

► Knowledge intensive business services (KIBS) gaps in environmental management in the textile and garment sector

Project Highlights: Cambodia

December 2022

1. Country and Sector Context

1.1 Introduction

The [Decent Work in the Garment Supply Chains in Asia](#) (DWGSCA) project funded by the Swedish International Development Corporation Agency (SIDA) aims to support decent work and sustainability in the garment sector. The project focuses, in part, on environmental sustainability with the overall objective that industry stakeholders can more effectively apply knowledge and tools to promote environmental sustainability across the sector.

As part of this, the ILO organized a consultation in Cambodia on knowledge and skills gaps on environmental management in the textile and garment sector. This activity was undertaken by Mr Sarouen Soeung ILO National Consultant Cambodia, Associate Professor Samantha Sharpe from the University of Technology Sydney's Institute of Sustainable Futures; Professor Ian Miles, Emeritus Professor (Technological Innovation and Social Change) at the University of Manchester (Manchester Institute of Innovation Research, Alliance Manchester Business School), and in partnership with the ILO country office and Better Factories team in Cambodia and Dr Cristina Martinez and Mr Eric Roeder from the Regional Office of Asia and the Pacific.

The activity used a combination of stakeholder mapping, interviews, and a facilitated workshop with users and providers of knowledge intensive business services (KIBS) to better characterise technical skill deficits and learning processes for environmental management in the sector. This highlight note summarises the activity and key findings, as well as proposes recommendations for future interventions.

1.2 Background

The report *Effective regulations? Environmental impact assessment in the textile and garment sector in Bangladesh, Cambodia, Indonesia, and Viet Nam*, which was written under the Decent Work in Garment Supply Chains Asia project, focused on one of the critical mechanisms of environmental regulation – Environmental Impact Assessment (EIA). The report found that while there were varying strengths and weaknesses in environmental management in each of the four countries analysed, each of the environmental regulatory systems was supported by a strong legal framework with clear delineation of processes and decision-making. Further the report highlighted that weakness in the environmental management system were more evident in:

- access and availability of professionals with technical skills and experience required for carrying out environmental management activities including those required for regulatory compliance;
- the availability and quality of baseline data to identify and quantify environmental impacts and track performance over time;
- the lack of awareness and experience of industrial proponents on the importance of environmental management activities and the need to mitigate environmental impacts, and how this links to sustainable development;
- enforcement activities and enforcement systems as a part of the environmental regulatory systems in each of the countries; and
- the overall knowledge sharing and learning systems to support the improvement of practices based on past experiences.

These weaknesses highlight capacity gaps in specific occupations and business services that should support high level, technical expertise and services in environmental impact assessment and management. The services firms specialised in these types of knowledge activities are referred to as knowledge intensive business services

(KIBS); they are critical in supporting eco-innovation and new environmental knowledge acquisition in workplaces and across the sector. They are discussed further in section 2.

KIBS help other organizations access needed external knowledge sources, and they are also important conduits of knowledge in both developed and emerging economies. KIBS have been shown as important in environmental innovation, as they help client organizations access and integrate complex new knowledge associated with eco-innovations, providing expertise that is often outside the bounds of the organisation's own internal knowledge base (Pace and Miles, 2020).

KIBS are important conduits for knowledge and innovation in emerging economies, although in these economies they may not be as prevalent as in developed economies. Developing markets for KIBS can be an important avenue for increasing innovation (including eco-innovation) and knowledge intensity in sectors and economies. The lack of KIBS, or the lack of KIBS of adequate quality, can impede progress towards sustainability in these economies by not bringing and circulating relevant knowledge into the economy, and in the case of this project, into the sector.

The *Investigating KIBS in environmental management in the textile and garment sector* project was initiated in Bangladesh, Cambodia, Indonesia, and Viet Nam to further investigate and understand the presence and the role of KIBS in enhancing environmental management in the textile and garment sectors. This report provides project highlights of the work undertaken in Cambodia.

The project used a mixed method approach involving desk-based research to map relevant organizations that could be defined by KIBS, and further organizations that provide training, skills development, and accreditation for KIBS. After this initial mapping, a series of scoping interviews with both KIBS and KIBS users was undertaken. The purpose of these interviews was to map the current involvement of KIBS in providing environmental management services for the textile and garment sector, the quality, and outcomes of interactions with KIBS and their client firms, as well as an understanding of how skill and expertise is developed within KIBS and if and how this expertise is transferred to client firms. A participatory workshop was then facilitated with relevant stakeholders in the textile and garment sector in Cambodia, this workshop provided validation for desk research and interview findings as well as prioritisation for future activities to develop KIBS access in the sector in Cambodia.

1.3 Overview of environmental impacts of the textile and garment sector

Environmental impacts are concentrated at certain points in the supply chain, particularly in four areas:

- the weaving, dyeing and finishing processes in textile manufacturing;
- energy use;
- textile waste associated with garment assembly; and
- the transport emissions throughout the supply chain as materials and then final products are shipped globally.

The most significant impacts, however, are within the first two areas, with the main impacts stemming from the use intensity of water resources, chemical use including toxic chemicals, wastewater discharges and lack of treatment processes, and energy use and high carbon intensity of electricity.

Textile manufacturing is very water- and chemical-intensive. The growth and sustainability of the sector is highly dependent on how resources are managed. The textile industry in general has an enormous water footprint ranging from agricultural water consumption for cotton farming, to water consumption in textile printing, dyeing, and finishing. The sector is one of the largest users of fresh water in the world, consuming an estimated 79 billion cubic meters of fresh water annually across the entire value chain (United Kingdom 2019). The sector

is also responsible for severe water pollution by discharging large volumes of waste water containing hazardous substances into rivers and water courses without appropriate treatment. It is reported that 20 per cent of industrial water pollution globally is attributable to the dyeing and treatment of textiles (EMF 2017).

The carbon footprint from the sector is also significant, accounting for 6–8 per cent of total global emissions (Niinimäki et al. 2020). In 2015 this equated to emissions of 1.7 billion tons of carbon dioxide (United Kingdom 2019), which is more than all international flights and maritime shipping combined (Sumner 2019). The numbers are not surprising given the facts that over 60 per cent of textiles are used in the apparel industry, and that a large proportion of apparel manufacturing occurs in China and India. Both countries rely heavily on coal and natural gas for electricity and heat production, and this sharply increases the footprint of each apparel product manufactured in these countries and because of the dominance of these countries, consequently across the sector. Switching to renewable energy, such as solar, hydro or wind power, can significantly reduce emissions and improve sustainability linked to textile production.

1.3.1 Importance of environmental management activities

Environmental management is one of the ways we manage resources for sustainable development. Environmental management usually consists of two main sets of activities: Ex ante impact assessment, assessing how a new activity going to affect the environment; and ongoing monitoring and performance improvement, assessing how an ongoing activity or industrial process impacts the environment, in terms of the resources it uses and the products it creates both physical commercial products but also waste products – waste water, emissions, solid waste and so on. There is also an important third group of activities – how we rehabilitate sites or change land use patterns. These activities are not often considered with the same level of attention, and usually become the concerns of generations in the future, although there are many examples in Europe where rehabilitation of old textile and garment manufacturing sites is an ongoing and costly problem some 100 years later. Climate change and the need to achieve the sustainable development goals further emphasise the critical need for effective environmental assessment and management.

Environmental management involves many actors. In the textile and garment sector there are a range of actors involved – government departments and agencies are responsible for setting up the laws and regulations for environmental impact and monitoring assessment; industrial enterprises develop their proposals for sites, and they must understand how these will impact the environment, and then develop strategies to mitigate and monitor these impacts. Other actors are also involved, including civil society actors and citizens who play a role in identifying whether existing rules and regulations are strong enough and include all the relevant facets needed for effective environmental management. KIBS also play an important role in this system – providing technical expertise in environmental management, identifying solutions and innovations that help us mitigate environmental impacts and improve performance.

Environmental management in practice is the product of all these interactions and activities by different actors; the outputs of such management depend on the actions of these actors and the impacts on environmental circumstances. The outcome is also binary – environments are managed well or not. And weaknesses in any part of the system can weaken the whole system. This makes it critical to understand the role of KIBS in the textile and garment sector and how KIBS and the environmental management services provided by professionals within KIBS businesses can be strengthened to support the wider adoption of enhanced environmental sustainability in enterprises across the sector.

1.3.2 Overview of environmental regulations including environmental impact assessment in Cambodia

The Cambodian economy is very reliant on the garment industry, which is the largest employer in the country, employing around 1 million people, 80 per cent of whom are women (ILO, 2018). Cambodia had more than 1200 registered garment factories as of the end of 2021. The vast majority of factories (97 per cent) are based on Foreign Direct Investment (FDI) and are owned by foreign investors. In 2021, the total export value of this sector is estimated at \$10 billion, which is about 63 per cent of the total export value of Cambodia.

The industry is focused on the cut-make-trim business model, which is the lowest value segment of the supply chain, as raw materials, equipment, and designs are imported. Electricity is still often imported from neighbouring countries. As such, the sector remains low-skilled and labour intensive and characterised by low wages. The cut-make-trim model currently has weak linkages with other productive activities in Cambodia, and there have been few opportunities for increasing value-added in Cambodian operations (Heintz, 2007). The majority of the sewing factories operate in special economic zones, and 60 per cent of these are close to Phnom Penh. In 2016 there were 589 garment making factories in Cambodia (Rastogi, 2018).

The environmental impact assessment (EIA) process in Cambodia was established with the Law on Environmental Protection and Natural Resource Management in 1996. In 1999, a sub-decree was developed regarding Environmental and Social Impact Assessment (ESIA). Environmental law in Cambodia has been under review since 2012, but at present these laws remain in place. A new EIA sub-decree has been under development, however, the efforts here were expanded to develop a draft Environment and Natural Resources Code, which has been under development since 2015. The proposed code was in its 11th draft in 2019, following many rounds of consultation (ODC, 2019).

The Environmental Protection and Natural Resource Management Law 1996 requires that environmental impact assessment is undertaken for projects (both public and private) that are likely to have an impact on the environment (ODC, 2019). From the initial law in 1996, various updates have been issued in the form of sub-decrees and Prakas (regulation from the minister). The current relevant legislation is the 1999 sub-decree on the Environmental Impact Assessment Process, and the 2009 Prakas on General Guidelines for Initial and Final Environmental Impact Assessment Reports. The 1999 sub-decree requires that EIA is conducted for a range of activities impacting the environment including all textiles projects but enables exceptions for special projects approved by the Royal Government and “necessary or emergency projects” (ODC, 2019).

In 2020 the Ministry of Environment issued Prakas No. 021, on Classification of Environmental Impact Assessment for Development Projects, which provides an update to Sub-Decree No. 72 on the Environmental Impact Assessment dated 11 August 1999. Prakas 021 specifies the type of environmental impact study required, depending on the perceived severity of impact:

- Environmental Protection Contract (EPC): The project owner must prepare an EPC if the project falls into the category that may cause a minor impact on the environment and society; or
- Initial Environmental Impacts Assessment (IEIA): The project owner must prepare an IEIA report if the project may cause a medium impact on the environment and society; or
- Full Environmental Impact Assessment (EIA): The project owner must prepare a Full EIA report if the project may cause a serious impact on the environment and society.

There is no published guideline as to how the severity of impact is to be established and but rather is subject to the MOE's assessment on a case-by-case basis. Significant concern has been expressed by several organizations that the EIAs have not been made available to the public. An Access to Information Law that would bear on this is still in Draft status.

Water and wastewater discharges operate on a permit system. Controls include discharge limits in terms of concentration, rather than load, and these limits are not specific to the textiles industry. Monitoring is conducted by the Ministry of Environment; this is paid for by the factory owner, who is also required to test and keep records. If there are breaches, penalties for both the owners and the officials involved apply (Kingdom of Cambodia, 2009; Kingdom of Cambodia, 1999). In the new draft code, risk assessments for projects need to be conducted, to help minimise environmental harm and ensure that a funding source is available for remediation (Kingdom of Cambodia, 2017).

A key limitation of environmental impact assessment processes in Cambodia is the widespread lack of compliance with these rules. Between 1999-2003 EIAs were not conducted for any projects. From 2004 to 2011 only 5 per cent of major projects in Cambodia conducted an EIA. Aside from compliance, other issues included cases of EIAs having been started too late (after projects had commenced), and of EIAs featuring poor estimation of social and environmental impacts (Schulte & Stetser, 2014).

The current sub-decree 71/1999 encourages public participation in the EIA process but does not set out a process for engaging the public. A later guideline on public participation was developed in 2016 (ODC, 2014). In the new draft Environmental code there are provisions for public participation during project planning, such that proponents are required to document and integrate public opinions into decision making; they also need to provide reasons as to why public concerns are rejected.

Other improvements offered by the new draft environmental code include clarity with regards to: institutional roles and responsibilities, public involvement, transparency, impacts to be considered, monitoring and enforcement. A significant problem has been the lack of power of the Ministry of Environment and the lack of recognition of the EIA process more broadly across the Cambodian government (Schulte & Stetser, 2014). The new draft code also sets out requirements for strategic environmental assessment, which should be conducted on any proposal that is likely to have a significant impact on the environment or is within a sector listed by the National Council for Sustainable Development (Kingdom of Cambodia, 2017). This is promising, however, the procedure and criteria for determining which proposals will have a significant impact is yet to be determined.

The new code will offer a much higher level of environmental accountability and protection (Cooper, 2019) – when it is adopted. However, it is currently not known when the new code will be implemented. There remain several challenges to overcome, including enabling necessary funding and extensive capacity building (ODC, 2019). Other major issues are institutional attitudes towards the EIA process, which is still seen as a matter for grudging compliance rather than as a strategic necessity. To date EIA has been treated as a mere requirement for initial project approval, not a tool for management. Proponents have also not always been forthcoming with information that enables consultants to undertake the EIA assessment (Chanthy & Grünbühel, 2015): this needs to be tackled. There is also a prevailing view in government that environmental issues are secondary to development issues (ODC, 2019).

▶ 2. The role of knowledge intensive business services (KIBS) in environmental management and eco-innovation

2.1 What are KIBS?

Knowledge-Intensive Business Services firms, KIBS, are private businesses producing expert-based services. Their main function is to apply their expertise to help their clients with problems they are encountering in their business processes. The clients are other firms, and, in some cases, organizations in the public sector and charitable foundations. National accounts and similar statistical systems place most KIBS firms within the category of “professional, scientific and technical services”. This category includes classical professional services such as legal and accountancy services, along with relative newcomers such as management consultancy, advertising, and marketing services. It also includes KIBS with much more emphasis on sciences and technologies such as engineering, technical testing, industrial design, computer, and R&D services. Within these broad categories, there are usually some KIBS firms offering a wide spectrum of expert-based services, while others specialize in one or a few activities. While practically all types of KIBS have shown steady growth in terms of employment and value-added in Western economies over the last fifty years, it is the more technology oriented KIBS that have displayed most rapid growth in recent years. KIBS are also rapidly developing in prevalence and importance in the global South (Andersen et al, 2018).

Unlike some other knowledge-intensive services, such as telecommunications, financial or insurance services, most KIBS have few individual consumers and households as customers. (Legal services are the main exception here, since many lawyers and notaries serve individuals, though the sector has a large business orientation in many countries.) KIBS firms' workforce features very high shares of professional employees, typically with higher education credentials, and in receipt of relatively high wages. (In contrast, other knowledge-intensive private sector services also frequently employ large numbers of less skilled operational and sales staff.)

KIBS firms are mostly located in large urban centres, near to their clients' head offices. (The exceptions are mainly those KIBS based in regions where a particular client industry is active, or smaller KIBS firms providing routine services to local markets). Most KIBS are fairly small businesses, with the exception of subsectors requiring extensive and expensive equipment (e.g. R&D services). KIBS firms are often microbusinesses of one or very few professionals supported by a small office staff; sometimes these are supplying some extremely specialised or novel service, but more often they are mainly offering more basic knowledge intensive service activities (KISA) inputs to local markets. Clients will often prefer to use a local service supplier, for reasons of convenience, cost, and trust. However, a small number of KIBS are large firms. These can be very important businesses, both in terms of the services offered (often to clients that are themselves large businesses or national governments), and their revenues. These major KIBS firms may make up a large share of KIBS' employment. Most of the KIBS sectors feature a small number of such very large firms, and these are often transnational businesses. These large KIBS firms mainly service large business clients and operate in many world regions (sometimes with offices or with networks of affiliates in different countries).

KIBS in general can be valuable agents disseminating knowledge of best practices and new approaches across the economy. Transnational KIBS can play a global role here; they put effort into keeping up-to-date and aware of emerging trends. Transnational KIBS are active even in areas where the problems confronted vary a great deal according to national circumstances (e.g., where they have to do with local laws and regulations, with distinct cultures and languages, and so on).

2.2 Why Use KIBS?

The professionals that constitute large shares of KIBS firms' workforce are experts in management, accounting, engineering, marketing, environmental management, computing, and other specialist services. Of course, such skills also exist within other sectors of the economy including government and public services. All but the smallest businesses have managers, and larger firms can feature several levels of management. Many firms employ their own accountants and engineers, marketing and computer staff, and experts in various fields of concern. These personnel provide knowledge-intensive services on an in-house basis for their employers. But when problems require external inputs, organizations become clients of KIBS firms, who are specialized suppliers of these service activities. While knowledge-intensive services can be purchased from KIBS or supplied in-house, the use of external expertise from KIBS may take place for various reasons. It may be undertaken purely for efficiency and cost factors: outsourcing of expertise may make sense when the services in question are required infrequently and there is less rationale for having relevant employees on a full-time basis. Outsourcing of business processes often reflects clients deciding that they can get better, cheaper, or more flexible services from external sources than from their in-house staff. But outsourcing is not the whole story. Clients may use KIBS to complement existing in-house capabilities, for example when there is a sudden intensification of a problem, or when external legitimation is required (as in auditing company accounts). Often, too, there are new challenges confronting clients, which they cannot tackle solely with in-house expertise. KIBS can provide clients with help in dealing with new or rapidly evolving problems – for example, in how to make effective use of new technologies. KIBS can be more familiar with rapidly evolving bodies of knowledge and have experience of emerging best practice across other organizations. There may not even be facilities for training, or for recruiting people trained, in some new fields of knowledge.

In complex and/or rapidly changing economic circumstances, new knowledge is required by many organizations, to enable them to confront new challenges and opportunities. KIBS thus help clients deal with their evolving operating environments. As economies and technologies undergo rapid change, demand for such specialized knowledge can only grow. Furthermore, as already noted, KIBS may also be enlisted where external inputs are required as providing independent viewpoints and assessments. Such external inputs may be needed to meet regulatory requirements, or to satisfy stakeholders (ranging from the general public to representatives of different branches of a large organization).

2.3 How are KIBS Used?

KIBS produce their service outputs for their clients in a process; their contact with clients extends over the course of this process. This contact varies across the process (often it is greater near the beginning and end of the process) and may be more intense for different types of service. Some KIBS can provide services with relatively little input other than the supply of data from the client; they process this data (and relate it to material derived from other sources) and prepare a report or complete a standard template for the client's use. Such relatively hands-off activity, with limited interaction between KIBS and client, is common in areas where the problem is a standard one, and one which the client confronts in a standard way – for example, an accountancy service prepares a set of annual tax returns, or verifies the company accounts, for the firm to provide these to authorities or shareholders.

Where problems are more complex and unique, KIBS and the client firm will often need to work extensively together. In these cases, significant knowledge generation and transfer can occur between the two businesses and their personnel. These interactions can be innovation intensive and can generate new novel solutions – whether processes, products, and services, that can have value beyond the initial project/ problem the KIBS were engaged to address. More generally, the client has an opportunity to learn more about the problems it is encountering, and possible ways of addressing these, from its use of KIBS. The use of such knowledge will depend upon the selection and organization of personnel to interface with the KIBS firm.

► 3. Empirical findings from Cambodia

3.3 Mapping the role of KIBS in the current system: Identifying barriers and enablers in the current system

A series of interviews were undertaken with key stakeholder in garment and KIBS sector to assess the current state of activity of external service providers for environmental management services in the textile and garment sector. A workshop with relevant stakeholders and ILO constituents was held on the 18 October 2022 to further discuss and validate the results from the desk based and interview research.

These are the high-level findings of the interviews and workshop.

- Most Cambodian garment factories are foreign owned, and most knowledge intensive service providers to the sector are also foreign owned/ based. This is because many FDI garment factories also seek KIBS services from overseas/ home-based countries, but also because there is limited availability of these services domestically in Cambodia.
- The lack of a domestic market for KIBS in the sector and more broadly through the economy is seen as a limiting factor in implementing environmentally sustainable practices in the sector, because locally contextualized environmental knowledge is not readily available, for example energy audits and recommendations relevant for the local conditions.
- The focus of production in Cambodia is on high volume, low margin cut and sew garment assembly, which has very low margins and low opportunities for increasing opportunities for additional value-adding, this means that investment case can be challenging for environmentally sustainable equipment, processes, and practices without short term paybacks.
- There is general acknowledgement among some stakeholders that the garment sector has contributed to the rapid development of Cambodia, and therefore should also play a role in the enhancing environmental sustainability in the country.
- The interviews also highlighted capacity gaps and limitations in the regulation of environmental protection in Cambodia. These gaps including lack of skilled personnel, lack of equipment and lack of mandates for environmental monitoring and reporting. These gaps impact on demand for environmental management services – as strong regulatory compliance provides demand for these skills in the economy.
- Overall, from all stakeholders there was a view that all sector participants - Government and firms, service suppliers and manufacturers, require different sets of capabilities to improve environmental management and regulatory compliance. And that all these stakeholders need to be involved in enhancing existing systems to ensure this increased environmental sustainability.

3.2 Emerging Issues from the workshop

During the workshop, participants were asked to assess the current environmental management system in the garment sector in Cambodia, using the SWOT matrix (Strengths, Weaknesses, Opportunities, and Threats).

- Workshop participants agreed that a major Cambodian strength was the strong commitment for the Government of Cambodia to create and promote policies, laws, and regulations to support enhanced environmental sustainability. The Government is also keen to develop the garment sector further in Cambodia, and environmental sustainability is seen as a key avenue to increase the international competitiveness of the sector.
- Weaknesses included the high costs of external KIBS providers, who are many international, and the lack of availability of local KIBS. The lack of local KIBS is highly related to the local knowledge ecosystem, with both

capacity gaps in public and private sector, and limited opportunities and pathways to address these current knowledge gaps.

- Low levels of environmental regulatory compliance, and lack of access to equipment (especially for wastewater and solid waste management), further created the situation of low levels of demand for environmental KIBS services in the sector.
- Identified opportunities included developing a local ecosystem to support enhanced SME environmental practices in the sector. SMEs were identified as a high potential avenue for environmental sustainability because they were locally owned and could quickly move to implement new practices. Providers of environmental KIBS for the garment sector was also identified as a new source of entrepreneurship for SMEs in Cambodia. In both cases, development partners and development support could be targeted to develop these local capacities and businesses. Brands and international buyers can also support the development of these capacities locally by supporting and investing in global knowledge exchanges.
- Although the garment sector is a large component of the Cambodian economy, it is still relatively new in the country and there are still significant opportunities for further development that is sustainable (both social and environmental). If regulations and enabling environment could better support the emergence of a sustainable sector through targeted investment, capacity building and knowledge sharing.
- The main threat to increased environmental performance was identified as the cost of importing and installing new equipment when production margins were low and still recovering from the COVID-19 pandemic and associated supply chain disruptions. This is especially the case when competition is based on lowest price – and a premium on environmentally sound production is not guaranteed. Although for international brands and buyers, environmental performance is becoming an increasingly important factor in selecting suppliers. Related technology transfer issues such as lack of capability to maintain and repair equipment and further tailor or adjust equipment and processes to specific production requirements, and other activities that allow learning on the job, and the development of specific local know-how, which in turn can further spur innovation in environmental management in the sector.
- Pollution and the environmental impacts of the sector were identified as a threat for the workers of garment factories, as well as the communities located near these factories. Worker empowerment could also support environmental sustainability becoming a more critical issue. Worker impacts from exposure to pollution and other hazardous materials also impacts on enterprise productivity and opportunities to enhance productivity.



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▶ 4. Conclusions and next steps

This work has highlighted important factors and drivers of change specifically the use and availability of environmental services in the Cambodian garment sector. This work has been replicated in three other Asian textile and garment producing countries – Viet Nam, Indonesia, and Bangladesh. This replication will allow us to understand regional and national level drivers and needs and highlight where and how collaborative and context-specific assistance can be provided by ILO, other international organizations, and industry sector actors more broadly in strengthening the environmental management systems and practices of the sector.

A priority for action emerging from this work is the need for a meaningful roadmap for capacity development to be designed alongside other development plans for the textile and garment sector. The Government of Cambodia already has a significant environmental regulation agenda, ensuring this agenda is well supported by access to high quality and locally provided environmental management services will be critical in ensuring its success, and more broadly the environmental sustainability of the garment sector in Cambodia.

To do this would require further mapping to identify what skills are needed to generate sustainability and competitiveness in the sector, and which are most urgently required, and then what mechanisms and institutions can effectively encourage and enhance the necessary knowledge transfer and local knowledge development.

Cambodia can learn from experience of other countries in this study, and vice versa. While the countries' industries compete, there may be scope for cooperation too, around shared concerns. In this respect external (international) actors can play important roles, too, not least the various "brands" that are major purchasers of products from Cambodian manufacturers, and that are increasingly requiring high environmental management standards on the part of their suppliers. These actors can help bring knowledge of international best practice to bear; and within the country it may be valuable to locate and publicise examples of good practice both in terms of environmental management and in terms of monitoring and reporting of environmental performance and transition towards more sustainable activities.

Similar roles may be played by international organizations, including (but not only) those associated with UN agencies. International trade agreements are also providing pressure for increased environmental performance, and enabling increased environmental management, and increased performance over time will be critical to the continuing international competitiveness of the sector. However, this pressure for increased environmental performance also needs to be matched by investment in skills and know-how, equipment, as well as a collaborative and supportive ecosystem for sustainable production. It is difficult for individual firms to make significant progress on their own. Collaboration across the sector is needed, to build the ecosystem that ensures skills, know-how and best practices are widely shared, regulatory compliance is mainstreamed, and appropriate incentives and encouragement are offered for enterprises and professionals to go beyond compliance. To embedding compliance at the center of their strategies and practices.

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► **Annex**

► **Technical expert profiles**

	<p>Professor Ian Miles Ian Miles is Emeritus Professor (Technological Innovation and Social Change) at the University of Manchester (Manchester Institute of Innovation Research, Alliance Manchester Business School). He was trained as a social psychologist but has worked for some decades on issues of innovation and foresight, conducting numerous research studies and teaching at postgraduate and professional levels. In innovation studies he has focused especially on information technologies, innovation in service activities, and in the social and economic roles of KIBS (knowledge-intensive business services). He has published extensively, both with commercial publishers and academic journals, and much material is available as open source (various public domain reports, and so on.).</p>
	<p>Associate Professor Samantha Sharpe Dr Samantha Sharpe is an Associate Professor and Research Director at the Institute for Sustainable Futures - University of Technology Sydney. She is a highly experienced social scientist and policy analyst. Her research focuses on the intersect of the 'world of work' and climate change. This includes research understanding the process of business and industrial transition to sustainability, at the firm, sector, and labour market levels, as well as industrial and occupational change associated with the green economy.</p>
	<p>Dr Cristina Martinez Dr Cristina Martinez is the ILO's Senior Specialist in Environment and Decent Work. She is part of the ILO Global Team on Green Jobs and the Green Initiative. Previously she has worked at the following organizations: (i) the Asian Development Bank (ADB) as an Education Specialist (skills and employment); (ii) the Organisation for Economic Cooperation and Development (OECD) where she held positions as Advisor of the knowledge Sharing Alliance at the Secretary General Office and Senior Policy Analyst at the OECD Centre for Entrepreneurship, SMEs and Local Development (CFE); and (iii) Western Sydney University as an Associate Professor.</p>

	<p>Mr. Eric Roeder</p> <p>Eric Roeder is the ILO Technical Specialist on Green Jobs, Climate Action and Resilience through Just Transition - Asia-Pacific region. He has twenty years' experience working with the United Nations including activities addressing dust and sand storm mitigation with UNCCD, advancing energy efficiency and cleaner production in industry with the co-benefit of reduced greenhouse gas emissions with UNEP, sustainable and smart agricultural development with UNESCAP in Beijing, resilient rural infrastructure in Sekong Province of Lao PDR with the ILO, and working with the private sector to advance inclusive and sustainable development including the development and delivery of projects without initial funding to advance the private sector's role in disaster and climate risks.</p>
	<p>Mr Saroeun Soeung</p> <p>Mr Saroeun is a National Consultant for the ILO. He is also World Bank Social Accountability Specialist Consultant to support Ministry of Interior and civil society organizations to implement the Social Accountability Framework (ISAF). He is the former Executive Director of a longest and largest membership organization in Cambodia namely the Cooperation Committee for Cambodia (CCC). Mr Saroeun was one of the founders and the former Vice-Chair of Transparency International Cambodia. Mr Saroeun has served as a member of various Technical Working Groups jointly established by the Government and Development Partners. He used to be the Co-chair of Joint Working Group between CSO and General Tax Department, and Partnership Steering Committee for Implementation of Social Accountability (I-SAF).</p>

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