorporated into multilateral agreements such as the General Agreement on Tariffs and Trade (GATT) and subsequently the World Trade Organization (WTO).

These rules initially included the use of quantitative restrictions to regulate trade in T&C. The severity of measures put in place – a response to the dramatic rise of the East Asian newly industrialised countries (NICs) – reflected the importance of the industry in terms of providing a stepping-stone into the modern export sector (Keane, 2011, 2016).

The movement of the industry across the Asian NICs was conceptualised within the ‘flying geese’ model of recycling comparative advantage developed by Akatamsu (1962). During the 1960s and 1970s, the industry spread from Japan to its East Asian neighbours, including Hong Kong, South Korea and Taiwan – which collectively became known as the first-tier NICs.

In the 1980s, the industry devolved from this region and gravitated towards other Asian neighbours, (motivated by the attractiveness of lower cost production) - including China, and the second-tier NICs of Indonesia and Thailand; then subsequently Bangladesh, Cambodia and Vietnam. In turn, the first-tier NICs moved into more advanced sectors, as the second-tier NICs began to undertake the functions and activities they had previously specialised in.

The T&C sector is largely organised globally within networks of suppliers and intermediaries coordinated by lead firms and buyers, within GVCs. However, these more organised value chains are often accompanied by a complex network of informal subcontractors and intermediaries that often operate outside of the more formal

structures; often, it is within these networks that violations of standards occur. Appendix 1 provides an overview of the value chain methodology and its key concepts. The point to emphasise here is that, over time, particular stages within the T&C GVC have become more concentrated; this has served to consolidate the position of firms within different stages and tiers of production in the GVC.

Trade in T&C has been heavily influenced by trade policy. As restrictions on imports have been removed and tariffs have become lower, buyers have modified their strategies towards lead time management, production flexibility and product quality and delivery – away from (tariff) rent capture (Curran and Nadvi, 2015). Globally, these shifts have been expressed through a decline in unit prices for T&C and increased pressure in the sector, including regarding purchasing practices.[1] Geographies of global sourcing are complex and multi-layered (Pickles et al., 2015).

Trade policy developments are increasingly influencing the institutional context within which production and the role of labour are organised (Pickles et al., 2015). Environmental considerations have now become more prominent (Ponte et al., 2022); this is especially the case since the adoption of the Paris Agreement in 2015 and in recognition of the large environmental footprint of the T&C GVC. Social issues, by comparison, have a longer history of being tackled by trade policy and other support measures.

The impact of these changes on indicators related to economic, social and environmental upgrading has only recently begun to be explored systematically. The imperative of doing so nowadays is heightened by the increasing stringency with which buyers and lead firms are addressing perceived governance deficits regarding social and environmental issues; these shifts in turn are being prompted by changes in public policy frameworks in end markets, which have implications for the organisation of the T&C GVC.

2.2 Organisation of the T&C GVC

Producers are integrated into the T&C GVC based on their respective capabilities. Historically, these capabilities have been related mainly to labour costs but nowadays they include other aspects of production, such as logistics and supply chain management, compliance issues and avoidance of reputation risks – including related to social and environmental issues.

Production is largely coordinated by decentralised, globally dispersed, production networks coordinated by lead firms. They control value-added activities such as design and branding but outsource all or most of the manufacturing process to a global network of suppliers, as well as passing on many of the costs of compliance (Pickles et al., 2015).

[1] In turn, there is a close relationship between purchasing practices and working conditions (ILO, 2021).

In relation to suppliers, it is important to make the distinction between clothing and textiles producers, and therefore countries that specialise in one, or both, parts of T&C production. Textiles production may comprise several stages, can be woven or knit, and is the traditional backward linkage to the garment GVC. Hence, the forward linkage for the textiles sector (woven and knit) is clothing, or garment production; this stage comprises the cutting and trimming of fabrics and finishing, to the supply of the actual branded product directly to the end market.

Textiles producers operate in a different position within the value chain: this segment of the chain – for example producing yarn or fabric – generates the most important inputs for clothing production; it is more capital- and scale-intensive, demands higher skills and retains a large presence in countries where capital and skilled labour are found in relative abundance (Pickles et al., 2015). Within the textiles sector, there are other important distinctions between woven and knit fabric, with implications for the labour intensity of production as well as the ability to capture greater value added.

Further to the assembly of the product using internationally or domestically sourced fabric, either the product is then exported directly to the retailer or, if further finishing is required, it may be sent to either a brand marketer or a sourcing intermediary for more work. This stage of production may include ironing, packaging and the addition of final labels, so the product can then be sent to retailers – mass merchandisers or specialty sellers (Gereffi and Memedovic, 2003; Nordas, (2004).

Producers that specialise in the basic assembly stage of production are known as cut, make and trim (CMT) suppliers. In this case, inputs are sourced internationally rather than domestically. Over time, these types of suppliers may become full package suppliers – dealing directly with retailers and mass merchandisers, or branded marketers. This is so long as they can take responsibility for sourcing all inputs used in production including textiles, as well as ensuring final delivery to end markets.

2.3 Country divisions of labour

Overall, China continues to dominate both the textiles and the clothing segments of the value chain: it is the world’s largest exporter by an order of magnitude relative to competitors. Backward linkages within the sector in China are very developed, with strong product diversity and ability to deliver relatively high product quality at competitive prices (further to upgrading efforts undertaken in the past (Butollo, 2015)). It is generally recognised that the full entry of China into the T&C GVC, as multilateral trade policy restrictions have been removed, has been formidable. Initially, trade policy restrictions negotiated under the Multifibre Arrangement (MFA) and then subsequently the Agreement on Textiles and Clothing had limited China’s entry into global markets. However, as China has become a

full member of the WTO, these restrictions have been removed and market entry has been secured.

As a result, barriers to entry to firms in terms of gaining a position within different stages of the value chain have grown. It has become very challenging for producers to compete with China on price. Although China has a minimum wage, it also has very high productivity, which is part of its strategy to induce movement up (and out) of the T&C GVC; this includes through Chinese firms relocating as well as subcontracting. This implies that other producers need to find specific niches in the overall GVC or different types of value chain participation – including within the regional or domestic market.

Table 1 Top T&C exporters in 2022

Textiles			**Clothing**		
Exporters	**Value in b$**	**% world total**	**Exporters**	**Value in b$**	**% world total**
China	148	43.6	China	182	31.7
European Union (EU)	71	21.1	European Union (EU)	156	27.1
extra EU exports	25	7.4	extra EU exports	45	7.7
India	19	5.7	Bangladesh	45	7.9
Turkey	15	4.3	Vietnam	35	6.1
USA	14	4.1	Turkey	20	3.5
Vietnam	11	3.1	India	18	3.1
Pakistan	9	2.6	Indonesia	10	1.7
Taiwan	8	2.5	Cambodia	9	1.6
South Korea	8	2.4	Pakistan	9	1.5
Japan	6	1.8	USA	7	1.2
Top 10	309	91.1	Top 10	492	85.5

Source: WTO's World Trade Statistical Review 2023 reference data

As Table 1 shows, apart from the European Union trade, Bangladesh (second) and Vietnam (third) are among the top three exporters of clothing. Vietnam is also within the top 10 exporters of textiles. Kenya does not feature as a major global exporter of either textiles or clothing, although it is an important regional player. Table 2 positions the country case studies and includes China as a point of reference, being a full package provider.

According to McKinsey (2023), seven countries in Asia – Bangladesh, China, India, Indonesia, Malaysia, Sri Lanka and Vietnam – drive global clothing apparel exports. These producers are under pressure, given energy prices and inflationary pressures increasing costs but also reducing demand. Major manufacturing units across Bangladesh, India and Sri Lanka have been forced to run at 60–70% utilisation and to accept orders at near-zero margins to keep production lines running (ibid.). Margins are under pressure at a time when producers are expected to comply with new demands for compliance with environmental and social governance.

Table 2 Country capabilities in value chain functions

Functional capabilities	Country examples	Description of activities	Firm ownership and size
CMT (assembly) **Supplier tier:** Marginal supplier first tier	Vietnam, Kenya	This is a form of subcontracting in which garment sewing plants are provided with imported inputs for assembly, most commonly in export processing zones (EPZs). CMT, or CM (cut and make), is a system whereby a manufacturer produces garments by cutting fabric provided by the customer and sewing the cut fabric into garments for delivery to the customer in accordance with their specifications. In general, companies operating on a CMT basis do not become involved in the design of the garment, just the manufacture.	**Kenya:** Large Asian firms in EPZs **Vietnam:** State-owned enterprises (SOEs) and joint, private and foreign firms; around 80% small and medium enterprises (SMEs)
Package contractor (original equipment manufacturer (OEM)) sourcing **Supplier tier:** Preferred supplier second tier	Bangladesh	OEM is a business model that focuses on the manufacturing process. The contractor is capable of sourcing and financing piece goods (fabric) and trim, and providing all production services, finishing and packaging for delivery to the retail outlet. In the clothing industry, OEMs typically manufacture according to customer specifications and design, in many cases using raw materials specified by the customer. Free-on-board (FOB) is a common term used in industry to describe this type of contract manufacturer. However, it is technically an international trade term in which, for the quoted price, goods are delivered on board a ship or to another carrier at no cost to the buyer.	Mainly domestic firms, with foreign firms limited to SEZs
Full package provider (original design manufacturer (ODM)) **Supplier tier:** Strategic supplier	China	This business model focuses on design rather than branding or manufacturing. A full package garment supplier carries out all steps involved in the production of a finished garment, including design, fabric purchasing, cutting, sewing, trimming, packaging and distribution. Typically, a full package supplier will organise and coordinate design of the product; approval of samples; selection, purchasing and production of materials; completion of production; and, in some cases, delivery of the finished product to the final customer.	A fairly even distribution between foreign direct investment (FDI) and domestic firms, with some SOEs (around 2%)

Source: Adapted and updated table based on the typology developed by Gereffi and Frederick (2010).

2.4 Relative position of case study countries

Each of the case study countries occupies a unique position within the T&C GVC (Table 3). Overall, Bangladesh is the most economically dependent on the sector, as indicated by the share of T&C in manufacturing value added (MVA), followed by Kenya and Vietnam. The approach towards integration with the T&C GVC has been different for each country, even though there may be some commonalities in terms of attracting foreign investment into the sector – as we discuss further in the next section.

Table 3 Summary of T&C GVC engagement of case study countries

	Vietnam	Bangladesh	Kenya
Development trajectory	Vietnam's entrance into the T&C value chain was underpinned by its transition towards a more outward-oriented economy (under the Doi Moi reform process).	This global powerhouse of T&C production has become one of the world's largest exporters. The clothing segment of the value chain is supported by backward linkages in textiles production.	Kenya used to be the East African powerhouse but liberal orientation in the 1990s hit the industry hard, with major competitiveness effects. Nowadays, there are two distinct value chains within T&C: the standard clothing market and *mitumba* (second-hand clothing imports sold on domestic market).
Approach to value chain engagement	A liberal approach to attracting investment into the sector was pursued. However, the state has remained active within the sector for both textiles and garments, with the presence of SOEs a distinctive feature.	Bangladesh entered under the MFA regime with domestic entrepreneurs able to learn from South Korean investors, given effective rent management. Nowadays the industry relies heavily on trade preferences conveyed by way of least developed country (LDC) status (which will be removed upon graduation).	The liberal approach has meant an inability to fully integrate textiles production and challenges in coordination. Impressive growth in clothing exports is underpinned by the African Growth and Opportunity Act (AGOA), mainly destined for the US and utilising imported fabric from Asian suppliers (produced by Asian transnational corporations (TNCs) in EPZs).

	Vietnam	Bangladesh	Kenya
Textiles production	There is some domestic production of fibres, including cotton, as well as a planned increased in synthetics (Vinatex and PetrolVietnam). Imports of around 50% of textiles are needed to meet demand.	Domestic textiles production is able to meet almost all of the demand for yarn for readymade garments and up to 40% for woven.	Efforts are underway to increase domestic cotton production (yields are low, with the sector dominated by rainfed smallholders). However, most inputs are imported.
Clothing production	Vietnam became a major supplier to the US after a bilateral trade agreement in 2001. Most production is CMT with some FOB and ODM. The sector comprises SOEs, and joint stock, private and foreign firms, but around 80% of firms are SMEs. Vietnam is overall considered a latecomer to the sector.	Major markets include the EU and the US. Industry is dominated by local firms and SME suppliers, with foreign firms operating within EPZs. Most production is CMT but Bangladesh has also become a full package supplier.	Most clothing exports are destined for the US and under the AGOA preference, and can use imported fabric to qualify. The clothing export sector is driven by EPZs, with 170 medium to large firms and 75,000 SMEs. Large firms are mainly Asian TNCs engaged in CMT with small local firms supplying, supported by local packaging companies.
T&C (% MVA)	16% (2020)	57% (2021)	18% (2020)

Source: Data on manufacturing value added from WDI at https://data.worldbank.org/indicator/NV.MNF.TXTL.ZS.UN (accessed 19 March 2023)

3 Changing governance structures in textiles and clothing

The concept of value chain governance is changing. This is in view of the more proactive approaches governments are taking to address the environmental and social aspects of production. The following section summarises how our understandings of GVC governance structures have changed over time, and the new developments that are prompting further changes.

3.1 Changing T&C GVC governance structures

The initial distinctions made in relation to value chain governance were in relation to private governance frameworks, negotiated between firms. Gereffi et al. (2005) developed a widely referred to framework of private value chain governance. This aimed to explain how value chain governance structures between firms develop and change, based on three variables: the complexity of transactions, the ability to codify transactions and capabilities in the supply base.

Within this framework, it is posited that, as capabilities in the supply base increase, lead firms can take a more hands-off role; value chain governance structures are therefore assumed to change. Different types of value chain governance are thus associated with different opportunities for economic upgrading. As a result, social upgrading through higher wages and skills, as firms' capabilities increase, is expected. However, the specific transmission mechanisms are left ambiguous.

Because value chain studies raised concerns regarding producers' ability to change their position and upgrade, different actors have worked together to change these dynamics – for example donors working with the private sector and governments to manage the overall supply chain. These efforts initially focused more on addressing social concerns. A prominent example of this is the International Labour Organization (ILO) Better Factories Programme in Cambodia, whose success prompted the creation of the Better Work Programme in Africa, America and Asia (including Vietnam and

Bangladesh).[2] A collective research endeavour, Capturing the Gains,[3] sought to explore when economic and social upgrading occurred in tandem.

Social issues within the sector remain a concern but environmental concerns have become more prominent since the global commitment to the 2030 Agenda and the Sustainable Development Goals (SDGs) made in 2015. The global agreement reached on the Paris Agreement and the commitment to limit global greenhouse gas (GHG) emissions has had trade policy ramifications. Together, these developments mean that the nature of value chain governance is changing, as Box 1 describes.

Box 1 Global value chain governance

Why do value chain governance structures matter? They matter because they shape upgrading processes for firms participating in the value chain; they can open and close different upgrading opportunities available to new entrants.

What do we mean by value chain governance? Normally, different types of governance between firms (internal to the chain) are determined by the type of information needed to support transactions as well as by producers' capabilities. External structures include the playing field set by public policy frameworks, including, for example, regulatory policy on issues like foreign investment or competition.

There has been a rapid expansion of the literature on the public governance structures influencing GVCs. For example, Ponte and Sturgeon (2014) emphasised how domestic regulation and public sector support needed to be incorporated in a comprehensive framework linking GVC governance, institutional frameworks and upgrading. And that, so far, GVC analysis has focused mainly on governance mechanisms internal to the value chain, treating the institutional framework (including state regulation) as 'background'.

This literature has subsequently grown and now distinguishes between private, public and social governance. The literature on private governance essentially assumes the agency states usually exert on producers is instead exercised by firms. This includes in relation to forms of corporate codes of conduct and monitoring (Gereffi and Lee, 2016). Furthermore, 'outsourcing governance' is used to define the ways in states have engaged in a process of delegating a variety of governance functions and authority to private actors (Mayer and Phillips, 2017).

[2] See https://www.ilo.org/washington/areas/better-work/lang--en/index.htm (accessed 4 December 2023).
[3] See www.gdi.manchester.ac.uk/research/groups/gpn-trade-labour/capturing-the-gains/ (accessed 4 December 2023).

Public governance of value chains distinguishes between functions of the state as facilitative, regulatory and distributive (Gereffi and Mayer, 2006; Mayer and Phillips, 2017), but also as producer (state-owned firms) and buyer (state purchases through public procurement) (see Horner and Alford, 2019).

Social governance is used to refer to civil society pressure on business from labour organisations and non-governmental organisations (Gereffi and Lee, 2016). The role of international organisations, at the supranational level, in advancing 'coordinated governance' – the interaction and complementary efforts of different public, private and social stakeholders – is also now recognised (Posthuma and Rossi, 2016).

3.2 Fragmented or coordinated governance?

While supranational structures exist, like the overarching framework of the SDGs, the Paris Agreement and agencies like the ILO that seek to promote core international labour standards, none of these provides for binding commitments. One pillar of global economic governance that does back up commitments with enforcement, the WTO, has not reach consensus on mandatory social or environmental standards. The issues remain contentious, especially between developed and developing countries (see Box 2). The WTO is in many ways in crisis because its rules are not considered to be in sync with trends in the global economy and the rise of GVCs: its rules were designed in 1948 before global trade and investment became so fragmented, with stages of production disbursed across many different types of producers.

Box 2 Multilateral trade policy developments

The preamble of the WTO Agreement's commitment to promote sustainable development rests predominantly on the mutual assurances of protection afforded by countries' own legislative frameworks – and it is this reassurance that has worn thin in recent years. For example, it is assumed that all members – developed and developing – will themselves take the necessary steps to ensure sustainable development (and in the least trade-restrictive way). This is as opposed to WTO members reaching agreement on specific standards to ensure the reduction of environmental harm.

In relation to the environment, some members are spearheading more proactive action. In 1997, 8.1% of notifications related to trade policy measures imposed, or around one in 12, were environment-related, whereas in 2021 the share was 18.9%, or nearly one in five.4 This increased interest in the environment is reflected in a recent reinvigoration of the WTO's Committee for Trade and Environment (CTE)'s deliberations. Plurilateral initiatives have also arisen,

[4] See WTO Environment Database (https://edb.wto.org/).

including the Agreement on Climate Change, Trade and Sustainability (ACCTS), which seeks to development guidelines for ecolabelling. Finally, the Trade and Environmental Sustainability Structured Discussions (TESSD) include a focus on the circular economy and sustainable value chains, as well as other climate-related trade measures.

However, none of the three case study countries – Bangladesh, Kenya and Vietnam – are a member of the TESSD (or the ACCTS). However, Kenya is a member of the Coalition of Trade Ministers on Climate, launched in 2022. Though this does not yet have any formal links to WTO processes, Kenya has relayed to the CTE recent developments. Overall, Kenya has the highest number of environment-related notifications at the WTO of all three case study countries: 13, compared with 6 from Vietnam and none from Bangladesh.

Given this, social and environmental issues are increasingly being addressed through bilateral trade agreements, as well as preferential trade agreements. One of the earliest examples was the agreement between the US and Cambodia, which made market access for T&C exports contingent on adherence to ILO labour standards. This was intended to mitigate concerns about a race to the bottom in terms of labour standards by quota-hopping multinational enterprises (MNEs) (moving from countries with US market restrictions such as quotas to those without – like Bangladesh and Cambodia). Nowadays, both the US and the EU provide additional market access contingent on adherence to ILO labour standards within their respective generalised systems of preferences (Box 3).

While the inclusion of green components within preferential trade agreements has increased over time, there has always been some uncertainty regarding how these promises translate into domestic legislation (Berger et al., 2017). In addition, provisions on sustainable development tend to be excluded from the overall dispute settlement mechanism of free trade agreements (FTAs).

Box 3 Preferential market access and conditionality

The EU and the US, among the two largest consumers of readymade garments in the world, offer preferential access to their markets through dedicated schemes. For the LDCs, this includes duty-free and quota-free exports for selected products, including garments, if certain conditions are respected. These conditions generally have to do with respect of basic standards in terms of labour and human rights, environment and climate change, and good governance. Failure to respect these generally triggers a review of the scheme, and ultimately the withdrawal of the preferences from the violating country. There are prominent examples for the EU and US schemes, as we discuss below.

The EU's Generalised System of Preferences (GSP) requires that beneficiaries ratify and implement the international conventions on human rights, labour rights, environmental protection and good governance. A part of the current scheme will expire at the end of 2023, and the proposed new regulations will strengthen the focus on reducing poverty and increasing export opportunities for low-income countries (van der Loo, 2022). There are mixed views regarding the GSP's application, given labour rights violators (Vogt, 2015; Peake, 2020). Nonetheless, Cambodia was removed from the EU's GSP on 12 August 2020. The decision to withdraw part of the tariff preferences granted to Cambodia under the EU's Everything But Arms trade arrangement owed to serious and systematic violations of the human rights principles enshrined in the International Covenant on Civil and Political Rights (EC, 2020)..

The AGOA provides preferential market access to the US for African countries. To qualify and remain eligible for AGOA, countries must adhere to certain conditions in terms of rule of law, human rights and respect for core labour standards. The scheme can be withdrawn for non-compliance. For example, Rwanda's preferences were withdrawn exclusively for the T&C sector, as the government enacted a phase-out of second-hand clothing to promote the domestic garment industry. This move was opposed by a group of used garment exporters in the US, who asked for and were granted withdrawal of preferences for Rwanda (Calabrese and Development Reimagined, 2018). From 2024, the US will remove AGOA preferences from Central African Republic, Gabon, Niger and Uganda for non-compliance with criteria, including the violation of human rights and lack of progress regarding the protection of political pluralism and the rule of law (BBC, 2023). The AGOA initiative does not include reference to environmental standards; though this could change in the future, there have been no clear indications that this will happen soon.

In the case of the EU, there are major differences across EU FTAs in terms of the conventions referred to regarding environmental protection (IEEP, 2022). Overall, there are stricter and more enforceable rules for human rights protection than there are for environmental objectives.[5]

The international consensus on human rights has a longer tradition and is more uniform and precise compared with the situation for environmental challenges, some of which depend more on local conditions and are therefore inherently different. Some ecological issues are not addressed in trade and sustainable development chapters but are part of parallel dialogues in FTAs, with, for example,

[5] Although we note that this situation is changing: an example is the recent EU-Mercosur Association Agreement, where a side agreement may be reached to strengthen the enforcement of the sustainable development provisions.

dedicated chapters on timber and forests, sustainable fisheries, biodiversity or sustainable supply chains. This approach aims to promote joint understanding and exchange of information (Hagemeier et al., 2021).

However, because these frameworks apply at the country level, and given major issues regarding enforcement, new policy measures target firms. Sector-specific initiatives for textiles production have also arisen. The part of the strategy that concerns T&C GVC producers the most is the introduction of mandatory requirements on sustainable production. Box 4 summarises some of the recent developments regarding new measures to improve the environmental and climate change related impacts of trade within the T&C GVC. reen trade measures.

Box 4 Firm-specific initiatives

The EU's Corporate Sustainability Due Diligence Act (CSDDD) places an obligation on firms to ensure compliance with human rights and environmental standards.

The initiative is in line with the UN Guiding Principles on Business and Human Rights, as well as the Organisation for Economic Co-operation and Development Guidelines for MNEs. It builds on the individual measures already adopted by EU members to address human rights issues in supply chains (for example in France, Germany and the Netherlands). Essentially, the CSDDD seeks to harmonise some of the existing policy measures across the EU.

The T&C sector is identified as a 'high-risk' sector in terms of contributing to adverse human rights and environmental outcomes. The CSDDD sets a minimum threshold with which companies must comply to avoid any adverse impacts; those supplying the market are obliged to have a deep understanding of their value chain and assume responsibility for associated impacts: risks to human rights and the environment must be actively managed and addressed.

Sector-specific initiatives

The EU Textiles Strategy seeks to enhance compliance at the firm level with environmental and social standards. By 2030, textiles products placed on the EU market will be expected to be long-lived and recyclable and increasingly made of recycled fibres, free of hazardous substances and produced in respect of social rights and the environment. In June 2023, the European Parliament voted in favour of the strategy, which forms part of the broader move for circularity across supply chains. The vision, stated below, will be supported by EU and national measures:

'By 2030 textile products placed on the EU market are long-lived and recyclable, to a great extent made of recycled fibres, free of hazardous substances and produced in respect of social rights and

the environment. Consumers benefit longer from high quality affordable textiles, fast fashion is out of fashion, and economically profitable re-use and repair services are widely available. In a competitive, resilient and innovative textiles sector, producers take responsibility for their products along the value chain, including when they become waste. The circular textiles ecosystem is thriving, driven by sufficient capacities for innovative fibre-to-fibre recycling, while the incineration and landfilling of textiles is reduced to the minimum' (European Commission, 2022).

While reliance on the market and consumer preferences alone are now recognised as insufficient to induce the scale of transformation needed in the T&C GVC to achieve sustainability, there are many examples of GVC drivers (lead firms, buyers and retailers) requiring adherence to private voluntary sustainability standards (VSS). These initiatives have arisen out of perceived gaps in governance and some have been prompted by donor interventions.

In many instances, the targeted metrics of VSS overlap with the entry points for transformation required to achieve the SDGs at the scale and speed needed (UNCTAD, 2020). However, the certification process for VSS can be challenging without supporting public policy frameworks. Complex cotton and clothing supply chains are challenging to track. Many VSS initiatives suffer from a lack of funding, which make their operations difficult. VSS may therefore constitute barriers to entry unless there is technical as well as financial support, either by buyers or by governments, to assist with value chain engagement. MNEs are currently focusing a great deal of attention on the Social & Labour Convergence Programme: a multi-stakeholder initiative aimed at simplifying the collection and dissemination of data about working conditions, with the aim to decrease 'audit fatigue'.[6] However, question marks remain as to whether this initiative will achieve more than other compliance programmes. There are also many unanswered questions regarding how compliance to new environmental measures will be supported.

3.3 Implications for the informal sector

Because many firms in the T&C GVC resort to subcontracting, often to the informal sector, it is difficult to establish the magnitude of this phenomenon globally, as numbers vary by country. Places with a long tradition of cottage industries, such as India, see many informal firms participating in garment value chains (Balchin and Calabrese, 2019). In Bangladesh, a survey of nearly 500 factories in Dhaka found that over 30% were informal and producing at least partly for the export market (Saxena and Baumann-Pauly, 2019). In Vietnam,

[6] Production facilities participating in the Social & Labour Convergence Programme collect data on working conditions themselves through a tool developed by the programme, and then a certified assessor verify the information. For more information, see https://slconvergence.org/ (accessed 4 December 2023).

on the other hand, informal firms were found to produce largely for the domestic market (Goto, 2013).

Being part of the shadow economy, these informal firms are more difficult to monitor, and often are found to be non-compliant with minimum safety and work standards (Gereffi and Guler, 2010; Saxena and Baumann-Pauly, 2019). For instance, a study on Dhaka slum settlements found the readymade garments sector to be a major employer of children, accounting for two-thirds of female child labour (Quattri and Watkins, 2019).

Numerous studies have noted a widening gap in terms of the working conditions between direct and indirect suppliers (or sub-subcontractors), which creates a ‘parallel workforce’, segmenting the labour market and generating tensions in the labour outcomes of the garment industry (Plank et al., 2012; Saxena and Baumann-Pauly, 2019). In some cases, informal firms are seen as a path for inclusion, as informal subcontracting offers capital to kickstart businesses, and over time informal firms can expand and become formal subcontractors (Goto, 2013). This, however, does not seem to be occurring commonly.

4 Assessing the nexus of economic, social and environmental upgrading

This section reviews the evidence on economic, social and environmental upgrading for the three case study countries – Bangladesh, Kenya and Vietnam. We note that there is no uniform approach to assessing upgrading (all types) and the relationship with prevailing GVC governance structures (and related transmission mechanisms). Nonetheless, we summarise the key aspects of value chain governance for each case study country before we provide a summary of the available evidence on upgrading. Finally, we develop a summary across the assessment indicators and bring them together in a scorecard.

4.1 Prevailing GVC governance structures

Each of the country case study countries is a WTO member. Only Bangladesh is classified as an LDC, which means that it is conferred preferential market access by way of the generalised system of preferences. Kenya exports to its major markets under specific preferential agreements, notably AGOA in the US market and an Economic Partnership Agreement with the EU. Vietnam has completely transformed its economy towards a 'market economy' over recent years and joined the WTO in 2007 (Bangladesh and Kenya were members from 1995 and previous members of the GATT). However, SOEs still play a prominent role within the economy, including within the T&C value chain.

Table 4 summarises the main types of governance that have been identified within the literature for the case studies. We refer to private, public and social governance. For private sector governance, we refer to the Gereffi et al. (2005) framework. For public governance, we refer to institutional arrangements that shape the T&C GVC in country. For social governance, we refer to broader societal engagement with the T&C GVC (but note that this aspect is less well covered within the existing literature). These diverse experiences are reflected in differentiated outcomes regrading economic upgrading processes, summarised in the next sub-section.

Table 4 Overview of T&C GVC governance structures

	Bangladesh	Kenya	Vietnam
Private value chain governance	Producer-driven	Buyer-driven – more hierarchical	State-driven, but also mixed
Public value chain governance	Directive approach	Facilitative approach	State as producer and buyer
Social governance	Strong	Emerging, yet unclear	State-driven

As a member of the GATT, Bangladesh entered the T&C GVC at the time of quota arrangements under the MFA and then subsequently the Agreement on Textiles and Clothing. It was able to effectively manage the available rents, and the growth of the sector is deeply intertwined with the domestic political economy. The collaboration between domestic and foreign firms – a well-known example is the Desh-Daewoo collaboration – supported the development of domestic capabilities and knowledge transfers. This focus on skills development within the sector is clearly part of an industrial policy. There has also been strong engagement and activism by industry associations.

It is generally recognised that Bangladesh has taken a more directive approach to the development of the T&C GVC (Keane, 2016). This has meant that private governance structures have moved away from more hierarchical or buyer-driven structures towards more producer-driven structures (Keane, 2012). Social governance of the sector has improved over time, especially since the Rana Plaza incident, along with firms' collective action and agreement with unions (Ashwin, 2019).

Kenya was a major producer of T&C within the East African region prior to liberalisation. The more liberal approach to the development of the industrial sector, supported by trade openness, did not yield the anticipated results over time. Competition with Asian products has proved challenging for African producers. More recently, however, Asian producers have sought to relocate to Kenya in view of the new market opportunities available in the US. There continues to be some domestic production, mainly for the domestic market. Infinitives to strengthen linkages between textiles and clothing continue. However, overall, there has been more limited state intervention and direction within the sector.

Vietnam is the most recent entrant to the T&C GVC and has made impressive gains, especially since a bilateral arrangement with the US was agreed in 2001. Although a latecomer in the global sense, it had relatively strong domestic production and linkage development in view of its previous orientation to the USSR. The reform process, which began around the mid-1980s (known as Doi Moi, or 'renovation') gradually opened up the economy. The structure of the T&C value chain in Vietnam is therefore more heterogenous, given that state-owned firms operate alongside private and foreign-owned

enterprises. The state continues to direct economic activity and be directly involved in production, alongside private sector engagement.

4.2 Economic upgrading

Economic upgrading within the T&C GVC is defined either in terms of improving efficiency at the firm level and so increasing productivity and/or or profitability – value added; or in terms of moving out of existing production and into other higher-value-added activities. The main definitions and indicators referred to in the literature include:

- product upgrading: improving quality, e.g. meeting organic standards
- process upgrading: improving efficiency, e.g. better organisation or technology
- functional upgrading: firms begin to develop their own product and marketing and branding capabilities
- intersectoral upgrading: when firms use the knowledge acquired to enter into a new market or industry, e.g. shea nut producers move into packing facilities.

Different markets may provide different opportunities to upgrade, and this includes the role of the domestic market – which is important for all three case studies but for different reasons. There are particular issues for domestic production with the import of second-hand clothing in Kenya. The following subsection summarises economic upgrading experiences for the case studies.

4.2.1 Summary of country experiences

Bangladesh is one of the world's largest exporters of clothing and differentiated itself by becoming a full package supplier therefore increasing its relative attractiveness to international buyers. Outcomes in terms of product and process upgrading have been impressive (Moazzem and Sehrin, 2016). However, challenges in movement towards ODM in external markets remain, with some entrepreneurs therefore shifting towards the domestic market in a process referred to as strategic recoupling (Butollo, 2015; Keane, 2016).

The entry of Kenya into the T&C GVC in recent years is impressive but it has been wholly driven by the relocation of Asian firms seeking to benefit from preferential market access into the US. In some ways, it is reminiscent of the earlier strategies of both Bangladesh and Vietnam, to use inward FDI to spur export growth and expand employment opportunities. However, it has been undertaken with a far more passive approach by the state.

Strategies to facilitate the creation of backward linkages with the textiles sector are yet to bear fruition and are unlikely to, unless trade policy changes to rules of origin (RoO) prompt greater commercial

attention to domestic supplies of inputs into the T&C GVC. In addition, the importation of second-hand clothing is considered to have posed major competitiveness challenges to local production for the domestic market. The US is the largest buyer of clothing from Kenya (most of the textiles used in production are imported from Asian producers under the flexible RoO provisions of AGOA). The lead exports are cardigans, t-shirts and shirts. Reliance on a single export market is considered risky. The main buyers include some of the big names like Walmart and GAP (Seyoum and Abraham, 2022).

In the case of Vietnam, growth in the T&C GVC has been mainly a matter of quantity, with more investment and workers going into the sector. In terms of quality, however, the industry has remained reliant on FDI and on low-value-added activities such as CMT production, with an overabundance of low-skill jobs (Do, 2020, 2021; cited in Teipen and Mehl, 2021). However, there is evidence of some functional upgrading by firms – to become FOB1 and FOB2 suppliers, as well as ODM. The firms most likely to upgrade are also SOEs (Nguyen and Duong, 2016). SOEs with substantial capacity to supply a diverse product range and to take on large orders are able to cater to higher-quality lead buyers (Nadvi et al., 2004).

Some firms have also targeted the domestic market to move into ODM. Overall, the limited progress in upgrading is related to 'the strategy of international buyers to limit transfer of technology to protect their business advantage' (Do, 2021). Finally, weak linkage development between the textiles and clothing segments is also considered to limit economic upgrading processes.

Table 5 summarises the overall economic upgrading trajectories for the case studies. Bangladesh and Vietnam have achieved product upgrading, along with process and functional upgrading. But only Vietnam has also achieved inter-sectoral upgrading. It is challenging to identify product upgrading for Kenya, though some process upgrading could be indicated in view of the large increase in exports under AGOA to the US market.

Table 5 Summary of economic upgrading

	Vietnam	Bangladesh	Kenya
Main export markets in 2021 (as % of total T&C exports)	US (27%)	EU (60%), US (17%)	Europe (27%), US (9%)
Product	Evidence is mixed as Vietnam remains within CMT production. However, there has been some increase in domestic production of accessories for garments.	Evidence is mixed; some shifts have taken place as textiles inputs are increasingly used enabling movement to become an FOB supplier.	There have been no major changes in the position of Kenya.

	Vietnam	Bangladesh	Kenya
Process	Lean manufacturing techniques have been adopted.	A shift towards the EU market and the export of knitwear products (driven by changes in RoO) has enabled greater unit values to be captured.	There have been large increases in volumes exported under AGOA.
Functional	5% of firms export on an ODM basis. Own brand is important for the domestic market, but this accounts for around 2% of the value of garment exports.	There is evidence of suppliers moving from CMT to FOB (taking responsibility for sourcing inputs). Strategic recouping of some firms to focus on ODM for the domestic market has occurred.	Not evident.
Domestic market	There is strong competition with Zara, Mango and Topshop present.	Domestic entrepreneurs have moved into ODM for the domestic market	Local owned firms tend to supply uniforms. The presence of Mitumba dominates.
Inter-sectoral upgrading	Vietnam has moved into footwear production, electronics and automotives but driven mainly by FDI.	Not evident.	EPZs remain dominated by T&C firms.

Sources: Authors' assessments and calculations based on WITS

4.2.2 Measuring economic upgrading

Table 6 provides some sector-specific data including as a share of total exports. Unfortunately, data are not available for shares of domestic value added for the three case study countries. Therefore, the qualitative assessment made in Table 5 is used to assess overall economic upgrading.

Bangladesh has the largest share of domestic firms producing for export and over time has moved into more capital-intensive woven production, but it has failed to move up and out of the sector; instead, its engagement has deepened. Kenya, meanwhile, is experiencing a revival in terms of growth in exports of clothing; however, boosting competitiveness in textiles production remains challenging.

Vietnam stands out as being the least economically dependent on the T&C GVC, as indicated by Table 6. It has also managed to enter into other higher-earning and technologically sophisticated manufacturing sectors (e.g. electronics). Much of this process has been driven by a continued influx of FDI, though the state has also retained its role as an important driver of production.

Table 6 Indicators of economic upgrading

Domain	Indicators	Measure	Vietnam	Bangladesh	Kenya
Economic competitiveness	Contribution to GDP	T&C sector as share of GDP	3.9% (2020)	11.7% (2020)	1.4% (2020)
	Exports	Exports of textiles as share of total exports	3% (2021)	3% (2015)	1% (2021)
		Exports of clothing as share of total exports	9% (2021)	86% (2015)	7% (2021)

Source: Table A1 Appendix 1

4.3 Social upgrading

Social upgrading has two components: measurable standards and enabling rights. Measurable standards include those aspects of worker well-being that can be observed and quantified, such as workers' physical well-being (e.g. health and safety, working hours) and employment security (type of contract, social protection measures, etc.).

Enabling rights refer to freedom of association and the right to collective bargaining, non-discrimination, voice and empowerment. These are linked to the ILO Decent Work agenda (see next subsection) and are more difficult to evaluate (Freeman and Elliott, 2003; Barrientos et al., 2011; Rossi, 2019).

4.3.1 Summary of country experiences

In the case of Bangladesh, some social upgrading has been identified in the T&C sector, in particular post-Rana Plaza. Changes in labour law and the introduction of a minimum wage, an increasing 'climate of compliance' among suppliers and an intensification of both formal and informal organising of workers have all resulted from the efforts of a variety of stakeholders (Lohmeyer et al., 2022). However, several issues remain in the sector. For instance, working hours remain excessive, the minimum wage is not always met and women are often relegated to the less-remunerated roles. Unionisation is often discouraged and laws to support it are not fully implemented. All these issues remain more common with the lower-tier subcontractors than with larger firms (Goto, 2011; World Bank, 2018; Islam and Stringer, 2020).

In Bangladesh, in 2013, following the Rana Plaza disaster, global brands and retailers created two major private initiatives: the Accord on Fire and the Building Safety and the Alliance for Bangladesh Worker Safety. However, these initiatives face challenges: for instance, they have never systematically included subcontractors, which contributes to direct suppliers becoming bigger and better

while subcontractors remain outside of these improvements (Saxena and Baumann-Pauly, 2019).

The nascent nature of the Kenyan T&C GVC means evidence on social upgrading is scarce. Most of the sector is informal, with studies estimating that around 60% of T&C firms are unregistered SMEs (Chase, 2016). Concerns exist in terms of the firms in the sector, as workers are employed with precarious contracts and limited job security, with overtime rarely remunerated, poor health and safety conditions and limited unionisation rights (Nzuve and Kiilu, 2013).

In Vietnam, economic upgrading processes have not always translated into social upgrading. Most workers get paid only the minimum wage, established at the regional level. In the period 2000–2005, workers in foreign-invested enterprises experienced a 20% drop in the purchasing power of the minimum wage. This has caused a wave of unrest (Marslev et al., 2022). Moreover, there remain violations of labour standards regarding overtime, occupational health and safety, unfair dismissals, gender discrimination and child labour (Do, 2020, 2022). In Vietnam, the only permitted labour union is state-run, and is tasked with ensuring harmonious industrial relations. As a consequence, this union is not interested in leading industrial action, and most action has been in the form of wildcat strikes (Marslev et al., 2022).

There have been attempts to establish sectoral collective bargaining through the voluntary engagement of the private sector but this has yielded limited success: so far, only 6% of the workers in the sector have benefited from these agreements. Some note a difference across firms: large export-oriented firms, which find themselves under the scrutiny of international buyers, have provided better working conditions. In SMEs and household businesses, on the contrary, forced overtime, wildcat strikes and low wages are common (Do, 2020). It is estimated that around 80% of textiles and garment enterprises are SMEs; tougher entry requirements for supply chains related to human rights commitments have proved challenging for many (Vietnam Business Forum, 2022).

Finally, the T&C industry in Vietnam presents a highly gendered division of labour, with women in lower-paid positions as sewers and helpers and men in higher-paid supervisory roles. Female workers earn, on average, 15% less per hour than men and are more likely to report health problems (Marslev et al., 2022).

4.3.2 Measuring social upgrading

Assessing enabling rights, as part of social upgrading, is notoriously difficult. This has led some to adopt a ‘parsimonious approach’ – i.e. using fewer indicators (but checking their changes over time) (Bernhardt and Milberg, 2011). In this study, we prefer to include more indicators. While conscious that some of these may be

imperfect, we also want to expand the notion of social upgrading beyond employment and jobs, to look at poverty and gender.

National-level data can provide imperfect information. For instance, we can have data on minimum wages but we do not know whether these are effectively paid to workers; or we can have data on the manufacturing sector as a whole but not on T&C in particular, which can mask some of the realities of the sector. This is particularly important as research indicates gender discrimination is rife within T&C, and women are concentrated in the most insecure lower-grade jobs, often facing gender-based violence (Alam et al., 2004; Kabeer and Mahmud, 2004).

With these challenges in mind, Table 7 provides measures of social upgrading for the case studies. This is an attempt to provide comparable measures for all the countries. Unfortunately, given the paucity of data, we have to use data referring to different years. In some cases, the data do not refer exclusively to the T&C sector; when this is the case, this is clearly marked.

The major findings are that, first, in terms of jobs, the large number of T&C jobs in Bangladesh and Vietnam indicates the importance of the industry to the national economy. Conversely, in Kenya, the number is quite low, in the tens of thousands rather than in the millions. The figure is old but the fact that more recent figures are not available indicates limited interest in the sector in Kenya.

Regarding the share of women employed in the sector, these are similar in Kenya and Vietnam, hovering around 75% of the workforce. In Bangladesh, however, recent data suggest a decline in the share of women working in T&C, estimated to be as low as 54% (Rahman et al., 2023). This is attributed largely to societal reasons, as the need for care work has been bringing women back to domestic work at the expense of employment opportunities outside the household.

In terms of wages, all countries apply minimum wages. The minimum wage in Kenya and Vietnam are similar when comparing their purchasing power parity (PPP) levels. Because of the importance and visibility of its garment sector, Bangladesh has a different minimum wage for the sector, more than five times higher the national minimum wage. Even this does not match the minimum wages of Kenya and Vietnam at the PPP level, however.

Table 7 Indicators of social upgrading

Indicator	Measure	Vietnam	Bangladesh	Kenya
Decent jobs	No. of jobs created in T&C sector	Estimated 2.5–2.7 million (2021)	4–4.2 million (2020)	24,000 (2013)
Women's economic empowerment	Share of women in T&C workforce	75% (2021)	54% (2021)	75% (2013)

Indicator	Measure	Vietnam	Bangladesh	Kenya
Living standards	Minimum wage	National: VND3,895,500 (current $168.3, or $314 at 2017 PPP) in 2022	National: BDT1,500 (current $16.6, or $ 67.4 at 2017 PPP) in 2022 T&C: BDT8,000 (current $73.8, or $178.0 at 2017 PPP) in 2021	KSh14,315.3 (current $130, or $380 at 2017 PPP) in 2021
	Living wage	VND7,446,294 in Ho Chi Minh City, 2020 (reference sector: T&C)	BDT23,254 in Dhaka, BDT19,255 in satellite cities and districts surrounding Dhaka, 2022 (reference sector: T&C)	KSh26,546 for non-metropolitan urban Kenya, 2019
Indicators applicable to whole economy				
Poverty reduction	Share of people living below international poverty line ($2.15 at 2017 PPP)	1.2% (2018)	13.5% (2016)	29.4% (2015)
Women's economic empowerment	Gender wage gap	6.8% for managers, -11.8% for technicians, 17.9% for machine operators, 15.6% for elementary occupations (2021)	-7.9% for managers, -7.9% for technicians, 3.2% for machine operators, 14.3% for elementary occupations (2017)	39.5% for managers, 40.4% for technicians, -38.2% for machine operators, 13.% for elementary occupations (2019)
Informality	Workers operating in the informal economy in the non-agriculture sector	19.3 million workers, or 53.3% of the non-agricultural workforce (2022)	32.9 million workers, or 91.3% of the non-agricultural workforce (2017)	10.1 million workers, or 81.1% of the non-agricultural workforce (2019)

Source: Table A1 Appendix 1

It should also be noted that, while minimum wages are established by legislation, and are often the result of bargaining between the state, the sector and workers, these may not correspond to the living wage. The latter is defined by the Global Living Wage Coalition as '[t]he remuneration received for a standard workweek by a worker in a particular place sufficient to afford a decent standard of living for the worker and her or his family'.[7] For all three countries, living wages are around double the national minimum wage, indicating that minimum wages, even where they are fully implemented, are not sufficient to support decent standards of living for workers. The rest of the data provided in Table 7 do not refer uniquely to the garment sector but rather to the whole economy.

4.4 Environmental upgrading

The starting point of value chain analysis to assess environmental upgrading is the firm and an understanding of its internal processes. De Marchi et al. (2013: 66) define environmental upgrading as 'the process by which economic actors move towards a production

[7] See https://www.globallivingwage.org/about/what-is-a-living-wage/ (accessed 4 December 2023).

system that avoids or reduces the environmental damage from their products, processes or managerial systems'.

Reducing or avoiding environmental damage consists of lowering the ecological footprints of firms, in terms GHG reduction, wasteful consumption of natural resources or degradation. In addition, De Marchi et al. (2019) link process upgrading to eco-efficiency, wherein firms alter practices and processes by introducing new environmental goals and standards.

The imperative of doing so has accelerated, given the dramatic increase in clothing companies adopting science-based targets on climate change: over 100 in 2021 up from around 12 in 2018 have signed up to the Roadmap to Net Zero for the clothing sector, which provides a guide for the collaboration needed to reduce emissions by 45% by 2030 and to net zero by 2050 (WRI, 2021; see Sadowski et al., 2021). The implementation of interventions to reduce emissions corresponds with some of the outcomes of environmental upgrading referred to within the value chain literature, such as (see Krishnan et al., 2023):

- the biophysical environmental impacts of value chain processes, e.g. the reduction or mitigation of pollution
- the reduction/efficiency in the use of resource-based inputs
- an improvement in biodiversity as a result of the aforementioned
- the impact on the environmental reputation of a firm and/or its legitimacy and social licence to operate.

However, factors that lie outside of the value chain framework – like the supply of electricity – must be better accounted for. Almost half of all carbon dioxide (CO_2) emissions embodied in production come from electricity (Carbon Trust, 2011). Overall, it is estimated that T&C accounts for around a tenth of GHG emissions (UNFCCC, 2018; World Bank, 2019), mainly because of energy-intensive production methods and long supply chains, which add emissions from transportation (World Bank, 2019). However, estimates do vary on the method of calculation, with lifecycle analysis tending to identify higher levels of GHG emissions compared with input:output analysis. For example, Peters et al. (2021) estimate 1.3 Gt/year in 2015 whereas McKinsey (2021) estimate 2.1 billion metric tons in 2018.

There are environmental costs throughout the value chain, at production, use and disposal stages; however, the material production of textiles and non-woven fabric (including dyeing and finishing) accounts for the bulk of GHG emissions. Around 70% of clothes factory emissions come from the production process and intensity of energy use. This suggests that producers specialising in both textiles and clothing production will have the largest environmental footprint. And the source of energy used in these

stages of production will drive most of the carbon emissions from the sector.

Most, if not all, of the major international buyers of clothing are committed to sustainability objectives. For example, Inditex's Zara committed to making 50% of items it sells in 2022 with recycled materials and 'ecologically grown cotton'. Other brands – like Boohoo, H&M and Kering (the group that includes the luxury houses Gucci, Saint Laurent and Alexander McQueen) – have released sustainability reports that detail goals to use more recycled or organic materials (Bloomberg, 2022). However, these goals are not necessarily matched with enforcement, or support for compliance. Depending on how producers are integrated within the value chain and their relationships with buyers, there have been some differences in responses.

4.4.1 Summary of country experiences

In the case of Bangladesh, retailers are demanding changes in production with every prominent buyer 'considering the green garment issue' (Thomas Reuters Foundation, 2023). Producers in Bangladesh are investing themselves to adjust to changes in the market related to more sustainable production. However, lack of access to finance and premium prices for green products, inadequate policies and regulatory measures and a long payback period have been identified as major obstructions; firms investing in measures cannot earn additional revenue as product prices remain the same (Fibre2Fashion, 2022); a 2% corporate tax rebate for these efforts at the factory level is considered insufficient. It is estimated that entrepreneurs must spend 30% more for constructing green factories compared with conventional ones but buyers do not pay more for products from 'green factories' (Apparel Resources, 2023).

It has been estimated that up to 20% of industrial wastewater pollution is caused by textile dyeing and finishing (Morlet et al., 2017). With regard to the washing of polyester fabrics, garments made from polyester and other synthetic fibres are a prime source of microplastic pollution, which is especially harmful to marine life (within an overall context of a depletion of marine stocks). Some 93 bcm of water – enough to meet the needs of 5 million people – is used by the fashion industry annually, contributing significantly to water scarcity in some regions (UNCTAD, 2020; also Geneva Trade Network, 2023).

To address these issues in Bangladesh, the industry has introduced new technologies to such as 'low liquor ratio dyeing machines', ozone washes, using organic chemicals, laser printing and waterless dyeing (Investment Monitor, 2022). Vietnam, similarly, is adapting to buyers' demands prompted by drives for the enhanced sustainability of the industry by new EU regulations as well as advocacy by the Worldwide Fund for Nature in collaboration with the Vietnam Textiles

and Apparel Association (VITAS)[8] with reductions in water consumed by the industry and more effective wastewater management now central to efforts to adapt and continue market access (Kenji, 2018). Some issues have been identified for wastewater management in the case of cotton wet processing and cotton mills in Kiambu, an EPZ region (Waithaka, 2017).

As one of the world's largest producers, Bangladesh is generating an estimated 600,000 metric tons of textile and garment waste every year (UNIDO, 2023). The Bangladesh Garment Manufacturers and Exporters Association has also signed an agreement with the Circular Fashion Partnership, a Bangladesh-based initiative established to harvest post-production fashion waste for use in producing new apparel products. The goal is to shift to a circular economy from the current linear manifestation to reduce the industry's carbon and water waste footprint (Investment Monitor, 2022). In Vietnam, the industry is expected to achieve circularity between 2030 and 2045 (VietnamPlus, 2022).

Kenya has a different set of issues to deal with regarding waste management in view of the second-hand clothing value chain, which some have argued is a conduit for the disposal of waste from the sector. A recent investigation found one in three items of used clothing shipped to Kenya contained plastic and was of such low quality it immediately became waste (Frost, 2023). However, the Mitumba Consortium Association of Kenya has contested recent estimates, given that the industry directly employs 2 million people, with 20 million people depending on the value chain for their clothes, and half of the overall population buying some second-hand clothes each year (ibid.).

All of the big buyers' place orders in Vietnam, including H&M, Levi Strauss, Sears Holding, GAP, Adidas, etc. 'Going green' is a must for the whole industry as global markets and brands require greener products, according to the Vietnam Textile and Apparel Association (VITAS, which is supporting efforts to move to greener production methods, sustainability and circularity to fuel further green exports and sharpen its competitive edge. This push is in response to measures like the EU's strategy for sustainable and circular textiles. Vietnam's strategy for the industry is expected to achieve full circularity by 2031–2035, with a draft strategy under review. However, the implementation of sustainable development solutions are often associated with increased initial costs and SMEs (especially) often do not have the capacity or resources here.

4.4.2 Measuring environmental upgrading

Bangladesh is singled out in the literature (given its reliance on natural gas and to a lesser extent coal currently) because, at a time

[8] VITAS is a member-based, independent and non-governmental umbrella association for the garment sector. The Vietnam National Textile and Garment Group is also a member.

when most countries are shifting to renewables, it is about to increase the capacity of coal-based thermal power; the share of coal in total generation of power is expected to reach 12.6% in 2032 (electricity imports from India are also expected to triple) (Global Data Energy, 2023). It has proven reserves equivalent to 153.8 times its annual consumption, or about 154 years of coal left at current consumption levels (*Ibid*).

At the firm level, however, active steps are being taken to introduce renewable energy, with Bangladesh now home to the most Leadership in Energy and Environmental Design green factories in the world (certified by the US Green Building Council). All green factories use solar panels to save energy and protect the environment (Investment Monitor, 2022). Despite these initiatives, the approach of Bangladesh is considered as 'bait to attract buyers with no long-term incentive to sustain production, which is often shifted to less modern factories' (Pasquali et al., 2021).

Kenya already has a large share of its electricity generated by renewables (reaching almost 90%) but in addition to this there are opportunities to use off-grid renewables such as solar energy, to save on production costs (Ashraf and Seters, 2022). This is similar to the situation in Vietnam, which is making considerable progress regarding both energy efficiency (Drejet and Rappaport, 2014) and the use of renewable energy sources. A key challenge in this assessment lies in understanding the shares of off-grid sources of which renewable energy. The data in Table 8, which come from the World Development Indicators (WDI), do not provide this.

Kenya has begun to market itself based on its clean energy production as an input into the manufacturing process, so as to distinguish itself from other Asian suppliers and tap into buyers' moves towards greening supply chains. The farm to fashion production model also offers opportunities, but a lack of coordination between the textile and clothing segments of the value chain hinders value addition opportunities (ITC, 2015).

Table 8 Indicators of environmental upgrading

Domain	Indicator	Measure	Vietnam	Bangladesh	Kenya
Environment/ climate	GHG emission from energy mix	GHG or CO_2 intensity of T&C industry (per unit or per value add) CO_2 emissions from manufacturing and construction (% total fuel consumption)	33.8% (2014)	16.3% (2014)	23.8% (2014)
		Share of electricity production from coal sources, economy-wide	29.6% (2015)	1.7% (2015)	0.0% (2015)
		Share of renewable energy in electricity output, economy-wide	36.73% (2015)	1.23% (2015)	87.51% (2015)

	Air quality	Air Quality Index, economy-wide	10th (moderate)	21st (moderate)	93rd (good)
	Water use	Wastewater collection and treatment, economy-wide	10% (collection 10% (treatment)	2.5% (collection 2% (treatment)	6% (collection)
		Annual freshwater withdrawals, industry (% total freshwater withdrawal)	4% (2019)	2% (2019)	8% (2019)

Source: Adapted from Table 1 Appendix

In relation to emissions, the broad indicator of GHG or CO_2 intensity of the industry per unit of value added suggests that Vietnam and then Kenya have the most emissions. Regarding other indicators for outputs such as those related to air quality, only broad indicators are available, which are not specific to the industry; these suggest that Kenya and Bangladesh have a higher quality overall compared with Vietnam. It is difficult to draw conclusions that are specific to the T&C industry.

More specifically, though, looking at the collection of wastewater collection and treatment, we can see that Vietnam has the highest share, followed by Kenya. However, in terms of annual freshwater withdrawals by industry, Bangladesh has the lowest share, followed by Kenya and then Vietnam. What matters for this assessment – in terms of environmental upgrading – is whether the share of freshwater utilised is accompanied by wastewater collection and treatment. We can see that Vietnam is collecting and treating a higher share of wastewaters compared with the share of industry withdrawals of fresh water. Kenya is collecting a lower share and Bangladesh is just about breaking even. These results suggest that Vietnam has made the most progress in environmental upgrading, followed by Bangladesh, with greater efforts required in the case of Kenya.

4.5 Assessing the nexus

This section brings together the main findings from the review of the case study experiences regarding upgrading across the nexus of economic, social and environmental aspects. It presents a high-level summary that provides a high/medium/low score for each country. The producers in each country are at different stages in their 'journey' towards industrialisation and the role of the T&C sector within this process. Each country represents a point in the development of the T&C sector, and each point presents different choices that can make the industry more or less inclusive and sustainable.

Table 9 Scorecard on economic, social and environmental upgrading

	Vietnam	Bangladesh	Kenya
Economic	**High:** Evidence of all types of economic upgrading	**Medium:** Evidence on most types of economic upgrading but on intersectoral upgrading more limited	**Low:** Limited evidence of upgrading beyond process upgrading
Social	**Low:** Limited evidence of social upgrading	**Medium:** Social upgrading in terms of wages and working conditions; positive but not sufficient	**Low:** Limited evidence of social upgrading
Environmental	**Low:** Laws in place but enforcement is challenging; smaller producers not aways able to adapt to the new requirements	**Low:** Laws in place but enforcement is challenging; tax rebates not enough to support firm-level investments needed	**Medium:** Some evidence of environmental upgrading, supported by public policy frameworks

4.5.1 Economic upgrading

In terms of economic upgrading, the scorecard shows a pattern emerging from a comparison of the three countries. Vietnam has managed to diversify away from garments and expand into new areas; Bangladesh is the country that has seen a boom in its clothing production and the T&C sector continues to play a dominant role in the economy. Kenya is the nascent producer, with limited evidence of upgrading. This is all evident in the contribution of the T&C sector to GDP: very high in Bangladesh and low in the other two countries – Vietnam as an upgrader moving out of the sector and Kenya as an entrant in the sector. This trend is also reflected in the export patterns of the three countries. Clothing dominates the export basket of Bangladesh, reflecting the importance of the sector (and in particular of export-oriented garment production). For Kenya and Vietnam, clothing exports constitute a lower share of the total export basket, for the reasons outlined above. Textile exports are limited in all three countries but for different reasons. In Kenya and Vietnam, the production of textiles is limited (with the more formidable challenges for cotton growers in Kenya). In Bangladesh, textiles production is increasing, together with the vertical integration of the industry. Therefore, most of the textiles produced in Bangladesh are used in the domestic clothing industry, rather than exported (Balchin and Calabrese, 2019).

In Vietnam, all forms of upgrading are present to a certain extent. Vietnam has seen some intersectoral upgrading, with diversification into sectors other than T&C. In Bangladesh, the scale of the garment sector has led to some product, process and functional upgrading. Moreover, Bangladesh has seen some degree of vertical integration but the industry still sources extensively from abroad (Calabrese and Balchin, 2022).

4.5.2 Social upgrading

Just as there are differences regarding economic upgrading, interesting patterns emerge in terms of social upgrading. In the three countries, the T&C sector has been an important job creator. Bangladesh and Vietnam have millions of people employed in the T&C sector; in Kenya, the numbers are way smaller, because the industry is still nascent. Interestingly, minimum wages are very similar in Kenya and Vietnam, and higher than in Bangladesh. In Vietnam, this can be attributed to the fact that the economy is more developed and provides better economic conditions for its workers, despite remaining a competitive production base; in Kenya, higher living costs are reflected in the minimum wage. In Bangladesh, on the other hand, wages are extremely low and reflect the position of Bangladesh as a low-cost T&C producer. As such, Bangladesh has a relatively high share of people living under the poverty line as compared with Vietnam.

In terms of women's economic empowerment, all countries have a similar share of women employees in the T&C industry. The gender wage gap data differ, and are difficult to interpret as they do not refer solely to the T&C sector. One interesting point to note is that, in all three countries, the gender pay gap is positive (indicating that women are paid less) for elementary occupations, where we expect to find most of the T&C workers.

Finally, in terms of informality, there are no specific data for the T&C sector. Data from ILO show similar levels of informal employment in Bangladesh and Kenya and much lower levels in Vietnam. The subcontracting of informal firms, especially to fill in orders rapidly at peak times, is a trend that is present throughout the export-oriented T&C sector, but we do not have data that can tell us the extent of the phenomenon in our case study countries.

Based on the analysis of the case studies provided above, as well as on the discussion on policy in the next section, Bangladesh presents a multi-stakeholder and labour-centred path. The Accord and the Alliance, discussed above, have been critical in improving working conditions in the sector. Similarly, trade unions have been instrumental in ensuring that the minimum wage and working conditions in the garment sector have improved over the years. For the other two case studies, social upgrading is not evident, and therefore it is difficult to establish which path, if any, this has taken.

In summary, in the three countries under consideration, the T&C sector has created many jobs and contributed to livelihoods but the quality of these jobs and livelihoods has been generally low, and not conducive to social upgrading. Mechanisms have contributed to improving the conditions of workers (union action and introduction of standards prompted by civil society and unions) but there have been no automatic mechanisms, and no market-led path to social upgrading.

Governments in garment-producing countries have deployed policies to achieve social upgrading. This includes strengthening institutions to develop and monitor labour regulations and introducing minimum wages but also creating social safety nets. In Bangladesh, workers' unrest fuelled by low wages and poor working conditions prompted a coalition of labour advocates and buyers to pressure the government for the introduction of a minimum wage in 2010, which was subsequently revised upwards several times in response to protests (Barrientos et al., 2011).

4.5.3 Environmental upgrading

The comparison of environmental indicators across the case study countries is challenging not only because some of the data are dated but also because we know energy sources are changing – and not always for the benefit of the environment. For example, Bangladesh's share of coal in electricity production is expected to rise rapidly in the coming years – though at the current time it is relatively low.

Overall, Kenya stands out as having the largest share of electricity from renewable sources, followed by Vietnam. However, in Vietnam, the share of electricity production derived from coal is still expected to remain relatively high (around 30% by 2030) even though renewable sources will increase and become more important for the overall supply.

The conclusion to be draw is that, while Kenya and Vietnam could be considered to be environmentally upgrading production, the converse may be true for Bangladesh – even though individual factories are trying to secure off-grid renewable sources of electricity. However, it is clear that Vietnam has only recently enacted environmental laws (Table 10). Even when frameworks are in place, enforcement can be weak, with challenges regarding the obligations for firms to undertake environmental impact assessments (EIAs) (Box 5). There are particular issues in the case of Bangladesh and Vietnam, highlighted by ILO (2021), regarding how legal frameworks are translated into enforcement. This means that, overall, we surmise that environmental upgrading has been low in the case of Bangladesh and Vietnam and medium in the case of Kenya.

Table 10 Environmental, climate and biodiversity laws

Country	Summary of relevant and most recent legal and regulatory frameworks
Bangladesh	Bangladesh Environment Conservation Act 1995; Environment Court Act 2010; Bangladesh Biodiversity Act 2017
Kenya	Serval articles (and preamble) of Constitution entrench principle of sustainability; Climate Change Act 2016; Energy Act 2019; Environmental Management and Coordination Act 1999
Vietnam	Environmental Protection Law 2020; update to Environmental Protection Law 2014

Box 5 Ensuring compliance with EIAs

In Bangladesh and Vietnam, the EIA systems are supported by a strong legal framework with clear delineation of EIA processes and delegated decision-making. However, analysis shows that companies consider EIA to be a short-term process to achieve development approval, rather than an ongoing commitment to mitigate the environmental impacts of industrial activities. This was the case at the time of the United Nations Environment Programme assessment in 2021; it remains to be seen how new strategies being implemented by the EU will change company mindsets.

Overall, the presence of legal requirements for EIA systems does not necessarily translate into reduced environmental impacts. Generally, for Bangladesh and Vietnam, there is a gap in knowledge-sharing and learning from previous EIAs and a lack of back-casting to compare the actual environmental impacts of industrial projects with the forecasted impacts, and then sharing and using this knowledge to strengthen future EIA activity. This suggests a need for support to systems to improvement environmental management and assessment.

Source: ILO (2021)

4.5.4 Summary of actors driving the nexus

New demands in end markets are leading to further improvements in public policy frameworks. The new approach by the EU is having major effects on the T&C GVC, given that the EU is such a large market (especially in the case of Bangladesh, followed by Vietnam and Kenya). It is also a major donor. The strong push by the EU for sustainability comes at a time when multilateralism is considered weak. Nonetheless, the 2030 Agenda and the SDGs do provide an organising framework for all actors, as referred to by ILO (2021).

Overall, the key actors responsible for upgrading differ for each of the different dimensions of the nexus:

- For economic upgrading, it is usually the companies (the private sector) supported by policy-makers.
- For social upgrading, it is a combination of civil society (e.g. unions), government through regulations and firms (often pushed by consumers in buyer countries) through improvement of standards.
- For environmental upgrading, it is usually the government regulating producers, including responding to new measures seeking to improve environmental and climate change impacts across the T&C GVC.

5 Conclusions

This study has reviewed the role T&C in inclusive, sustainable economic translation using value chain analysis and the concept of upgrading – defined as encompassing economic, social and environmental aspects. No country stands out as having achieved all three processes simultaneously. Instead, there has been a gradual building of momentum and some sequencing: movement from the sole consideration of economic concerns towards addressing social issues and now, more recently, environmental issues.

Producers in the developing world were initially integrated into GVCs based on a narrow range of capabilities, which have now grown to also consider social and environmental dimensions. These latter concerns – social first, and now environmental – have been mainly driven by public regulations forcing change; more recent changes in regulations forcing change in relation to the environment have come both from domestic public policy frameworks, as well as emanating from major end markets.

Paths to social and environmental upgrading have taken different forms, often involving more than one actor. However, in all cases, there has been no market-led path to either social or environmental upgrading. While economic upgrading within the T&C GVC has been identified, it is challenging to conclude that this is the case in relation to social and environmental issues. Evidence is rather mixed in relation to social upgrading. There are few studies of environmental upgrading through a GVC lens, though we know that active measures are being taken in all three case study countries to address the environmental footprint of the industry.

The case-studies have highlighted the well-known issues regarding the costs associated with changes in production methods required to meet new standards. Overall, they reinforce longstanding concerns regarding the exclusionary forces that may be unleashed for smaller (and poorer) producers, including those in the more informal sector, in the absence of accompanying support measures. For the sector to continue to provide its foothold into the industrialisation process, and its catalytic role, there is a need to critical reflection on how smaller and less-resourced firms can remain included within the T&C GVC. That is, the nexus of social, environmental and economic outcomes and upgrading requires more proactive support and accompanying policy frameworks.

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Appendix 1 The global value chain methodology

The global value chain literature and methodology

The GVC literature, which emerged in the 1990s, was motivated by the need to better understand how producers engage with the process of globalisation and the implications for the development of productive capacity and capabilities (Keane, 2016). Numerous value chain studies during the 1990s and 2000's across sectors, including agriculture and light manufacturing, acknowledged and discussed changes in global production and methods of coordination and explored what this has meant for firms and labourers.

Methodology

The literature continues to develop, both conceptually (e.g. by recognising global production networks) and empirically (e.g. by employing more robust research methods). The building blocks generally remain the same, consisting of an understanding of the appropriation of rents within a given chain that indicate economic power, and the governance structures that help secure them. It tends to take a more vertical approach towards tracing the relationships between producers and buyers.

As the first guide to value chain research, Kaplinsky and Morris (2001) stated quite clearly at the outset that their intention in developing a value chain manual was to enable researchers to dip in and utilise what is relevant, where appropriate. Subsequently, Ponte, Gereffi and Raj-Reijert (2019) provide a more updated handbook, with Part 1 specifically on GVC methodology, including measurement challenges.

In mapping out value chains, Kaplinsky and Morris (2001) note that all types of value chain analysis gain from the construction of a 'tree' of input:output relationships that includes most of the following general accounting identities:

- gross output values
- net output values (gross output minus input costs)
- the physical flow of commodities along the chain
- the flow of services, consultants and skills along the chain

- employment, where relevant distinguishing between permanent (on payroll) and temporary (off payroll) staff, gender and ethnicity
- destination of sales (to wholesalers or retailers), concentration of sales among major buyers, number of buyers
- imports and exports and to which region.

The inclusion of these variables has been taken forward to a lesser or greater extent by the GVC case study literature. For example, the Capturing the Gains research distinguished between macro-level and meso-level indicators (e.g. specific value chains and workers). However, for subcontracted suppliers and workers (particularly precarious workers who often do not register in official data) these approaches tend to be quite weak. Overall, the combination of different research methods can help to provide useful insights of value chain participation for different actors.

Table A1 T&C sector scorecard for each country case study

Domain	Indicator	Measure	Vietnam	Bangladesh	Kenya	Source
Economic competitiveness	Contribution to GDP	T&C sector as share of GDP	3.9% (2020)	11.7% (2020)	1.4% (2020)	Own calculations based on WDI
	Exports	Exports of textiles as share of total exports	3% (2021)	3% (2015)	1% (2021)	Own calculations based on UN Comtrade data. Note: HS codes for textiles are 51–55 and 59–60
		Exports of clothing as share of total exports	9% (2021)	86% (2015)	7% (2021)	Own calculations based on UN Comtrade data. Note: HS codes for garments are 61–63
	Upgrading	Assessment of product, process, functional upgrading	Limited evidence of product, process and functional upgrading, evidence of intersectoral upgrading	Evidence of product, process and functional upgrading	No clear evidence of upgrading	Authors own summary
Social development	Decent jobs	No. of jobs created in T&C sector	Estimated 2.5–2.7 million (2021)	4–4.2 million (2020)	24,000 (2013)	Vietnam: FairWear; Bangladesh: ILO; Kenya: Pike and English (2020)
	Living standards	Minimum wage	VND3,895,500 (current $168.3, $314 at 2017 PPP) in 2022	BDT1,500 (current $16.6, $67.4 at 2017 PPP) in 2022	KSh14,315.3 (current $130, $380 at 2017 PPP) in 2021	ILOStat. Note: data apply to all industries, not only T&C
		Living wage	VND7,446,294 in Ho Chi Minh City, 2020 (reference sector: T&C)	BDT23,254 in Dhaka, BDT19,255 in satellite cities and districts surrounding Dhaka, 2022 (reference sector: T&C)	KSh26,546 for non-metropolitan urban Kenya, 2019	Living wage coalition. Note: reference sector mentioned
	Poverty reduction	Share of people living below international poverty line – whole economy ($2.15 at 2017 PPP)	1.2% (2018)	13.5% (2016)	29.4% (2015)	WDI
	Women's economic empowerment	Share of women in T&C workforce	75% (2021)	80% (2020)	75% (2013)	Vietnam: FairWear; Bangladesh: ILO; Kenya: Pike and English (2020)
		Gender wage gap, all sectors	6.8% for managers, -11.8% for technicians, 17.9% for machine	-7.9% for managers, -7.9% for technicians,	39.5% for managers, 40.4% for technicians, -38.2% for	ILOStat. Note: data apply to all industries, not only T&C

Domain	Indicator	Measure	Vietnam	Bangladesh	Kenya	Source
			operators, 15.6% for elementary occupations (2021)	3.2% for machine operators, 14.3% for elementary occupations (2017)	machine operators, 13.% for elementary occupations (2019)	
	Informality	Workers operating in informal economy in non-agriculture sector, whole economy	19.3 million workers, or 53.3% of the non-agricultural workforce (2022)	32.9 million workers, or 91.3% of the non-agricultural workforce (2017)	10.1 million workers, or 81.1% of the non-agricultural workforce (2019)	ILOStat. Note: data apply to all non-agricultural activities, including T&C
Environment/ climate	GHG emission from energy mix	GHG or CO_2 intensity of the T&C industry (per unit or per value add)	33.8% (2014)	16.3% (2014)	23.8% (2014)	Eora input:output
		Share of electricity production from coal sources, economy-wide	29.6% (2015)	1.7% (2015)	0.0% (2015)	WDI
		Share of renewable energy in electricity output, economy-wide	36.73% (2015)	1.23% (2015)	87.51% (2015)	WDI
	Air quality	Air Quality Index, economy-wide	10th (moderate)	21st (moderate)	93rd (good)	www.iqair.com/world-air-quality-ranking
	Water use	Wastewater collection and treatment, economy-wide	10% (collection 10% (treatment)	2.5% (collection) 2% (treatment)	6% (collection)	Jones et al. (2020)
		Annual freshwater withdrawals, industry (% total freshwater withdrawal)	4% (2019)	2% (2019)	8% (2019)	WDI