

Identification of Four-Priority Issues for Further Study : Migrant Workers, Community Impacts, Circular Economy and Climate Change in Garment industry

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Acronyms

ASEAN	Association of South East Asian Nations
ILO	International Labor Organization
IOM	International Organization for Migration
MoE	Ministry of Environments
NGO	Non-Governmental Organization
UK	United Kingdom

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1. Introduction

The key priorities reflection highlighted the need for more detailed investigations to develop effective program interventions for the sustainable textile economy. The cross-analysis and literature review suggested some recommendations for further investigation, including a **comprehensive evaluation of existing initiatives, mapping industry dynamics and stakeholder landscape, analyzing consumer behavior and demand-side analysis, examining the existing policies and regulatory frameworks, staying updated with the latest technological advancements, business models, and circular solutions, and exploring innovative financing and investment mechanisms.** These research areas should help program designers and policymakers develop more informed, evidence-based, and impactful interventions to address the textile and garment industry challenges and accelerate the transition toward a truly circular textile economy.

The garment industry predominantly employs young women from rural areas, often preferred by factories due to their nimble fingers, docility, and willingness to accept lower wages. This perpetuates traditional gender norms but also exposes women to risks of harassment, abuse, unsafe working conditions, and lack of local support networks.

The garment industry is known for its gender inequity, with women making up the majority of workers but facing discrimination, harassment, limited career advancement, and fewer representation in leadership and decision-making positions. Pregnancies and childcare responsibilities can lead to job instability and wage gaps. Sexual harassment in the workplace and the community remains a serious and widespread problem for workers in the Cambodian garment industry. Nearly one in three women garment factory workers report experiencing sexually harassing behaviors in the workplace over the last 12 months.¹ It also represents significant financial costs to employers – totaling almost USD 89 million per annum.² **Collective action and empowerment efforts by trade unions and NGOs aim to empower women workers, but barriers to leadership roles and retaliation for union activities persist. Addressing and confronting sexual harassment by employers and supervisors is crucial for ensuring the well-being of women workers. Addressing these vulnerabilities requires a gender-sensitive approach that considers the intersections of gender, migration, and precarious employment, with active participation from women migrants.**

¹ Ibid.

² https://care-cambodia.org/wp-content/uploads/2023/07/SHCS_Research_Summary_March_2017.pdf

While the initial scoping document pre-identified Waste Management, Workers indebtedness, Migrant Workers and Community Impacts as priority topics to further investigate, the consultant team also identified Technology and Eco-Innovation, Circular Economy and Climate Change as topics of interest. Considering the need to limit the thematic scope of the field survey to 4 as agreed in the initial ToR and foreseen concept note to elaborate, dedicated session gathering ACT, Geres and CARE Cambodia resulted in the decision to focus the primary data collection survey phase on Migrant Workers, Community Impacts, Circular Economy and Climate Change. The decision was made based on the 7 topics' sector state of knowledge as well as organisational experience and expertise of the 3 partners. Initial findings in relation to Workers indebtedness and Technology and Eco-Innovation can be found in annexes of this report. Waste Management issue has been integrated to the community impacts - environment section of the primary survey conducted.

2. Migrant Workers

The push-and-pull factors that drive international migration in the textile and garment industry also apply to in-country migration patterns. A common trend is the movement from rural to urban areas, as textile and garment factories are often located in more developed, urbanized regions with better infrastructure and services. Impoverished rural populations may be "pushed" to seek employment opportunities in urban garment hubs, lured by the prospect of higher wages and a better quality of life. Factories cluster in cities and industrial zones to take advantage of economies of scale, reliable utilities, and proximity to ports or transportation networks. However, the rapid influx of migrant workers to these urban centers can create significant challenges similar to international migration flows. The sudden increase in population strains local resources, housing supplies, and public services. Overcrowding, inadequate sanitation, and environmental degradation may result. Furthermore, the rural-to-urban migrants, like their international counterparts, can be vulnerable to exploitation. Desperate for work, they may accept poor working conditions, long hours, and suppressed wages. Women and children are particularly at risk of being taken advantage of in the informal or unregulated segments of the textile industry.

There is a growing trend of people moving from one country to another to look for job opportunities, including in the textile and garment industries. This international mobility has created significant social and environmental pressures for both the host countries and the migrant workers themselves. Many workers, often from developing nations, are drawn to the prospect of higher wages and better economic prospects in other countries. The garment sector, in particular, has seen a surge in cross-border migration as manufacturing hubs emerge in lower-cost regions. Countries like Bangladesh,

Vietnam, and China have become major destinations for textile and apparel workers from surrounding areas.³⁴⁵ However, this influx of migrant labor has led to a number of challenges. Host countries may struggle to provide adequate social services, housing, and infrastructure to support the growing populations. Environmental impacts can also be exacerbated as manufacturing facilities expand rapidly to meet demand. Crucially, migrant workers are also vulnerable to exploitation. They may lack legal protections, face language and cultural barriers, and be desperate for employment. Unscrupulous employers can take advantage, subjecting workers to unsafe conditions, excessive overtime, and poverty wages. Women and children are especially at risk of human trafficking and forced labor in the textile industry.

Taiwan, Malaysia, Thailand, Mauritius, Jordan, and Egypt are among the countries with a high proportion of migrant workers in the textiles and garments industries.⁶ As of mid-2022, approximately 1.2 million Cambodian nationals were working in Thailand, primarily in sectors such as construction, agriculture, fisheries, and food processing.⁷ Among these workers, about 508,646 are women. Migrant workers significantly contribute to the Cambodian economy through remittances, averaging over \$2.9 billion annually.⁸ Approximately 22,262 Cambodian migrant workers are employed in Malaysia, with a significant majority being women (21,359).⁹ The number of Cambodian migrant workers in Taiwan, Mauritius, Jordan, and Egypt is not as extensively documented but has been increasing due to demand for labor in various sectors.

This is due to the 'fast fashion trend,' where brands and retailers offer fast collections at bargain prices, leading to the search for cheap production locations. This has resulted in precarious working conditions and the need for cheaper labor. As a result, the textiles and garment industry has shifted from permanent, regular employment to temporary and contract labor, often carried out by vulnerable groups like migrant workers. Migrant workers face conditions similar to those of local workers in the global garment industry. Still, they face issues such as violating the right to freedom of association and failing to

³ <https://shenglufashion.com/2018/11/02/chinas-changing-role-in-the-world-textile-and-apparel-supply-chain/>

⁴ <https://www.just-style.com/features/the-apparel-sourcing-countries/>

⁵ <https://vir.com.vn/bangladeshi-loss-can-be-vietnams-gain-in-textiles-114016.html>

⁶ SOMO. (2016). *Fact Sheet - Migrant labour in the textile and garment industry - A focus on the role of buying companies*. Amsterdam, The Netherlands: Stichting Onderzoek Multinationale Ondernemingen. Retrieved from <https://www.somo.nl/wp-content/uploads/2016/02/FactsheetMigrantLabour.pdf>

⁷ <https://www.khmertimeskh.com/501417625/ministry-says-over-1-3-million-cambodians-are-working-abroad/>

⁸ Ibid.

⁹ Ibid.

provide a living wage. SOMO (2016)¹⁰, a literature review¹¹, and the Clean Clothes Campaign (2009) have summarized the following key challenges of migrant workers in the garment industry.¹²

Cambodian migrant workers are young individuals seeking better job prospects due to limited opportunities at home. Many come from rural areas and lack formal education or skills, often working in low-skilled jobs in key sectors such as agriculture, construction, manufacturing, and service. Thailand has around 3.68 million migrants, with 1.08 million registered as legal workers.¹³ Around 300,000 young Cambodians enter the labor market each year, primarily seeking overseas opportunities in Thailand.¹⁴ The primary destination for Cambodian migrant workers is Thailand, followed by Malaysia and South Korea. Reasons for migration include economic necessity, higher wages, and limited job availability in Cambodia.¹⁵ Migration can be seasonal or long-term, with many workers signing contracts for extended periods.¹⁶ Many Cambodian migrant workers travel through brokers or recruitment agencies, which can involve high fees. A significant portion of migrants (50% to 90%) in Thailand are undocumented, making them vulnerable to exploitation and abuse.¹⁷ Workers often face harsh conditions during travel, including potential debt bondage and lack of legal protections.

- **Low pay, no pay, deception, and overtime:** Migrant workers in the garment industry often receive wages below the living wage level and work under worse conditions than local workers. In Mae Sot, Thailand, most migrants receive between 35-60 baht per month¹⁸ (\$1.1-\$1.9/month)¹⁹. They are often employed on a piece-rate basis and work excessive overtime during peak order periods. When orders are low, they may have no work at all and receive no pay. Migrant workers often resist attempts to cut overtime, as it results in a drop in their salaries. They may prefer to work rather than be confined without pay to dormitories. Overtime issues must be addressed

¹⁰ SOMO. (2016). *Fact Sheet - Migrant labour in the textile and garment industry - A focus on the role of buying companies*. Amsterdam, The Netherlands: Stichting Onderzoek Multinationale Ondernemingen. Retrieved from <https://www.somo.nl/wp-content/uploads/2016/02/FactsheetMigrantLabour.pdf>

¹¹ ILO. (2017). *Working Conditions of Migrant Garment Workers in India*. Geneva: International Labour Organization. Retrieved from <https://www.ilo.org/media/424786/download>

¹² Maher, S. (2009). *False Promises: Migrant Workers in the Global Garment Industry - Discussion Paper*. Amsterdam, Netherlands: Clean Clothes Campaign, International Secretariat. Retrieved from <https://core.ac.uk/download/pdf/5131259.pdf>

¹³ https://uc.edu.kh/Occasional_Paper_Series/2.An%20Overview%20of%20Cambodia-Thai%20Cooperation%20in%20Protecting%20Cambodian%20Migrant%20Workers%20in%20Thailand.pdf

¹⁴ Ibid.

¹⁵ <https://publications.iom.int/system/files/pdf/Economic-Empowerment-Cambodia.pdf>

¹⁶ Ibid.

¹⁷ <https://central-cambodia.org/migration>

¹⁸ <https://waronwant.org/sites/default/files/Restricted%20Rights.pdf>

¹⁹ <https://www.xe.com/currencyconverter/convert/?Amount=60&From=USD&To=THB>

alongside wage remediation and implementing contracts guaranteeing minimum salaries.

- **Freedom of association:** The majority of garment workers, whether migrant or not, face significant challenges in exercising their right to freedom of association. Migrant workers in Thailand and Malaysia are not allowed by law to form their trade union organizations, and they may be given conflicting information on their entitlements under the law. Agents and employers may also include prohibitions on joining local associations in contracts or deliberately misconstrued certain laws. Migrant workers may have a stronger identity as migrants than as workers, with a greater affiliation to their national group than to the industry they are part of. Few, if any, unions include migrant workers in their leadership or are often represented on committees, which may be because this is prohibited by law. In Malaysia, union regulations require workers to be union members for over three years before taking on a union position. Even if these restrictions can be overcome, migrant workers are less likely to be elected than local workers. Building trust between migrant communities and local union representatives is crucial but may be long, difficult, and time-consuming. Garment worker unions are often stretched for resources, and there is some reluctance from unions to put resources into organizing migrant workers, whose membership and participation in the union is likely to be of limited duration and possibly controversial for some grassroots, local membership.
- The Cambodia Trade and Union Confederation (CTUC), with around 100,000 members, is a labor organization advocating for workers' rights, better wages, and improved working conditions in the garment industry. Despite some successes, unions in Cambodia face challenges like government repression, employer threats, and lack of labor law enforcement. Workers often face intimidation when attempting to organize or negotiate for better conditions.²⁰ Recent protests and strikes have led to arrests and violence against union leaders.²¹
- The situation for worker unions in Myanmar has deteriorated significantly since the military coup in February 2021. Following the coup, more than 300 union members and activists have been arrested, with many facing violence and intimidation.²² The junta has effectively banned most unions, severely restricting the right to organize. The military's actions have increased risks for workers negotiating for better wages

²⁰ <https://www.hrw.org/world-report/2023/country-chapters/cambodia>

²¹ <https://www.globalcitizen.org/en/content/garment-workers-cambodia/>

²² <https://www.ituc-csi.org/myanmar-85>

or conditions. Reports indicate that union leaders have been targeted for arrest after organizing protests for wage increases.²³

- **Legal status and government failure to protect rights:** The lack of legal protection is a significant factor in the exploitation faced by migrant workers, regardless of their industry. Governments must change their attitudes and policies towards migrant workers to ensure the rights accorded to them by international conventions and agreements. The International Labor Organization (ILO) asserts that all workers are entitled to these rights, regardless of legal status, but few countries prioritize the enforcement of these rights over immigration policy. For example, in the UK, a knitwear factory found wages paid half the legal minimum, excessive working hours, and poor health and safety standards. Employers face fines for breaches in employment law, with the biggest fine being up to USD13,374 per person for undocumented workers.
- In Thailand, the lack of legal status is used for systematic discrimination, with two million Burmese workers having to enter illegally but being granted permission to stay and work.²⁴ This system prevents them from accessing social rights and labor rights. However, recent court successes have improved the ability of migrant workers to demand rights related to wages and overtime payments. Burmese refugees worldwide face difficulties in accessing protection, with many waiting for their status to be granted and working as undocumented migrants. Undocumented workers are deprived of protection and highly vulnerable to exploitation.
- **Employment relationships:** Migrant workers often lack direct employment relationships with their factories or production sites, instead signing multiple work contracts with recruiters, an outsourcing agent, and factory management. These contracts often have better terms and conditions than those signed in the destination country. When workers raise this issue with employers, they are often told their original contract has no legal standing.
- **Forced labor and labor trafficking:** Forced labor, defined by ILO, refers to work or services that are demanded without voluntary consent, even if the worker has agreed to employment based on false promises, deception, induced debt, or

²³ <https://www.socialeurope.eu/myanmar-trade-unionists-in-the-firing-line>

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https://ilo.org/sites/default/files/wcmsp5/groups/public/@asia/@ro-bangkok/documents/publication/wcms_bk_pb_30_en.pdf

employers withholding payments or retaining identity documents. Forced labor also exists when workers face penalties designed to keep them employed against their will, such as financial penalties, threats of deportation, and physical violence against the worker, family, or close associates. Migrant workers in the garment industry often face debt bondage, false promises, document retention, financial penalties, and threats of violence and deportation. These issues highlight the urgent need for improved legal protection for migrant workers in the garment industry.

- **Factory closures and mass redundancies:** The economic crisis has led to factory closures and mass layoffs, worsening the situation faced by migrant workers. In Malaysia, many migrant workers are being thrown out of factories, particularly in manufacturing, resulting in high job losses for both migrant and local workers. This has implications for migrant workers in terms of work opportunities and the possibility of receiving support from their local colleagues. The Malaysian government is now promoting a "migrant workers first out" policy, with up to 30,000 migrant workers from Bangladesh having their work visas revoked.
- The only legal option for migrant workers is to return to their country of origin, as work permits are only valid while jobs exist. However, many workers are unable to pay back the debts accrued through the initial recruitment process, leading to many becoming undocumented workers. Those returning home may face worse financial situations and a continued obligation to pay debts accrued in attempting to migrate.
- As the crisis impacts countries most known to send workers abroad, the pressure or incentive for workers to migrate may increase. For example, garment workers in Cambodia have lost their jobs without compensation, making them vulnerable^{25,26,27}. Cambodia does not have a clear policy to send workers abroad, but also does not restrict. The Cambodian government does not ignore the exploitation but has limited assistance due to several reasons, including uncontrol migration database, no systematic assistance ready, and illegal migration. Governments promoting migration may choose to ignore the exploitation facing their workers to maintain high

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<https://www.business-humanrights.org/en/latest-news/cambodia-over-50000-garment-workers-as-factories-reduce-workforce-or-shut-down-operations/>

²⁶

<https://cleanclothes.org/news/2023/global-sportswear-brands-are-leaving-cambodian-garment-workers-to-languish-beneath-the-poverty-line>

²⁷

<https://cambodia.actionaid.org/sites/cambodia/files/publications/24160%20AAA%20Cambodia%20Workers%20Report%20Final.pdf>

migration figures. In the Philippines, many migrant workers have returned to find their employment situation worse than in their home country.

Gender lens : Migrant worker exploitation is increasingly affecting women workers, with only a few organizations addressing gendered contexts. Women workers from Bangladesh are now being given work permits for Mauritius, where many migrant workers are employed in the garment industry. In Thailand, women form the majority of the migrant garment workforce, while in Malaysia, the majority are still men. Thailand's garment industry has historically employed a significant number of female workers, especially from neighboring countries like Myanmar and Cambodia. Cultural norms associate women with dexterous and meticulous work, making them attractive to employers. Thailand's labor policies have facilitated the entry of female migrant workers, recognizing their contributions to the economy. Programs aimed at legalizing the status of migrant workers have encouraged women to seek employment in the garment industry.²⁸ The garment industry in Malaysia attracts male migrant workers, particularly from Bangladesh and Nepal, due to the industry's physical demands and cultural norms. Malaysian employers prefer male workers for roles in manufacturing and construction, which are sourced predominantly by male recruitment agencies, further reinforcing this preference.²⁹³⁰

Migrant workers face numerous challenges, including lack of proper documentation, language barriers, economic barriers, cultural and social barriers, and lack of awareness. In Thailand, undocumented migrants may avoid seeking medical help due to fear of deportation, while in Malaysia, informal recruitment channels often leave workers without proper contracts or legal status.³¹ Language differences can hinder communication and lead to misunderstandings, limiting access to healthcare and social services. Economically, low wages and high living costs can limit workers' ability to afford essential services, forcing them to prioritize basic needs over health.³² Cultural stigmas and discrimination can also hinder access to services, particularly for women. Finally, a lack of awareness about their rights and available services can hinder effective resource utilization.

- Gender discrimination is evident in both the recruitment process and employment conditions of women migrant workers. In some cases, women may not have chosen to migrate but have been forced to do so by their families. Once they leave home, they may feel more dependent on the agent for protection and safety, making them more open to abuse. Some women workers prefer working for an outsourcing agent

²⁸ International Organization for Migration (IOM). (2017). "Migrant Workers in Thailand: A Review of the Literature."

²⁹ Rigg, J., & Nattapool, P. (2013). "Gender and Migration in Southeast Asia." *Asian Population Studies*.

³⁰ Rahman, M. M. (2015). "The Role of Male Migrant Workers in the Malaysian Economy." *Journal of Southeast Asian Economies*.

³¹ Zainal, N. (2014). "Language Barriers in Accessing Health Services: A Study of Migrant Workers in Malaysia." *International Journal of Public Health*.

³² International Labour Organization (ILO). (2020). "Migrant Workers in the Garment Sector: Challenges and Opportunities."

in the country of destination, as they will "look after" workers once they arrive in a foreign country. In Malaysia, migrants from Indonesia, Bangladesh, and Myanmar often use recruitment agencies to secure employment and safety in industries such as manufacturing, agriculture, and services.³³ With programs like the Technical Intern Training Program, many foreign workers rely on agents to navigate the complex process of obtaining work permits and securing jobs in various industries.³⁴

- Women migrant workers may earn less than their male counterparts, experience lower living standards, and face other discrimination such as deductions for menstrual leave, forced medical checks, and pregnancy and HIV testing. For instance, in Thailand, a study found that women migrant workers earned about 30% less than their male counterparts in similar jobs.³⁵ Marriage is prohibited for women workers in both Malaysia and Thailand, and either marriage or pregnancy can be grounds for deportation.^{36,37} In Mexico, not only do women migrant workers earn less than men for the same work, but they also engage in unpaid work that allows for the reproduction of the labor force and undertake some cleaning tasks at the employers' homes, which may also be unpaid.³⁸
- In many factories, direct supervisors (from whichever language or national group) are employed on a particular line or section, often committing sexual harassment experienced by migrant women workers. Garment work gives women migrants greater economic independence and decision-making power in the household, but long working hours and low pay can strain family relationships and caregiving responsibilities. Remittances sent home by women workers can shift gender dynamics in origin communities but also increase domestic burdens.

Recommendations

Policymakers, businesses, and civil society groups must work together to address these complex issues. Ensuring fair recruitment practices, strengthening labor regulations, and investing in migrant worker welfare will be crucial to making international mobility in the garment sector more sustainable and equitable for all.

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https://www.ilo.org/sites/default/files/wcmsp5/groups/public/@asia/@ro-bangkok/documents/publication/wcms_840109.pdf

³⁴

https://www.oecd.org/content/dam/oecd/en/publications/reports/2024/06/recruiting-immigrant-workers-japan-2024_0034390d/0e5a10e3-en.pdf

³⁵ <https://pubmed.ncbi.nlm.nih.gov/38701061/>

³⁶ <https://pmc.ncbi.nlm.nih.gov/articles/PMC7432037/>

³⁷ <https://journals.openedition.org/archipel/2647>

³⁸

<https://www.unwomen.org/sites/default/files/Headquarters/Attachments/Sections/Library/Publications/2017/women-working-worldwide.pdf>

Key questions to investigate

1. What are the policies of the Cambodian government to address the socio-economic well-being of migrant workers?
2. What are the factory's policies and strategies to address the socio-economic and well-being of migrant workers?
3. When the workers migrate from rural to urban, women and children are particularly at risk of being taken advantage of in the informal or unregulated segments of the textile industry; what effective legal frameworks are in place to ensure they are free from abuse and exploitation? How effective is it in practice?
4. What is the role of national and international civil society organizations in supporting migrant workers from abuse and exploitation?
5. What are the existing management strategies and structures to protect migrant workers from being abused and exploited? How efficient are they ?
6. Due to the current economic crisis, what are the strategies of the government and factories to provide adequate support to migrant workers by avoiding layoffs and maintaining minimum wage during low season or no ordering from buyers?

3. Community Impacts

When analyzing the social impacts of the textile and garment industry in developing countries, two key aspects emerge.³⁹ First, the **lack of robust policies and institutions** in these contexts means workers often lack the necessary skills and training to take on higher-value activities within the clothing value chain. As a result, workers are primarily hired for lower-value jobs like garment assembly, earning lower wages compared to employees at the industry's headquarters in developed countries.

Workers with advanced sewing skills can earn higher wages, especially in specialized areas such as pattern-making or alterations. Approximately 60% of garment workers reported acquiring skills in sewing, making it the most common skill set among workers.⁴⁰ Quality control skills were also noted as a key area of expertise among workers, with many seeking additional training to enhance their employability.⁴¹ Proficiency in operating advanced sewing machines and other textile machinery is increasingly valuable as factories upgrade their technology. There is a growing demand for training programs focused on technical skills related to machinery operation, which can lead to better job positions and wages.⁴² Design development and marketing of

³⁹ Radhakrishnan, S. (2015). Social Impacts of the Clothing and Fashion Industry. In S. S. Muthu, *Handbook of Sustainable Apparel Production* (pp. 207-227). CRC Press. doi:10.1201/b18428-13

⁴⁰ https://cdri.org.kh/storage/pdf/WP126%20Garment%20workers%20_1624257344.pdf

⁴¹ Ibid.

⁴² <https://asia.nikkei.com/Business/Business-Spotlight/Rising-exports-mask-skills-gap-in-Cambodia-s-garment-industry>

exporting brands are based (and will likely remain) in Singapore, Shanghai, Hong Kong or other big marketplaces and out of reach for most factory workers.

Second, **the textile and garment industry has both positive and negative impacts on local communities**, particularly in developing regions where factories are located^{43,44}. On the positive side, the industry provides much-needed **employment opportunities**, especially for women and unskilled workers, helping to reduce poverty. The textile and garment sector provides **better financial remuneration**, especially women, compared to other industries in developing economies. Studies have shown that in countries like **Pakistan, Bangladesh, Sri Lanka, the Philippines, Thailand, and Zambia**, the textile and clothing industry offers female employees improved wages and prospects compared to traditional sectors like agriculture and domestic work, which tend to be more gender-segregated and unequal. Cambodia has no exception. The garment industry in Cambodia provides around 1 million workers with access to formal employment, 80% of whom are women.⁴⁵ These factory jobs **stimulate local businesses, markets, and overall economic development in the surrounding areas**. Additionally, textile and garment factories can **drive investments in local infrastructure like roads, utilities, and transportation networks** that benefit the wider community. The jobs also provide opportunities for workers to **develop valuable technical, managerial, and soft skills** that can be applied beyond the factory setting.

However, the textile industry also has **significant downsides** for local communities. Textile production can be **highly polluting, generating waste and emissions, causing resource depletion, degrading the local environment, and posing health risks**^{46,47,48}. **Labor rights violations like poor working conditions, excessive overtime, and even child labor** are all too common, especially in less regulated factory settings. Moreover, the **influx of migrant workers drawn to factory jobs can also create social tensions as local resources, housing, and public services become strained. This can lead to resentment and conflicts within the community.**^{49,50,51}

While the industry has its challenges, this suggests the textile and garment sector has the potential to be a pathway for economic empowerment and social mobility,

⁴³ <https://giz-cambodia.com/sourcing-textile-garment-apparel/>

⁴⁴ <https://www.fibre2fashion.com/industry-article/9851/the-social-impact-of-sustainable-textiles-empowering-communities>

⁴⁵ https://riseequal.org/media/fzbx54/rise_cambodia-financial_health_report.pdf

⁴⁶ [Protected areas bear the brunt as forest loss continues across Cambodia](#)

⁴⁷ <https://www.dedicatedbrand.com/en/textile-industry>

⁴⁸ <https://giz-cambodia.com/sourcing-textile-garment-apparel/>

⁴⁹ <https://www.ilo.org/media/309356/download>

⁵⁰ https://migrationnetwork.un.org/sites/g/files/tmzbd416/files/docs/provision_of_essential_services_-_good_practices.pdf

⁵¹ <https://asean.org/wp-content/uploads/2022/08/ASEAN-Migration-Outlook-Final.pdf>

particularly for marginalized groups like women in developing nations. However, realizing this potential requires investing in worker training and skills development and strengthening labor regulations and social protections. With the right policies and institutional support, the industry could become a more inclusive driver of socioeconomic progress in these contexts.

Gender lens: The textile and garment industry in Cambodia offers employment opportunities for women, providing financial independence and decision-making power. However, women often face poor working conditions, long hours, and gender-based discrimination. The industry reinforces traditional gender norms, with women concentrated in low-skilled roles while men hold higher-level management positions. The influx of jobs has led to rural-to-urban migration, disrupting traditional community structures and family dynamics. Increased household incomes have improved access to education, healthcare, and other services, particularly for women and children, but also contribute to housing shortages, overcrowding, and strains on public infrastructure. Waste and water pollution from textile manufacturing have also negatively impacted some communities where women mostly stay home. Despite these challenges, the industry has given many young women formal employment opportunities, increasing their economic and social status. Worker activism and unionization efforts have amplified women's voices demanding better working conditions. Addressing these issues requires a multifaceted approach that centers on women workers' perspectives and experiences.

Key Questions to investigate

1. What are the impacts on communities from adopting what is practiced in their workers' homes?
2. Is the code of conduct used in the factory effective/practical for the workers to practice in the community where they live to ensure that they will get penalized or fired from work in case they commit violence and abuse to the community members?
3. What are the incentives for workers to effectively practice the E&S at home?
4. What are the key collaborations from other institutions that support community practices?

4. Circular Economy in Textile and Garment Industry

The circular economy is a model of production and consumption which involves sharing, leasing, reusing, repairing, refurbishing, and recycling existing materials and products as

long as possible. In this way, the **life cycle of products is extended**.⁵² Circular fashion is a system where the manufacture of an item and the end of its life are equally as important, as the aim is to prevent waste by intentionally designing items to be reusable, repairable, biodegradable and recyclable.^{53,54} In this regards, there are potentials in developing a strategy to **make textiles more durable, repairable, reusable, and recyclable**, tackle fast fashion, and stimulate innovation within the sector^{55,56,57,58}. Only 1% of used clothes are recycled into new clothes. On average, Europeans use nearly 26 kilos of textiles and discard about 11 kilos of them every year. Used clothes can be exported outside the EU but are mostly (87%) incinerated or landfilled.⁵⁹ The new strategies to tackle this issue include developing new business models for clothing rental, designing products in a way that would make re-use and recycling easier (circular fashion), convincing consumers to buy clothes of better quality that last longer (slow fashion) and generally steering consumer behavior towards more sustainable options.

There are eco-industrial parks and circular initiatives. Developing zero-waste industrial zones or eco-industrial parks is seen as a potential step forward for moving towards a circular economy. Cambodia's government representatives and industry leaders have joined forces to explore opportunities for a circular textile economy, focusing on attracting recyclables, establishing proper waste disposal practices, and promoting adopting circular principles. However, Cambodia currently lacks specific policies or legislation related to the circular economy, and the country faces limited options for managing textile waste, which is largely limited to landfilling or incineration - both of which have significant environmental drawbacks.⁶⁰

There are difficult challenges in the global textile industry. The textile industry is the second-most polluting industry globally, after oil. The rise of 'fast fashion' business models by multinational corporations has exacerbated the industry's environmental impact. It is often known that the global textile industry is a powerful and non-transparent regime, making it challenging for start-ups and new entrants to drive structural changes. The lack of comprehensive environmental regulations and non-transparency in the industry's operations hinders progress towards a more circular

⁵² <https://www.europarl.europa.eu/topics/en/article/20151201STO05603/circular-economy-definition-importance-and-benefits>

⁵³ <https://goodonyou.eco/what-is-circular-fashion/>

⁵⁴ <https://www.ellenmacarthurfoundation.org/fashion-and-the-circular-economy-deep-dive>

⁵⁵ <https://giz-cambodia.com/sourcing-textile-garment-apparel/>

⁵⁶ https://epub.wupperinst.org/frontdoor/deliver/index/docId/8108/file/ZI23_Textile_Industry.pdf

⁵⁷ <https://www.impactingourfuture.com/sustainable-living/recycling-your-fashion-for-a-better-future/>

⁵⁸ <https://www.theforwardlab.com/turning-old-into-new-understanding-textile-recycling/>

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<https://www.europarl.europa.eu/topics/en/article/20201208STO93327/the-impact-of-textile-production-and-waste-on-the-environment-infographics>

⁶⁰ <https://kiripost.com/stories/cambodia-textile-industry-seeks-solutions-for-circular-economy>

model. The global textile industry is a complex and opaque system dominated by a few major players with significant market share. This concentration of power creates barriers for new entrants, as established brands benefit from economies of scale, extensive distribution networks, and brand loyalty.⁶¹ New companies often struggle to compete on price and visibility. Transparency in supply chains is crucial for accountability and ethical practices, but many brands do not disclose suppliers or product conditions, making it difficult for new entrants to establish trust with consumers and ensure ethical sourcing practices.⁶² The regulatory landscape can be daunting for startups, as compliance with labor laws, environmental regulations, and trade agreements requires resources many new companies may not have. The evolving nature of regulations, particularly concerning sustainability, can create uncertainty.⁶³

However, there are transition pathways. Despite global advancements in circular economy principles, the transition of the textile industry is unlikely to accelerate without stronger consumer demand for change and the establishment of global compliance rules. The Dutch textile industry, for example, is currently in the take-off phase of the transition towards a circular economy, aided by a supportive national environment.⁶⁴ The global textile industry as a whole is also in the take-off phase, as multinational corporations have become aware of the circular economy concept. Still, the complexities of the entire system make a swift transition to the acceleration phase unlikely in the near future.

There are recommendations for accelerating the circularity. To encourage a move towards a circular textile economy, key recommendations include enforcing global environmental regulations, increasing transparency obligations for companies regarding their infrastructure and operations, and creating financial resources to support the growth of circular economy start-ups and initiatives.

In terms of **waste management**, the Cambodian garment industry generates a substantial volume of fabric waste, primarily from scraps after cutting operations, large cut piece lengths, and fabric end rolls. Textile and garment waste comprise approximately 60% of Cambodia's total industrial waste generation. A thriving, unregistered industry deals in these end-of-roll remnants and cutting waste. This waste material moves through a well-established supply chain until it is buried or burned.⁶⁵

⁶¹ <https://documents1.worldbank.org/curated/ru/124691468337235836/pdf/474880WP0Repla10Box334138B01PUBLIC1.pdf>

⁶² <https://www.dedicatedbrand.com/en/textile-industry>

⁶³ <https://www.carbonfact.com/blog/policy/eu-regulations-for-textile-brands>

⁶⁴ Snoek, S. (2017). *Circular Economy in the Textile Industry - Transition theory in Dutch start-ups towards a circular economy*. Wageningen UR. Retrieved from <https://edepot.wur.nl/425277>

⁶⁵ GIZ. (2021). *Promoting Sustainability in the Textile and Garment Industry in Asia (FABRIC)*. Retrieved from Bonn and Eschborn, Germany.

While textile waste from Cambodian garment manufacturing is formally disposed of at licensed landfill sites, there is also a significant unregistered market for selling this waste. In addition to being landfilled, cutting scraps are also being burned at factories and brick-making sites. Some textile waste is even exported, and in a few cases, it is recycled.

Most factories were not accurately measuring their cutting waste due to underreporting volume data, which allows for easier sales to recyclers. A discrepancy of approximately 50% was found between onsite estimations and recorded data⁶⁶. Cutting waste is bagged during manufacturing and moved to separate storage locations. Estimating the weight and quantity of bags per day is the most common method of measurement. Factories expressed a lack of need to measure an accurate amount of waste generated per day or production order, stating that estimations are realistic and provide enough information for business purposes.

Cutting waste scrap collectors can be classified into two types: those who directly negotiate with factories to purchase all recyclable waste and those who only purchase cutting scraps. The textile scraps generated during cutting go through a supply chain of businesses before ending up in landfills or being burned. The decline in demand for cutting scraps is attributed to tightening international import regulations and restrictions, reducing waste exports to ASEAN nations and the brick kiln industry. However, thousands of tons of waste are still sold out into this informal sector annually. The scale of this supply chain is challenging due to the lack of consistency in standard units of measure and pricing.

Many factories in Cambodia are unable to formalize their cutting waste sales and reporting in accordance with national tax requirements due to significant tax implications. They are expected to report raw material usage equal to garment exports, requiring an unrealistic zero waste figure. This misinterpretation of law could be due to hearsay or experience with customs authorities or the General Department of Taxation. Legally, waste sales are permitted, provided annual inventory reporting aligns with annual tax submissions to the General Department of Taxation. Despite a directive to support industrial recycling facilities for environmental and economic benefits, factories see tax implications as the primary barrier to formally selling waste to recycling facilities. Waste management and disposal options include serviced disposal via licensed contractors, sale, incineration in boilers, and unregistered landfills. In limited cases, factories are instructed to manage fabric waste according to strict brand requirements,

⁶⁶ Ibid.

including returning it to the supplier, transporting it to another partner factory, and burning branded fabric.

The Sub-Decree identifies 32 hazardous waste types, including those originating from the garment sector. These include fabrics, textile products, wastewater sludge, chemicals, additives, and residues. The government contracts Sarom Trading Company to collect hazardous waste from the garment sector and other sources. Waste collectors are responsible for designating their landfills for dumping and operation in compliance with the agreement and Ministry of Environment (MoE) monitoring.⁶⁷

The garment sector in Cambodia being the largest manufacturing sector, it also contributes significantly to the country's environmental degradation due to poor **wastewater** management. The garment industry is the single largest emitter of toxic discharges into bodies of water, accounting for almost 70% of total toxic pollutant loads.⁶⁸ The number of textile and apparel factories in Cambodia has grown rapidly in the last two decades, with 270 spinning, weaving, and finishing textiles enterprises in 2016 accounting for 15.5% of the country's industrial enterprises. In 2014, these factories released toxic chemicals, accounting for 98.56% of the total pollution load from all sectors⁶⁹. The total pollution from textiles and apparel factories is projected to increase significantly to 682,620 mg/kg of textile by 2030⁷⁰. Wet processing in the textile manufacturing chain generates the largest environmental footprint due to intensive freshwater withdrawal during bleaching, washing, dyeing, and finishing processes. These processes also use large amounts of synthetic chemicals and energy to heat water and generate steam, releasing significant amounts of wastewater into local waterways. While wastewater is highly polluting, it concerns only about 20% of factories in Cambodia according to TAFTAC.

Improving policy and practice is crucial to accelerating the implementation of sustainable garment systems.⁷¹ Increasing transparency across value chains is essential, as the lack of data and traceability remains a major obstacle to impact assessment, effective regulation, and providing consumers with the necessary information to make

⁶⁷ EU. (2022). *Policy Analysis: Improving Sustainable Consumption and Production in the Garment Sector in Cambodia*. Phnom Penh, Cambodia: The European Union, The SWITCH-Asia Programme. Retrieved from

https://www.switch-asia.eu/site/assets/files/3587/policy_analysis_cambodia_garments_enpdf-1.pdf

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<https://www.europarl.europa.eu/topics/en/article/20201208STO93327/the-impact-of-textile-production-and-waste-on-the-environment-infographics>

⁶⁹

https://www.iges.or.jp/en/publication_documents/pub/policyreport/en/12626/policy_analysis_cambodia_garments_enpdf-1.pdf

⁷⁰ Ibid.

⁷¹ ASEF. (2020). *Garments Sustainability in Asia and Europe*. Asia-Europe Foundation. Retrieved from https://asef.org/wp-content/uploads/2021/01/Policy-Brief-Stream3_Sustainable_Garments.pdf

informed purchasing decisions. Enhanced transparency would also enable meaningful stakeholder engagement throughout the product life cycle. Similarly, the business sector must take greater responsibility for its purchasing practices and the end-of-life management of garments, such as by implementing extended producer responsibility schemes. Coherence across policy tools also needs to be improved regarding the coherence of tools operating at different stages of the value chain and tools applied in other national contexts.

Furthermore, there is an urgent need for improved product regulation, including the establishment of enabling conditions and incentives to drive more efficient production processes. The complexity of the green process and system design was found to be the most elementary barrier to having the maximum driving power.⁷² Lack of consumer support and encouragement, guidance and support from regulatory authorities, and high implementation and maintenance costs are the other elementary barriers to the green textile supply chain. The lack of green suppliers is the most dependent barrier, and all other barriers influence it.

Gender lens: The circular economy in Cambodia's textile and garment industry is a complex and multifaceted issue. Women, who constitute the majority of the workforce, play a crucial role in collecting, sorting, and recycling textile waste. Their knowledge and experience can be valuable in designing circular economy initiatives, but their labor in the informal waste management sector is often underpaid and unrecognized. Circular business models, such as textile and garment industries, present opportunities for creating more equitable economic models. However, if not designed thoughtfully, these models may reinforce traditional gender roles and power dynamics, concentrating women in lower-skilled, lower-paid jobs. Integrating gender equality principles can ensure that the benefits of the circular transition are distributed equitably. Moreover, the increased handling of textile waste in circular systems may expose women workers to heightened health and safety risks, such as exposure to hazardous chemicals. Circular design, technology, and infrastructure should prioritize the safety, health, and overall well-being of women throughout the value chain. Centering women's voices and leadership in the design and implementation of circular textile systems is crucial for ensuring gender-responsive outcomes. Supporting women's collective organizing and empowering them as change agents can drive more inclusive and equitable circular transitions.

⁷² Majumdar, A., & Sinha, S. K. (2019). Analyzing the barriers of green textile supply chain management in Southeast Asia using interpretive structural modeling. *Sustainable Production and Consumption*, 17, 176-187. doi:10.1016/j.spc.2018.10.005

Key Questions to investigate

1. What does the government need to prepare to develop a waste-free industrial area or an eco-industrial park?
2. The new strategies to tackle this issue include developing new business models for clothing rental, designing products in a way that would make re-use and recycling easier (circular fashion), convincing consumers to buy clothes of better quality that last longer (slow fashion) and generally steering consumer behavior towards more sustainable options.
3. Cambodia currently lacks specific policies or legislation related to the circular economy, and the country faces limited options for managing textile waste, which is largely limited to landfilling or incineration - both of which have significant environmental drawbacks.
4. In order to manage waste, what strategies should the Royal Government prepare? And how?

5. Climate Change and Garment Workers

Climate change is no longer a distant problem - it is a stark reality actively reshaping the global workplace. Its effects are reordering social relationships, reducing productivity, and worsening worker health. Yet, as the drive towards industrial decarbonization gains momentum, the everyday struggles of workers in global supply chains facing worsening economic and physical conditions have largely been overlooked. Worker voices have been marginalized in this transition.⁷³ In the climate change policy discourse, the focus has skewed heavily toward mitigation measures, with adaptation efforts taking a backseat. However, as the evidence of ongoing climate impacts continues to mount, this imbalance forces workers to absorb the immense pressures of climate change without adequate support. These workers, often in vulnerable communities within "climate-vulnerable" countries, bear the brunt of the disruptions wrought by extreme weather events, changing rainfall patterns, and other climate-related stresses. Their livelihoods, health, and means of survival are being threatened, even as their industries push towards emissions reduction targets. In addition, this oversight of worker adaptation needs threatens to undermine the broader goals of a just climate transition. Meaningful progress towards a sustainable, equitable global economy will require centering the experiences and needs of these frontline workers and ensuring they are empowered and supported as active agents of change rather than passive recipients of climate impacts.

⁷³ <https://www.solidaritycenter.org/wp-content/uploads/2022/07/Hot-Trends-Report.pdf>

Climate change is already significantly impacting communities in "climate-vulnerable" countries, including those with large populations of garment workers. Internal migration is one of the effects of climate change that is increasing worker vulnerability.⁷⁴ In Bangladesh, for example, two-thirds of the country's land lies less than 5 meters above sea level. Flooding and rising salinity levels in coastal water tables are rendering these agricultural areas unsuitable for farming. As a result, farmers are increasingly abandoning their land and moving to urban centers,⁷⁵ where they join the swelling population of slum dwellers and seek employment in industries like garment manufacturing.⁷⁶ Similar patterns have been observed elsewhere. In 2019 and 2020, severe flooding events in production hubs in Indonesia washed away the urban slum areas where many factory workers reside.⁷⁷ In the Indian state of Karnataka, a major garment-producing hub, 80% of districts were hit by drought and crop failure in 2019. A government think tank has warned that 40% of India's population will lack access to drinking water by 2030.⁷⁸

Moreover, changing weather patterns directly impact cotton farmers in India and across the global supply chain.⁷⁹ This disruption to the industry's raw material supply can have ripple effects throughout the sector. These climate change-induced pressures are making garment workers increasingly vulnerable to exploitation, as they are forced to migrate and seek employment in an industry that already grapples with labor rights issues. Addressing the nexus of climate change, migration, and worker vulnerability will require a holistic, cross-sectoral approach to build resilience and protect the rights of these communities.

"[...] climate change is a pressing issue for workers in Cambodia's garment industry. The majority of garment workers (67%) are aware of climate change, of which 74% reported feeling concerned. Crucially, moreover, climate change is not a future problem for garment workers, but one which is already impacting garment workers' lives, with over

⁷⁴ Plowman, A. (2016) "Bangladesh's Disaster Capitalism", Jacobin.

<https://jacobin.com/2016/01/bangladesh-rana-plaza-rmg-garment-industry-climate-change-environment>

⁷⁵ International Food Policy Research Institute (2018). Press release: "New Study: Sea Level Rise to Force 200,000 To Migrate from Bangladesh Coastal Areas". Ifpri.org.

<https://www.ifpri.org/news-release/new-study-sea-level-rise-force-200000-migrate-bangladesh-coastal-areas>

⁷⁶ Marshall, R. and S. Rahman (2013). Internal Migration in Bangladesh: Character, Drivers and Policy Issues. United Nations Development Programme.

<https://www.undp.org/bangladesh/publications/internal-migration-bangladesh-character-drivers-and-policy-issues>

⁷⁷ Aditya, A. et. al. (2020). "Hundreds of Thousands Flee as Flooding in Jakarta Kills 53". Bloomberg.com.

<https://www.bloomberg.com/news/articles/2020-01-03/indonesia-flood-kills-30-hundreds-of-thousands-flee-their-homes-k4xq0z7g>. Jakarta itself, which houses many garment factories, is sinking year after year due to climate change, with 40% of the city now below sea level.

⁷⁸ The Guardian (2019) "Indian villages lie empty as drought forces thousands to flee". The Guardian.

<https://www.theguardian.com/world/2019/jun/12/indian-villages-lie-empty-as-drought-forces-thousands-to-flee>

⁷⁹ Fairtrade Foundation (2020) Fair Trade and Cotton. (Commodity briefing). Fairtrade Foundation.

https://www.fairtrade.org.uk/wp-content/uploads/2020/10/Cotton_commodity_briefing_2020.pdf

two-thirds (67%) currently experiencing climate change impacts.” – In the report on ‘Hot trends – How the global garment industry shapes climate change vulnerability in Cambodia.’⁸⁰

Gender lens: Climate change impacts in the textile and garment industry in Cambodia are disproportionately experienced by women, who are the majority of the workforce. Women are more vulnerable to extreme weather events, rising temperatures, and water scarcity due to their lower socioeconomic status, limited access to resources, and gendered social norms. Climate change-induced disruptions to power, water, and transportation can disrupt garment factory operations, leading to production delays, lost wages, and job insecurity. Women also bear additional burdens in adapting to these challenges, as they often bear the brunt of household and caregiving responsibilities. Factory adaptation strategies often fail to consider the unique needs and constraints faced by female employees. Textile manufacturing is a water-intensive and polluting industry, with wastewater discharge and chemical use posing environmental and health risks. Women garment workers are at the forefront of grassroots movements demanding climate justice and environmentally sustainable practices in the industry. Addressing the gender dimensions of climate change impacts in Cambodia's garment sector requires focusing on women's experiences and agency, improving working conditions, enhancing workplace adaptation and resilience, and elevating female employees' leadership in environmental sustainability efforts.

With a gender lens, climate change is posing a significant threat to female garment workers, who are already facing unique challenges due to environmental changes. Rising temperatures, particularly in garment factories, have led to 78% of respondents becoming sick, according to a study in Bangladesh in 2023.⁸¹ This chronic exposure to heat can cause serious health issues, including heat stress, which disproportionately affects women due to their labor force roles.⁸² Many female garment workers are already economically disadvantaged, earning significantly less than their male counterparts.⁸³ The increasing intensity of work in factories due to climate change can lead to verbal abuse from managers, exacerbating mental and physical health issues.⁸⁴ Climate change also increases the risk of gender-based violence and harassment in the workplace, as increased heat stress and extreme weather events can result in decreased productivity, potentially triggering abusive behaviors from supervisors.⁸⁵ Climate change

⁸⁰ <https://www.solidaritycenter.org/wp-content/uploads/2022/07/Hot-Trends-Report.pdf> (p.8)

⁸¹ <https://bmcpublichealth.biomedcentral.com/articles/10.1186/s12889-023-17165-7>

⁸² Ibid.

⁸³ <https://www.fashionrevolution.org/garment-workers-and-climate-change-the-socioeconomic-link/>

⁸⁴ <https://grist.org/labor/the-worlds-garment-workers-are-on-the-frontlines-of-climate-impacts/>

⁸⁵ <https://www.ilo.org/publications/turning-heat-exploring-potential-links-between-climate-change-and-gender>

also forces many women to migrate for work, often leading them into urban areas where they continue to face significant challenges related to climate impacts.⁸⁶

Key Questions to investigate

1. Why is the voice of workers reduced when there is climate change?
2. Why are workers facing a threat to their livelihoods, health, and means of survival as their industry moves towards emissions reductions?
3. Can the migration of workers be caused by one of the effects of climate change, which is increasing the vulnerability of workers?
4. In the past, was the fainting of workers in factories in Cambodia due to climate change? If caused by climate change, how should the factory have a solution to avoid this problem?
5. What do workers need to do to protect themselves or adapt to climate change?
6. These climate change-induced pressures are making garment workers increasingly vulnerable to exploitation, as they are forced to migrate and seek employment in an industry that already grapples with labor rights issues.

6. Overall Conclusion

The textile and garment industry significantly negatively impacts both human welfare and the environment. Workers, particularly those from the Global South, often face exploitation, unsafe working conditions, and inhumane treatment, while animals suffer and die in the production of certain fashion materials. Gender remains a concern in the industry, and women are often the victims of discrimination, unequal pay, abuse, and violence. Additionally, the industry freely pollutes the natural environment by discharging toxic chemicals, synthetic fibers, and greenhouse gas emissions into water, soil, and air.

The rapid turnover of fashion trends leads to a surplus of low-quality clothing being discarded in landfills and the wild, contributing to growing waste and pollution problems. A collective effort is required from designers, manufacturers, brands, and consumers to promote a more ethical and sustainable textile and garment industry. This can be achieved by introducing innovative, sustainable materials, reducing the complexity of supply chains, and transparently reporting on the industry's environmental and social impacts. Consumers must also develop a deeper understanding of the impacts of their clothing consumption and strive to change their shopping habits accordingly.

⁸⁶ <https://fullerproject.org/story/reporters-notebook-how-heat-impacts-fashion's-global-workers/>

Policy-makers play a crucial role in setting appropriate laws, ensuring effective enforcement, and facilitating inter-ministerial cooperation to address the multifaceted challenges. Educational and scientific institutions and the media must also be engaged to drive the necessary changes.

While some good practice examples demonstrate alternatives to the current unsustainable system, more challenges and concerted efforts are needed to achieve global economic, environmental, and social sustainability in the textile and garment industry. This is particularly true in Cambodia, Vietnam, Bangladesh, Myanmar, and Pakistan, where the sector plays a significant role in the local economies. By working together across all stakeholder groups, the textile and garment industry can be transformed to meet consumer demands for style, comfort, quality, and aesthetics while minimizing its detrimental impact on human rights, animal welfare, and the environment. This transition is essential for the long-term viability and responsible development of the sector.

7. Annexes

7. Technology and Eco-Innovation in Textile and Garment Industry

The textile, clothing, and footwear industries are poised to benefit from adopting **new technologies**. Still, many firms struggle to develop the absorptive capacity to effectively integrate these technologies into their operations (Berry, Sharpe, & Fernandez, 2022). This capacity refers to the internal knowledge, skills, and infrastructure needed to recognize the value of new information, assimilate it, and apply it for commercial purposes. The lack of this critical capacity often leads firms to consider moving operations to other countries for easier access to technological expertise. Building a tech-savvy workforce in these industries goes beyond expanding access to education. It requires a multifaceted approach that includes developing awareness, knowledge, and practical skills related to emerging technologies. This can involve targeted training programs, industry-academia collaborations, and initiatives to upskill existing workers. Addressing the absorptive capacity challenge is crucial for these industries to capitalize on the innovation potential of new technologies, unlocking productivity gains and remaining competitive in the long run.

For **eco-innovation in the textile and garment industry**, the pressure to move towards sustainability and innovative operational change is increasing for multinationals and small- and medium-sized enterprises (SMEs). However, the resources available to do so are vastly different, including absorptive capacity. In the textile and garment sector, there is a lack of research that analyses the implementation of eco-innovations in SMEs and, more broadly, enterprises in developing country contexts. Key barriers for SMEs in

these countries include lack of awareness about environmental legislation and social impact, lack of access to knowledge and skills transfer networks, communication gaps in supply chains, low savings rates, and poor infrastructure.

The lack of success with sustainability measures is highly related to the socio-economic situation of the business and the strain on SME owners' "social position," such as a belief that the current status quo is the only way of making money and a follower mentality. Companies in these countries were mixed in adhering to sustainability standards or certification frameworks, with some expressing a lack of skills as the main barrier to doing so. In contrast, others stated that the lack of a coherent business strategy outlining their innovation intentions was a barrier to accessing the full benefit of adhering to these standards.

In Colombia, SMEs are immersed in their day-to-day routines, having no time or resources to improve practices, use resources more efficiently, and decrease costs. They often depend on external help from government programs or professionals from consultancies to carry out these important tasks as knowledge-intensive service activities (KISAs). The experts interviewed highlighted the linkages between developing an underlying business strategy that identified the business's trajectory and the firm's ability to develop innovative products and services.

8. Worker's indebtedness

There is very intensive literature on workers' indebtedness in relation to the textile and garment industry.^{87,88} It is generally understood that many workers in textile and garment factories, especially in developing countries, face the challenge of worker indebtedness. A survey conducted in Cambodia revealed that approximately 90% of garment workers reported being in debt. The average debt for Cambodian garment workers is reported to be around \$3,804, which is approximately 18 months' salary for these workers.⁸⁹ Among those with debt, nearly 40% of Cambodian workers reported having more than one loan, with some facing debts as high as \$10,000 or more.⁹⁰ This aligns with findings from various unions and rights groups highlighting the pervasive nature of financial distress among these workers.⁹¹ Research across four countries (Ethiopia, Honduras, India, and Myanmar) showed an average increase in debt levels of 16%, with Ethiopia experiencing nearly a 100% increase in worker debt during the COVID-19 pandemic.⁹²

⁸⁷ <https://actionaid.org.au/wp-content/uploads/2023/09/24160-AAA-Cambodia-Workers-Report-D5-%C6%92-singles.pdf>

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https://www.licadho-cambodia.org/reports/files/230Worked%20to%20Debt%20Joint%20Briefing%20Paper_ENG_30062020.pdf

⁸⁹ <https://cleanclothes.org/blog/never-paid-enough-to-escape-the-debt>

⁹⁰ https://cambodia.actionaid.org/sites/cambodia/files/publications/Brief%20Report_Stitched%20Under%20Strain_ENG.pdf

⁹¹

<https://newsroomcambodia.com/en/2020/07/10/workers-struggle-with-debt-unemployment-as-garment-sector-crash-reaches-400-factories-150000-jobs/>

⁹² <https://www.dandc.eu/en/article/garment-workers-are-worse-off-due-coronavirus-pandemic>

This refers to workers taking on debt from their employers or third-party lenders to cover basic expenses such as recruitment fees, housing, food, and other living costs. The root causes of worker indebtedness in this industry include low wages, limited access to affordable credit, and unscrupulous recruitment and employment practices. Workers can become trapped in a cycle of debt, where they are unable to repay the loans due to their meager earnings, leading them to take out additional loans to cover their debts.

This situation of worker indebtedness can have severe consequences for the workers and their families. It can lead to debt bondage, where workers are effectively forced to remain in their jobs to service their debts, compromising their freedom of movement and ability to change employers. It also increases the vulnerability of workers to exploitation, as they may be less likely to voice concerns or assert their rights for fear of losing their jobs and being unable to repay their debts. It is important to explore whether there are direct links between the debts faced by workers and their employment in this sector.

Debt can take various forms beyond just cash loans - it can manifest in exploiting workers' time, bonuses, overtime pay, and personal freedoms. When workers are not fairly compensated or are unfairly penalized without proper notice or explanation, they often lose access to the benefits and earnings they are entitled to, leaving them in immediate debt. If such situations of unfair treatment and wage withholding are frequent or prolonged, workers can find themselves in a state of chronic indebtedness, further exacerbating their suffering. The lack of fair and transparent employment practices in some textile and garment factories can directly contribute to the accumulation of debt among the workforce. This complex relationship between worker indebtedness and the industry's employment practices requires deeper examination. Researchers and industry stakeholders must delve further into understanding the nuances of how debt burdens are created, perpetuated, and potentially linked to the operational and managerial decisions within textile and garment manufacturing. Only through a comprehensive investigation of this issue can effective solutions be identified to address worker indebtedness and promote more equitable and sustainable employment practices in the textile and garment supply chain.

Addressing the issue of worker indebtedness is crucial for improving working conditions, promoting decent work, and ensuring the long-term sustainability of the textile and garment industry. Addressing worker indebtedness in the textile and garment industry may require a multifaceted approach. This includes:

- Ensuring fair and living wages for workers to reduce their reliance on debt.

- Improving access to affordable and ethical credit options, such as through microfinance institutions or worker welfare funds.
- Strengthening regulations and enforcement to prevent exploitative recruitment practices and debt bondage.
- Promoting transparency and accountability in employment and payment practices within the industry.
- Empowering workers through education, collective bargaining, and grievance mechanisms to better understand and assert their rights.

While garment workers comprise 5% of Cambodia's population, they hold 20% of all microfinance loans.⁹³ The research conducted in 2020 by the Cambodian Alliance of Trade Unions, Center for Alliance of Labor and Human Rights, and Cambodian League for the Promotion and Defense of Human Rights interviewed 162 garment workers in Cambodia and found that two-thirds were paying off at least one microloan, which took up most of their pre-suspension incomes. The combined monthly payments for debt and food expenses exceeded workers' salaries, leading to most microloan borrowers eating less food to repay. 96% of those holding microloans said their life was either "much worse" (80%) or "slightly worse" (16%) compared to before taking out their loan, while only 2% reported a "slightly better" life.⁹⁴

The study, which included 1,197 workers and 56 factories in Cambodia, revealed that 77% of surveyed workers borrow money from banks or other financial services to cover household expenses.⁹⁵ Lower-income workers are more likely to borrow money to cover living costs and have the largest median and average debts. 70% borrowed from banks, 20% from microfinance institutions, 6% from private lenders, and 4% from friends and family. Workers borrowed money for various purposes, such as food, motorbikes, home renovations, or travel. Despite 94% using their NSSF card, 17% borrowed money for medical expenses. The majority borrowed money for a combination of reasons, with a median debt of US\$ 5,000 (average US\$ 7,865). A survey indicated that **91%** of garment workers in Myanmar reported being in debt, with **70%** stating that their debt had increased since the onset of the COVID-19 pandemic.⁹⁶ This increase is attributed to

⁹³ Flynn G, M. D. (2020). *Garment workers cornered by job loss, virus fears and looming debt*. Phnom Penh, Cambodia: Voice of Democracy.

⁹⁴ CATU, CENTRAL, LICADHO. (2020). *Worked to Debt - Over-indebtedness in Cambodia's garment sector*. Phnom Penh, Cambodia: Cambodian Alliance of Trade Unions, Center for Alliance of Labor and Human Rights, and Cambodian League for the Promotion and Defense of Human Rights. Retrieved from <https://www.mficambodia.com/reports/Report-WorkedToDebt-2020-en.pdf>

⁹⁵ CVN International. (2023). *Making the case for higher wages in the Cambodian garment sector*. Profundo Research & Advice. Retrieved from <https://www.cvninternationaal.nl/Resources/Persistent/6/8/8/4/68845ceff8d7e76c2db893d55067f94a3ff2dd68/CNVI-0394%20Living%20wages%20in%20the%20Cambodian%20textile%20sector%202023%20final.pdf>

⁹⁶ <https://myanmar-now.org/en/news/the-women-surviving-labour-rights-violations-in-myanmars-garment-sector/?tztc=1>

factory closures and reduced working hours during the pandemic. 1.8% of the payments of Lao's workers are in debt.⁹⁷ Other data indicates that irregular migrants from Cambodia, Lao, Myanmar, and Vietnam are less likely to report debt payment as the primary use of remittances and struggle less with debt than those returnees who have migrated regularly.⁹⁸

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<https://www.social-protection.org/gimi/gess/Media.action;jsessionid=NfM2ewqWbQRL5RXQV77fuqsynkUPeW1DOHmz0ylpwhIqyRman0tyl-511164124?id=18826>

⁹⁸ https://media.odi.org/documents/Debt_exploitation_and_trafficking_of_labour_migrants.pdf