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Making the invisible visible: Towards a just circular transition for Bangladesh's Jhut workers

February 2026

switch to Circular Economy Value Chains

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For more information: **www.switchtocircular.eu**

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About SWITCH to Circular Economy Value Chains (SWITCH2CE)

The SWITCH2CE project is an initiative that assists EU multinational companies and their suppliers from developing countries to switch to more circular economy approaches and practices in three selected value chains: Plastic Packaging, Textile & Garments, and ICT and Electronics. The overall goal is to support the 'Transformation towards a circular economy', including contributing to sustainable growth, low-carbon and climate-resilient development, decent jobs creation, and a safer, healthier, and pollution-free environment. SWITCH2CE is co-funded by the European Union and the Government of Finland, and implemented by UNIDO, in collaboration with Circle Economy, Chatham House, and the European Investment Bank. Learn more at: **www.switchtocircular.eu**

About Circle Economy

Circle Economy is driving the transition to a new economy. In this circular economy, we help businesses, cities, and nations leverage business opportunities, reduce costs, create jobs and inspire behavioural change. As a global impact organisation, our international team equips business leaders and policymakers with the insights, strategies, and tools to turn circular ambition into action.

To support the SWITCH2CE project's overall objective of promoting a just transition to a climate-neutral and circular economy, Circle Economy conducted a study on employment and elements of decent work related to circular activities in the textile value chain in Bangladesh. The goal of this study is to increase understanding and recognition of the diversity of workers involved in circular activities within the textile value chain in Bangladesh and develop recommendations for their inclusive integration into industrialised circular economy strategies and business models.

Foreword

Circle Economy and the United Nations Industrial Development Organization (UNIDO) are proud to present this pivotal report, Making the Invisible Visible: Towards a Just Circular Transition for Bangladesh's Jhut Workers. This study comes at an important time for the global textile industry and its ambitions to embrace circularity at an industrial scale.

Our organisations recognise that the shift toward circularity is not merely a technical or environmental task; it is inextricably linked to socio-economic development too. In Bangladesh, the world's second-largest exporter of garments, the circular economy is already a lived reality for hundreds of thousands of workers. They operate within the 'jhut' sector—the layered network of formal, semi-formal, and informal enterprises that collect, sort, recycle and manufacture new products from post-industrial textile waste. Yet, as this report reveals, the contributions that these workers and enterprises make have long remained invisible in national statistics, international policy frameworks and multi-stakeholder initiatives, including for the textile industry.

The unique contribution of this report lies in its commitment to providing evidence in support of a just transition. We have worked with partners at Reed Consultancy and Labour at Informal Economy Society to map 12 major *jhut* clusters across Bangladesh. By bringing these previously invisible workers into focus, the report provides the evidence base necessary to ensure that as circularity scales in Bangladesh, it does not replicate the systemic inequalities now associated with the global textile industry.

Our findings underscore a sobering reality: while the jhut sector is a model of resource efficiency and waste valorisation for recycling, it is often characterised by significant decent work deficits - for formal as well as semi-formal and informal enterprises.

This report also highlights the importance of tripartite collaboration to make the social, economic and environmental benefits of the circular economy a reality. The pilot projects conducted under the SWITCH2CE project with global brands H&M Group, BESTSELLER and their partners, demonstrate that it is possible to bridge the gap between global brands' requirements for recycled feedstock and the needs of local suppliers for stable, dignified work, particularly as the industry undergoes shifts towards more sustainable practices.

To advance a circular economy that strengthens economic and social development for all, we must move beyond a binary view of formal versus work in the informal economy and the assumptions made about their relative value. We must recognise that the flexibility of the informal economy is often a survival strategy for workers that has evolved into an expansive ecosystem that holds many valuable skills and knowledge. Our goal as partners of the SWITCH2CE project should be to ensure the resilience of these networks while embedding a baseline of social security, fair wages, and worker representation across the value chain as circular practices are scaled in the industry.

We hope this report serves as a roadmap for policymakers, industry leaders, and civil society. By integrating the needs of jhut workers into national circularity strategies and multi-stakeholder initiatives that work with key players in the textile industry, we can build a textile value chain that is truly socially and environmentally sustainable.

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Contents

Executive summary

Bangladesh's textile industry has evolved rapidly over the last 50 years, from a domestically driven market characterised by handlooms and cottage factories in the 1970s to becoming the world's second-largest exporter of ready-made garments (RMG) and textiles today. It spans the country through a layered production network, bringing together enterprises of varying sizes and legal statuses, connecting global supply chains with local markets. The textile industry has become a major source of employment, sustaining the livelihoods of millions of people.

That being said, the industry faces mounting pressures. Poor working conditions and weakened labour rights have been exacerbated by intense market competition to keep prices low for international buyers. At the same time, Bangladesh's heavy reliance on an export-driven textile industry is being tested as the country prepares to lose its duty-free, quota-free access to the EU market upon graduating from Least Developed Country (LDC) to Developing Country status in 2026. Adding to these challenges, evolving EU legislation, including new targets for recycled inputs and greater due diligence reporting requirements, will further reshape the landscape and with this the labour market.

Under the right conditions, scaling circular practices provides an opportunity to build a more economically, socially, and environmentally sustainable textile industry in Bangladesh. However, without a deliberate focus on social objectives built into circularity initiatives and the policies that support them from the outset, there is a risk that these efforts will replicate, or even intensify, the existing labour market challenges present in the industry and the wider economy.

To support the SWITCH2CE project's overall objective of supporting a just transition to a climate-neutral and circular economy, Circle Economy conducted a study on employment and elements of decent work related to circular activities within Bangladesh's textile value chain. The study aims to increase understanding and recognition of the diverse groups of workers involved in these circular activities and to develop recommendations for their inclusive integration into industrialised circular economy strategies and business models. Accordingly, the research focuses on enterprises and employment across Bangladesh's post-industrial textile waste (locally known as *jhut*) sector. This sector was selected because, despite its significant potential, it remains largely overlooked and faces persistent challenges regarding working conditions and formal recognition within the industry.

A mixed-methods approach was used to assess the dynamics of enterprises and employment involved in *jhut*-related activities. This included surveys in formal, semi-formal and informal enterprises (covering both supervisory staff and workers), key informant interviews, focus group discussions, field visits, and the use of a rapid assessment tool applied across twelve major *jhut* clusters.

The findings reveal that while Bangladesh's formal RMG industry is highly concentrated in Dhaka and Chattogram, circular economy activities involving jhut are far more fragmented and geographically dispersed across the country. The rapid assessment estimates that between 18,400 and 22,000 informal recycling facilities employ about 195,000–214,000 informal workers across twelve clusters. Enterprise functions often overlap—sorting, recycling, and the manufacturing of products using *jhut* inputs frequently take place within the same clusters—reflecting fluid production processes and adaptive strategies in small- and medium-sized enterprise (SME) ecosystems. Migration patterns also vary by cluster: workforces are predominantly local in some northern districts (such as Nilphamari, Bogura, and Pabna), while clusters around Dhaka and Chattogram are largely composed of migrant workers.

***Jhut* enterprises sustain large-scale employment and diverse production outputs across formal, semi-formal and informal contexts, yet employment arrangements are varied and frequently lack labour protections.** In formal firms, supervisory roles reflect relatively higher levels of education and training. While many SMEs are formally registered, employment arrangements frequently lack fixed-duration contracts, and verbal agreements remain common, illustrating that enterprise formality does not translate to formal employment.

Wage structures in informal clusters are closely linked to enterprise functions and job roles. Sorting, which is largely manual and heavily involves women, offers the lowest daily rates. In contrast, machine operation, dyeing, packaging, loading, unloading and other physically demanding roles—typically performed by men—command relatively higher earnings. Seasonal fluctuations, volatile *jhut* pricing, and output-based pay further contribute to variability in income and working hours. Mobile-based financial services are increasingly used by workers, yet access to formal banking remains limited and unevenly distributed. Non-wage benefits, such as festival bonuses, food, transport, or accommodation, are employer-dependent, while social security coverage is nearly nonexistent. Health, safety and well-being concerns are widespread across all segments studied. Across these settings, workers report low awareness of their rights, limited access to grievance mechanisms or legal recourse, and frequent documentation gaps, such as the absence of written contracts.

As demand for recycled feedstock grows, inclusive and practical pathways for worker integration will be essential to align enterprise practices with traceability and compliance expectations, while also recognising the contributions and specific needs of actors across the value chain, including workers in the informal economy. The insights generated through this study provide evidence to inform further research on feedstock flows, strengthen linkages between formal, semi-formal, and informal units, and guide international brands and national stakeholders on interventions and investments that can support enterprise development, enable participation in export-oriented circular value chains with decent work, and ensure that no one is left behind.

1

Introduction

Photo credit by Labour at the Informal Economy Society

1.1. Evolution of Bangladesh's textile industry

Bangladesh's textile industry has evolved rapidly in the last 50 years from a domestically-driven market characterised by handlooms and cottage factories in the 1970s to becoming the world's second largest exporter of ready-made garments (RMG) and textiles today.[1] The establishment of Chattogram Export Processing Zone (CEPZ) in 1983, Bangladesh's first EPZ, laid the foundation for the country's burgeoning RMG sector. Today, the RMG sector accounts for 81.5% of Bangladesh's total exports (2024-2025), making it the nation's leading export industry.[2] The European Union and the United States are the largest importers of RMGs manufactured in Bangladesh, with imports totalling US$19.7 billion and US$7.40 billion, respectively, in 2024.[3] Despite a fractured global trade environment, sustained demand from retailers and brands based in these regions has been a key driver for the industry's growth, with Bangladesh's RMG exports reaching US$39.4 billion in the fiscal year 2024-2025, with a growth rate of 8.9%.[4]

Spanning the country through layered production networks, the textiles industry brings together enterprises of varying sizes and legal statuses, connecting global supply chains with local markets. Alongside major export-oriented industrial zones in Dhaka and Chattogram, significant activity also takes place in SME clusters located in, around and beyond Dhaka. A mapping of small- and medium-sized enterprise (SME) clusters was carried out in 2013, demonstrating that activities related to knitwear and RMG value chains were dominant in 22 SME clusters across Bangladesh's eight divisions—including in Dhaka, Rajshahi, Chattogram, Khulna, Rangpur, Barisal, Sylhet and Mymensingh.[5]

The textile industry is a major source of employment, second only to agriculture, sustaining livelihoods for over four million people, of which 60-90% are women.[6] [7] Between 2003 and 2010, employment in the textile and RMG sector grew steadily by 11%,[8] but since 2010 it has stagnated at around four million, even as RMG exports more than tripled from US$12.5 billion to over US$39 billion today. This signals a weakening link between industrial growth and job creation, as well as the transformation of existing jobs into ones that require more skills. The Multidimensional Poverty Index (MPI), which measures health, education and living standards, declined in Bangladesh from 37.6% in 2014 to 24.1% in 2019—the latest year with national MPI data available. However, income inequality has increased alongside incidences of working poverty, where people remain below the poverty line despite being employed.[9] [10]

1 In 2024, China led the global RMG export market with a 29.64% share, followed by Bangladesh with 6.9%, Vietnam with 6.09%, Turkiye with 3.21%, and India with 2.94%. World Trade Statistical Review 2024

2 Siddiqi, D. (2025, March 26th). What's happening in Bangladesh's garment industry?. Economics Observatory. Retrieved from: Economics Observatory website.

3 Textile Focus. (2025, March 27th). Bangladesh's market share of RMG imports into the USA was 8.85% in 2024. Textile Focus. Retrieved from: Textile Focus website.

4 Fibre2Fashion. (2025, August 13th). Bangladesh's RMG exports surge 24.6% to $3.9 bn in July 2025. Fibre2Fashion. Retrieved from: Fibre2Fashion website.

5 SME Foundation. (2013). SME Clusters in Bangladesh. SME Foundation. Retrieved from: SMEF website.

6 International Labour Organisation. (n.d.) The Sustainability Compact for the Bangladesh Ready-Made Garment Sector. ILO and the European Commission. Retrieved from: ILO.

7 Mamun, M. a. A., & Hoque, M. M. (2022). The impact of paid employment on women's empowerment: A case study of female garment workers in Bangladesh. World Development Sustainability. 1. 10.1016/j.wds.2022.100026.

8 Herrera Dappe, M., Kunaka, C., Lebrand, M., & Weisskopf, N. (2020). Moving forward: Connectivity and logistics to sustain Bangladesh's success. World Bank. 10.1596/978-1-4648-1507-2.

9 World Bank. (2023, May 29th). End of mission statement by Mr. Olivier De Schutter Special Rapporteur on extreme poverty and human rights. Retrieved from: OHCHR website.

10 International Labour Organisation (ILO). Social Protection: Country Profile - Bangladesh. International Labour Organisation. Retrieved from: ILO website.

As Bangladesh approaches its graduation from a Least Developed Country to Developing Country status in 2026, its largest export sector faces mounting pressures from changing trade preferences and tariff regimes. This transition, while a positive indication of Bangladesh's economic development, will also mean the loss of its duty-free, quota-free access to the EU market granted under the EU's Generalised Scheme of Preferences. This will have key implications for EU-Bangladesh textile trade, including an increase in apparel tariffs from 0% to nearly 12%,[11] inevitably causing significant shifts in employment patterns. At the same time, the United States has initiated a tariff review on key apparel suppliers, including Bangladesh. As the US is Bangladesh's second largest export destination after the EU, any upward adjustment to the existing tariff rate on apparel products would further strain competitiveness, including the possibility of shifting sourcing decisions to other high-volume production countries and intensifying pressures on jobs. Together, the twin risks of EU preferential access loss and potential US tariff escalation expose the fragility of Bangladesh's export-led growth model, which has transformed the country from one of aid dependence to one of trade dependence, yet remains deeply vulnerable to shifts in global environmental and trade policies.

Given the heavy reliance of Bangladesh's export-driven textile industry on the EU, it is expected that evolving EU legislation, including new targets for recycled inputs and greater due diligence reporting requirements, will also impact the dynamics of the textiles industry. Relevant legislations include requirements under the *Corporate Sustainability Due Diligence Directive (CSDDD), the Ecodesign for Sustainable Products Regulation (ESPR)*, and other strategies under the *EU Strategy for Circular and Sustainable Textiles.*[12] To anticipate and prepare for shifts resulting from these developments, efforts are already underway amongst policymakers and market players to support a just transition to a circular textile industry in the country.

1.2. Decent work deficits and opportunities

Over the last fifty years, the growth of the RMG industry in Bangladesh has been a critical driver of the country's economic development. However, intense market pressure to keep prices low for international buyers has maintained poor working conditions and weakened labour rights in the sector.[13] In the International Trade Union Confederation's (ITUC) 2025 Global Rights Index, Bangladesh is ranked among the ten worst countries for working people—a situation that many stakeholders, both domestically and internationally, are striving to address.[14]

The 2013 Rana Plaza disaster brought global attention to the conditions in Bangladesh's RMG factories. The collapse of the eight-storey garment factory building in Dhaka, caused by structural negligence, killed an estimated 1,134 people and injured more than 2,000 others.[15] The tragedy exposed the widespread risks faced by workers in the sector and became a turning point in international debates on labour rights, workplace safety, and accountability in global supply chains. This disaster also led to an intensification of global and national efforts to improve the health and safety of garment workers at work. For example, the Sustainability Compact convenes the Government of Bangladesh, the EU, the US, Canada and the International Labour Organization (ILO) to work on short and long-term commitments towards 1) respect for labour rights; 2) structural integrity of buildings and occupational safety and health; and 3) responsible business conduct.[16] The cornerstone

11 Razzaque, M. A., Rahman, M., & Hasan, S. (2024, September). Can Bangladesh absorb LDC graduation-induced tariff hikes? International Growth Centre (IGC) Policy Brief. Retrieved from: IGC website.

12 Fair Wear Foundation. (2025, February 27th). Fair Wear's response to the European Commission's Omnibus. Fair Wear Foundation. Retrieved from: Fair Wear website.

13 Siddiqi, D. (2025, March 26th). What's happening in Bangladesh's garment industry?. Economics Observatory. Retrieved from: Economics Observatory website.

14 International Trade Union Confederation (ITUC). Bangladesh. ITUC. Retrieved from: ITUC website.

15 Prentice, R. (2021). Labour Rights from Labour Wrongs? Transnational Compensation and the Spatial Politics of Labour Rights after Bangladesh's Rana Plaza Garment Factory Collapse. Antipode.10.1111/anti.12751.

16 International Labour Organisation. (n.d.) The Sustainability Compact for the Bangladesh Ready-Made Garment Sector. ILO and the European

initiatives—the Bangladesh Accord on Fire and Building Safety, and the Alliance for Bangladesh Worker Safety—are binding agreements that commit brands to finance the necessary remediation to meet specific safety standards and to conduct regular inspections. Several programmes have also been initiated in Bangladesh to improve other working conditions, such as the Better Work Programme by the ILO and International Finance Corporation (IFC), which focuses on enhancing compliance with labour laws and promoting fair wages in the garment factories.

Union and non-union worker-led groups have also persisted in pushing for increased rights—notably around living wages, collective bargaining, freedom of association, and gender-based violence and harassment—for garment and textiles workers despite an environment that is notably hostile to collective action.[17] In November 2023, garment workers' minimum wage was increased for the first time since 2019 following substantial action from workers, advocacy groups and unions. The wage rose by 56.25%, from 8,000 Bangladeshi Taka (BDT) to BDT 12,500 (approximately US$114) per month.[18] Despite these reforms, wages remain well below the BDT 23,000 per month demanded by unions and NGOs.[19] Disputes over unpaid or delayed wages continue to trigger frequent worker protests. Multi-stakeholder and voluntary compliance efforts have been critiqued for prioritising technical, easily measurable factory standards, such as building and fire safety, while neglecting workers' broader social and economic needs, including fair wages, job security and representation.[20] Likewise, the rights of workers, even in more formal segments of the value chain, are not well represented: recent studies note that climate plans of some of the biggest fashion brands exclude potential impacts on factory workers.[21] The lack of attention given to the rights, recognition, and protection of workers in garment producer countries has also been echoed by worker representatives and labour rights activists focused on the informal economy. These organisations have cautioned that policy interventions, such as the EU Omnibus Bill, threaten to erode the human rights protections of millions of workers in global supply chains by weakening human rights due diligence mechanisms in the CSDDD.[22]

Measures taken by both industry and government are not keeping up with the pace of climate change and its impact on workers, with indicators such as extreme heat and floods often missing in fashion brands' risk assessments.[23] As temperatures rise in Bangladesh, garment workers are increasingly exposed to heat stress and related health complications.[24] At the same time, just over half of the population has access to safely managed water,[25] while SME clusters and factories located near residential areas continue to discharge untreated water, toxic chemicals, dyes and heavy metals.[26] [27] Conditions for workers in the textile industry in Bangladesh remain constrained by a fragmented social protection system and intense cost-cutting pressures

Commission. Retrieved from: ILO.

17 International Trade Union Confederation (ITUC). (2022, March 17th). Bangladesh: New evidence of systematic violations of workers' rights exposes inaction of government. ITUC. Retrieved from: ITUC website.

18 Reuters. (2023, November 8). Bangladesh hikes minimum wage for garment workers after protests. Retrieved from: Reuters.

19 Swedwatch and Awaj Foundation. 2024. Paying the Price for Fashion: Securing a Living Wage for Bangladesh's Garment Workers. Swedwatch. Retrieved from: Asia Garment Hub.

20 Sinkovics, N., Hoque, S.F. and Sinkovics, R.R. (2016). Rana Plaza collapse aftermath: are CSR compliance and auditing pressures effective?. *Accounting, Auditing & Accountability Journal.* Vol. 29 No. 4. 617-649. doi.org/10.1108/AAAJ-07-2015-2141.

21 Business and Human Rights Centre. (2025, June 11th).The missing thread: Workers absent from fashion companies' climate plans. BHRC. Retrieved from: BHRC website.

22 HomeNet Thailand, Home Based Women Workers Federation, Labour in the Informal Economy, Sindicato Único de la Aguja, SITRABORDO, UNITY, Asia Floor Wage Alliance, National Trade Union Federation, SAVE, WIEGO (2025, February 20th). Joint Letter to EU Commission on Omnibus Bill. WIEGO. Retrieved from: WIEGO website.

23 Business and Human Rights Centre. (2025, June 11th).The missing thread: Workers absent from fashion companies' climate plans. BHRC. Retrieved from: BHRC website.

24 Flouris, A., Azzi, M., Graczyk, H., Nafradi, B., and Scott, N., eds. (2024). Heat at Work: Implications for Safety and Health. A Global Review of the Science, Policy and Practice. ILO. Retrieved from: ILO website.

25 World Bank. (2018, November 15th). Bangladesh: Reducing Poverty and Sharing Prosperity. World Bank. Retrieved from: World Bank website.

26 Circle Economy Foundation. (2024). Textile Trade Flow and Employment Baseline Analysis: Bangladesh. Amsterdam: Circle Economy Foundation. Retrieved from: CEF website.

27 McKinsey & Global Fashion Agenda. (2020). Fashion on climate. McKinsey. Retrieved from: McKinsey website.

imposed by buyer-led value chains, which drive wages down and weaken guarantees for worker rights.[28] Despite several initiatives attempting to improve conditions and livelihoods for workers, progress on decent work has been slow in a context where global competition compels suppliers to deliver at the lowest possible cost.[29] The COVID-19 pandemic intensified these challenges, fuelling wage theft and unfair dismissal in the formal RMG sector while exposing the lack of any safety net for Bangladesh's vast informal economy.[30] These gaps in decent work exist against the backdrop of broader political transformation. In 2024, several hundered people were killed during mass protests against a controversial job quota policy. Nationwide protests led to the displacement of the Awami League-led government and the subsequent formation of an interim government, which is now tasked with restoring political stability, addressing public grievances, and managing the country through a period of transition until elections plan to be held in February 2026.

1.3. Shifting towards circular textiles

Under the right conditions, scaling circular practices provides an opportunity to build a more economically, socially, and environmentally sustainable textile value chain. Yet the social benefits of circularity are not automatic. Without deliberate social objectives being built into circularity initiatives and policies from the outset, there is a risk that they will perpetuate or even exacerbate existing labour market challenges present in the industry and the broader economy. In Bangladesh, circular economy strategies for the textile sector encompass a wide range of practices, including the reuse and repurposing of clothing, the use of recycled fibres, design for durability and disassembly, and the scaling of repair and resale markets. When it comes to the use of recycled fibres in new products—a key focus of EU textile policies—post-industrial textile waste, or *'jhut',* is becoming an essential resource under consideration by brands selling products on the EU market, given its low risk for contamination as compared to post-consumer textiles. According to the Bangladesh Garment Manufacturers and Exporters Association (BGMEA), the country generates between 400,000 and 577,000 tonnes of *jhut* each year.[31] Only around 5% is recycled domestically, with the majority of *jhut* exported, predominantly to India and other countries.[32] Another recent study by GIZ and H&M highlighted that 330,000–500,000 tonnes of *jhut* are generated by the RMG industry annually, and form the basis for employment of hundreds of thousands of workers in the *jhut* sector.[33] Most *jhut*-based economic activity in Bangladesh occurs in rural SME clusters, where *jhut* serves as a major input for the production of goods such as garments, blankets, rope, household textiles, and industrial cleaning rags, as well as for recycling *jhut* to produce yarn for clothing with recycled inputs.

The EU's current definition of sustainable production and consumption emphasises using non-virgin inputs and secondary materials. However, a major challenge is the lack of visibility into how *jhut* and other secondary inputs currently flow within and beyond Bangladesh. As *jhut* feedstock becomes more central to circularity transitions, it will be essential to better understand the nature of work, power dynamics, and the representation of workers engaged in *jhut* production, collection, transportation, and sorting, as well as its transformation into recycled fibre, yarn and fabric. This understanding is essential towards reducing the risks of exploitation and ensuring resource value is distributed more equitably. There are also significant knowledge

28 Anner, M. (2020). Squeezing workers' rights in global supply chains: purchasing practices in the Bangladesh garment export sector in comparative perspective. Review of International Political Economy. 27(2).10.1080/09692290.2019.1625426.

29 Anner, M. (2020). Squeezing workers' rights in global supply chains: purchasing practices in the Bangladesh garment export sector in comparative perspective. Review of International Political Economy. 27(2).10.1080/09692290.2019.1625426.

30 Asia Floor Wage Alliance (AFWA). (2021). Money-Heist Covid-19 Wage theft in global garment supply chains. AFWA. Retrieved from: AFWA website.

31 UNICEF. (2024). Child Rights & Business: Full Report – Textile Waste Recycling, Bangladesh. UNICEF. Retrieved from: UNICEF website.

32 BGMEA. (2023). The Apparel Story: SWITCH to Upstream Circularity. Bangladesh Garment Manufacturers and Exporters Association. Retrieved from: BGMEA website.

33 GIZ & H&M. (2024, June). Study for a regulatory framework to enable recycling of post-industrial waste (*Jhut*) for the RMG industry in Bangladesh. STILE Project. Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ). Retrieved from: Asia Garment Hub website.

gaps regarding the relationship between these extensive networks of *jhut*-based semi and informal enterprises, and the formal enterprises that aim to scale circularity for the export market. As such, the integration of and value created by these enterprises, and the people working in them, is not well represented in national or international policy frameworks. This knowledge gap is also reflected in broader research on the circular economy, which has primarily focused on understanding what the circular economy means for the world of work in the Global North, overlooking the contribution and needs of workers engaged in informal circular economy activity, such as those in the *jhut* industry.[34]

Designing just and inclusive circular textile policies requires bridging this gap by equipping decision-makers with evidence and testimonies that capture the contributions and needs of all enterprises and workers, including those in the informal economy. Such evidence is needed to combat the livelihood-related risks associated with an unmanaged transition in the value chain.[35] There is a small but growing body of research, highlighting how workers in the informal economy are already making an efficient and vital contribution to circular activities, including through reusing and recycling off-cuts discarded from formal factories.[36] [37] [38] Without national-level studies examining the employment impacts of scaling circular business models in markets like Bangladesh—with dynamic, highly informal labour markets and complex power relations—developing effective, socially just circular economy policies and industry initiatives will be limited, potentially posing more social risks than gains.[39]

The SWITCH2CE project offers a unique opportunity to bridge knowledge gaps by fostering collaboration between partners piloting circular solutions in export-driven industries and those working on the policy, finance, and capacity needed for a just transition. The project was established with the objective of supporting a just transition to a climate-neutral and circular economy by contributing to low-carbon and climate-resilient development, creating decent jobs, and promoting a safer, healthier, and pollution-free environment. This includes specific objectives related to social responsibility and inclusive policy dialogue. While the existing activities of SWITCH2CE partially contribute to these objectives, including through the capacity development of lower-tier suppliers of EU multinational corporations, a deeper examination of the impacts of implementing circular economy solutions on employment and decent work within these markets is needed to support more feasible and just solutions. In particular, the employment challenges of those working with *jhut* were identified as a key knowledge gap. This employment study aims to create a deeper understanding of the flow of *jhut*, circular activities, and enterprises, as well as employment dynamics in the textiles value chain in Bangladesh, among both private and public sector stakeholders.

BOX 1: Understanding the informal economy

The ILO defines the informal economy as encompassing all activities carried out by workers and production units that are, in law or practice, not covered or insufficiently covered by formal arrangements. Common definitions of formal and informal economic activities focus on three overlapping dimensions:

34 Circle Economy, ILO & World Bank Group. (2023). Decent Work in the Circular Economy: An Overview of the Existing Evidence Base. Retrieved from: ILO website.

35 Zisopoulos, F. K., Steuer, B., Abussafy, R., Toboso-Chavero, S., Liu, Z., Tong, X., & Schraven, D. (2023). Informal recyclers as stakeholders in a circular economy. Journal of Cleaner Production. 415. doi.org/10.1016/j.jclepro.2023.137894.

36 Akter, R. (2025). Jhut: Pathways of the Garment and Textile Recycling Industry in Bangladesh. BRAC University. Retrieved from: BRAC University website.

37 Circle Economy Foundation. (2024). Textile Trade Flow and Employment Baseline Analysis: Bangladesh. Amsterdam: Circle Economy Foundation. Retrieved from: CEF website.

38 Circle Economy Foundation. (2024). Socioeconomic Impacts of European Union Circular Textiles Policies on Trading Partners. Amsterdam: Circle Economy Foundation. Retrieved from: CEF website.

39 International Labour Organisation (ILO). (2023). Decent Work in the Circular Economy: An Overview of the Existing Evidence Base. Circle Economy, S4YE, ILO. Retrieved from: ILO website.

businesses (enterprises which may be unregistered and unregulated); employment relations (which may not be codified or socially protected); and workers (who may be uncontracted or unrecognised under labour law). In practice, formal and informal arrangements are diverse and overlapping: informal employment can therefore be seen as existing on a spectrum rather than a binary. This study builds on insights from research that views informality not as a temporary or peripheral feature of developing economies, but rather as a phenomenon that is strongly interlinked with formal economies.

This perspective is particularly relevant in Bangladesh, where circular textiles activities and the textiles and RMG sectors more broadly span a wide range of formal and informal arrangements. An estimated 64 million people work in the informal economy in the country, yet they remain outside the scope of the Bangladesh Labour Act (2023) and are therefore excluded from labour protections.[40] This workforce is largely hidden and disproportionately female.[41] [42]

While formalisation and a just transition may appear to reinforce each other, this requires careful navigation as formalisation initiatives may create new risks for informal workers and informal enterprises if they are designed without their inclusion. Overly generalised and non-inclusive formalisation attempts may create regulatory and economic burdens without providing clear incentives and benefits for workers and informal enterprises, ensuring feasible means for implementation and compliance, or adequately recognising the contributions and needs of workers in the informal economy. Inclusive formalisation policies and mechanisms that are socially designed as a result of dialogues that include informal enterprises and informal wage workers, as well as governments and formal businesses. Inclusive and just formalisation processes also work to acknowledge and respond to the diverse range of informal employment in a given national and sectoral context, posing incremental approaches and appropriate incentives to support formalisation over time. They may also recognise limitations and the fact that formalisation may not always be desirable for all types of workers.[43] [44] [45]

40 International Labour Organisation (ILO). Social Protection: Country Profile - Bangladesh. International Labour Organisation. Retrieved from: ILO website.

41 GIZ & H&M. (2024). Study for a regulatory framework to enable recycling of post-industrial waste (*Jhut*) for the RMG industry in Bangladesh. STILE Project. Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ). Retrieved from: Asia Garment Hub website.

42 Guillermo Aguilar, A. and López Guerrero, F. (2020). Informal Sector. International Encyclopedia of Human Geography (2nd edition). 10.1016/B978-0-08-102295-5.10272-0.

43 WIEGO. (n.d.) Rethinking Formalisation. WIEGO. Retrieved from: WIEGO website.

44 International Labour Organisation (ILO). (2019). Formalization of the informal economy, 2014-2018 - Synthesis review of ILO project evaluations. ILO. Retrieved from: ILO website.

45 Circle Economy. (2024). Circularity & Informality: Redefining Narratives. Ikea Social Entrepreneurship, UNDP Accelerator Labs, Ashoka and Circle Economy Foundation. Retrieved from: Ikea Website.

Photo credit by Labour at the Informal Economy Society

2

SWITCH2CE employment study: Scope and objectives

Photo credit by Labour at the Informal Economy Society

The SWITCH2CE employment study was established to gain a deeper understanding of how SWITCH2CE and related efforts to scale circularity in Bangladesh's textile industry contribute to changes in employment, particularly through the lenses of gender and informality. This follows a scoping study conducted by Circle Economy in 2023, which addressed all value chains of focus for the SWITCH2CE project (Plastics, Textiles and Garments, ICT, and Electronics). Bangladesh's textiles and garments value chain was selected as the focus for the SWITCH2CE employment study. For this study, employment in the circular textiles sector was defined as work connected to three value chain stages identified in the scoping study:

- *Jhut* collection and sorting, and
- Recycling, namely, the mechanical conversion of sorted *jhut* into recycled yarn,
- Manufacturing involving circular (*jhut*-derived) inputs.

The SWITCH2CE employment study aims to:

1. **Increase understanding of the diversity of workers involved in circular activities in the textile value chain in Bangladesh.**
2. **Develop recommendations to overcome barriers to decent work that intersect with circular business models, and inform the integration of these recommendations into circular economy initiatives, policies, and investments.**
3. **Support efforts towards a just transition for workers already engaged in the circular textiles industry by increasing visibility for them and the working conditions in which they operate.**

It deliberately extends its scope beyond the main production hubs of Dhaka and Chattogram, which have been the primary focus of many circular economy initiatives, to highlight the role that rural and peri-urban clusters, cottage industries, and household enterprises play in terms of employment and enabling circularity. In this study, a practical typology of 'formal', 'semi-formal', and 'informal' is used. These do not refer to objective and standardised categories but aim to reflect the existence of a spectrum of enterprise and employment types, emerging from stakeholder discussions and field observations, which are discussed below.

3

Approach and methodology

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3.1. Data collection framework and methods

This employment study applies a mixed-methods approach to comprehensively understand the full range of enterprises and employment dimensions in the *jhut* sector, as well as labour-related implications for circular economy transitions in the textiles value chain in Bangladesh. Four impact categories were selected to shape the mixed-methods data collection (summarised in Table one):

1. **Employment quantity and range:** presence of formal-informal and semi-formal enterprises and employment distribution, disaggregated by demographic factors, where possible, to identify hotspots of circular activities.
2. **Fair wages and economic security:** assess whether workers receive fair, timely compensation that enables their financial stability and security.
3. **Health, safety and well-being:** physical indicators of workplace health and safety, as well as workers' physical health and well-being.
4. **Rights and representation:** workers' autonomy, voice, and participation; effectiveness of organised structures.

The research was coordinated by Circle Economy in close collaboration with local research partners. Bangladesh University of Textiles (BUTEX), with the support of Reed Consultancy, Bangladesh, administered the worker survey and focus group discussions with employers. Labour at Informal Economy Society developed and piloted the rapid assessment tool to map *jhut*-related informal activities in clusters across the country. Data collection was conducted with support from the UNIDO Bangladesh Country Office. Additionally, researchers from Circle Economy visited formal recycling factories and semi-formal and informal *jhut* clusters (Adamdighi, Bogura, Saidpur, Nilphamari, Gobindaganj, and Gaibandha) to gain a deeper insight into the dynamics of circular economy employment in the textiles sector.

Data collection method	Objective	Scope
Circular economy employment baseline	Provide a snapshot of circular economy jobs across sectors in Bangladesh to situate the textile value chain within the levels of circular economy employment across the wider economy.	Sector-wide, using data aligned to the International Standard Industrial Classification of All Economic Activities (ISIC) and ILOSTAT employment data. This utilised Circle Economy, the ILO and the IFC's internationally applicable methodology for measuring circular economy employment.
Questionnaire-based survey	Explore workers' perspectives and understand the demographics, conditions, and challenges of people employed across all major *jhut* hotspots.	300 respondents comprising workers, owners and supervisory roles in the formal, semi-formal and informal enterprises across six clusters (see Table two): Mirpur, Gazipur, Narayanganj, Keraniganj, Bogura, Chattogram, Gaibandha, Saidpur, and Savar.
Focus group discussions (FGDs)	Explore SME employers' perspectives on: operational processes, technological adoption, and supply chain dynamics within each value chain stage; the interplay between circular practices and employment patterns; skill requirements, roles and job adaptability; obstacles hindering decent work and circularity.	Three separate online sessions were conducted for formal, semi-formal and informal employers engaged in circular manufacturing, collection and sorting, and recycling.
Key informant interviews (KIIs)	Explore the perspective of unions, workers' rights, and advocacy organisations on risks, opportunities, and dynamics of textile employment and the relevance of insights to informal and circular economy employment.	Six stakeholders, including four representatives from labour rights organisations, one union representative, and one manager at a *jhut* facility.
Estimating informality: rapid assessment tool	Provide high-level estimates about the work in the informal *jhut* value chain (workforce, demographics, locations, dynamics)	Twelve districts with *jhut*-related activity were examined using a key informant interview-based method to estimate the scope and nature of informal employment in a context of data scarcity. See Annexe A for a full description of the tool.
Firm-level workshops	Share and validate initial findings with SWITCH2CE pilot partners; explore how the opportunities and challenges identified in the broader value chain resonate with pilot partner experiences of sourcing and tracing recycled inputs for circular products; gather insights to support recommendations.	Two workshops with SWITCH2CE pilot partners involved in H&M Group and BESTSELLER-led pilot projects.

Table one. *Overview of data collection methods, objective and scope.*

Respondent type	Formal	Informal	Semi-formal	Total
Workers: performing tasks or services for an employer in return for wages, whether on a daily, weekly, monthly or piece-rate basis	25	148	0	173
Owner: running their own businesses and exercising autonomy over operations and working patterns	-	53	7	60
Supervisory roles: responsible for overseeing business operations on behalf of an employer	25	38	4	67
Total	50	239	11	300

Table two. *Distribution of survey respondents by respondent type and employment status*

3.2. Limitations and assumptions

This study offers an important starting point for understanding the world of work in Bangladesh's circular textile economy. However, several methodological limitations and assumptions must be acknowledged, especially given the challenges of researching work in the informal economy and rapidly evolving economic arrangements within the sector. The following factors, in particular, should be considered:

- **Sectoral focus:** The *jhut* sector was prioritised for data collection in line with the scoping study, which identified it as the most overlooked segment of the industry in existing research.
- **Ethical and logistical challenges in informal settings:** Data collection in informal contexts required careful navigation of power imbalances. Insecure employment, fear of retaliation, and normalised harassment may have inhibited open disclosure, particularly where data collectors were unfamiliar to workers or the purpose of the study was unclear.
- **Snapshot in time:** The study captures conditions at a single point in time across clusters and does not include longitudinal data to reflect employment fluctuations. This is significant given the seasonality of much *jhut*-related work and the rapid changes among micro-, small-, and medium-sized enterprises (MSMEs) in Bangladesh. Fieldwork was conducted between February and June 2025, a period of heightened political uncertainty that may have influenced the findings.
- **Contextual distance:** The Europe-based research team sought to mitigate its distance from the socio-cultural context of Bangladesh by working closely with local partners who brought in-depth knowledge of the industry, labour market, and national dynamics.
- **Gender-based violence (GBV) and child labour:** The survey tools used were not suited to accurately capture issues such as GBV and child labour. In informal contexts—where workers face intersecting vulnerabilities and lack institutional recourse—such topics require culturally grounded, trauma-informed, and participatory research approaches, with reciprocal structures to both understand and support affected workers.

Please see Annexe A for further methodological discussion and for an overview of the rapid assessment tool intended to inform other research on similar topics.

4

Findings: Baseline of circular economy employment across sectors

Photo credit by Reed Consultancy Bangladesh

To provide a solid foundation for this study and offer a snapshot of circular economy activities across Bangladesh, a national baseline of circular economy jobs was produced. This analysis followed the methodology developed by Circle Economy, the ILO and the IFC, which produced the first global baseline of circular economy employment in 2025 as part of the Jobs in the Circular Economy Initiative.[46] The initiative was supported by the Partnership for Action on Green Economy (PAGE), an interagency programme that brings together the expertise of five UN agencies: UNEP, UNDP, ILO, UNIDO and UNITAR.[47] The baseline analysis in this report utilised employment data from 2023—the latest available year—classified according to the International Standard Industrial Classification (ISIC) at the two-digit level via ILOSTAT.

Bangladesh has carved out a niche in the global circular economy, with at least 3.8 million workers engaged in circular economy employment. This represents 10% of the workforce of approximately 38 million considered in the baseline (excluding employment in the agriculture sector), which is well above the global average of 5.8%. Employment data points to a concentrated presence of circular practices in a few well-established sectors (see Figure one). In Bangladesh, about 94.2% (3.6 million) of circular economy jobs are located in industries that can be considered circular by function, such as in repair, waste management, sewerage, recycling and urban transit. In contrast, partially circular economy sectors contribute 5.8% of circular economy jobs. This includes jobs in industries such as mining, construction, and manufacturing, where assessing the extent of circular economy employment is challenging due to limitations in employment classification systems, such as ISIC, which do not allow for distinguishing sub-sectors engaged in circular economy activities. As a result, employment data sets that usually capture data according to such classifications are also unable to provide data on circular economy employment. For these partially circular economy sectors, sector-specific proxies relevant to the circular economy are used to model the extent of circular economy employment. For instance, for the manufacturing sector, circularity is determined by proxies of the use of secondary (non-virgin) inputs and by the sector's contribution to the recycling sector. Please see Annexe A for a summary of the methodology used.

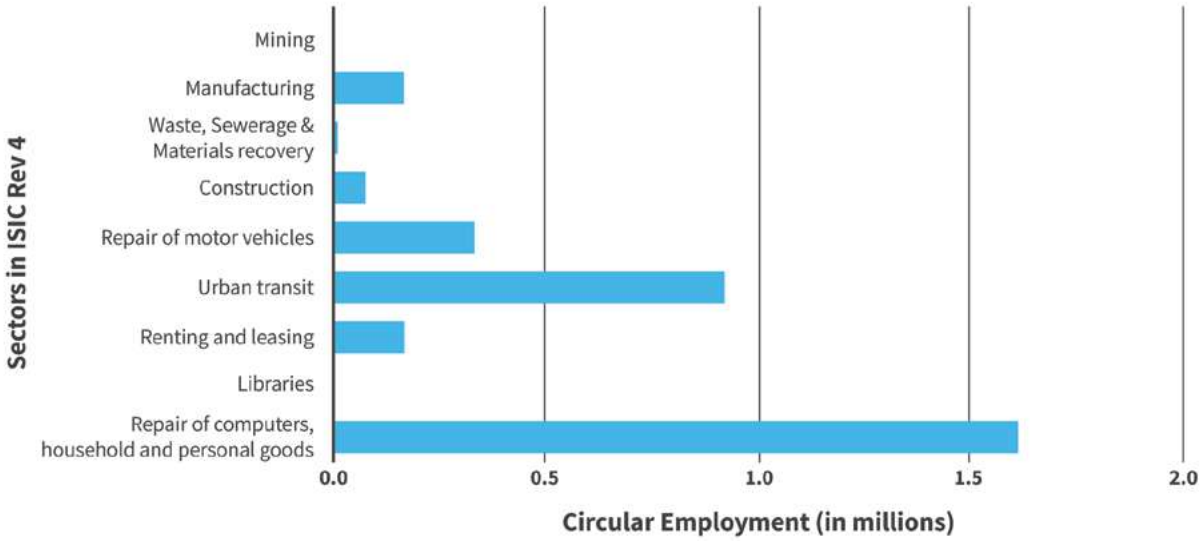

Figure one. Estimates of circular economy employment (in millions of people employed) across sectors in Bangladesh (2023).

The structure of circular economy employment in Bangladesh is marked by a narrow sectoral base. The repair of personal, household, and computer goods accounts for at least 1.8 million circular economy jobs. Urban transport follows, accounting for around 1.3 million circular economy jobs. However, other major sectors, such as manufac-

46 Circle Economy, ILO & World Bank Group (2025). Employment in the circular economy: Leveraging circularity to create decent work. Amsterdam: Circle Economy.

47 Circle Economy, ILO and World Bank Group (2025). Employment in the Circular Economy: Leveraging Circularity to Create Decent Work. Retrieved from Circle Economy.

turing and construction, report much lower circular economy employment shares within their respective sectors, at 4.3% and 2.2%. The low share of circular economy employment in these sectors suggests that the use of secondary inputs and a sector's economic interaction with the domestic and export recycling sectors are largely under-recognised and poorly captured in national statistics.

Circular economy employment in Bangladesh is overwhelmingly informal. Of the 3.9 million circular economy jobs across economic sectors derived through the application of the methodology, approximately 3.1 million (78.6%) are in the informal economy. This mirrors broader trends in the national labour market, where the informality rate is high (89.4%). In sectors where circular economy employment is relatively well-established, informality remains entrenched. In the computer repair and household and personal goods sectors, over 1.4 million of 1.7 million circular economy jobs are informal. In repair and installation services within the manufacturing sector, more than 74% of jobs are informal, as is the case in urban transport, where 1.1 out of 1.3 million jobs are in the informal economy (see Figure two). These patterns suggest that informality in Bangladesh is equally persistent in fully circular economy sectors, such as repair and waste management, as well as in economic sectors that have adopted circularity strategies.

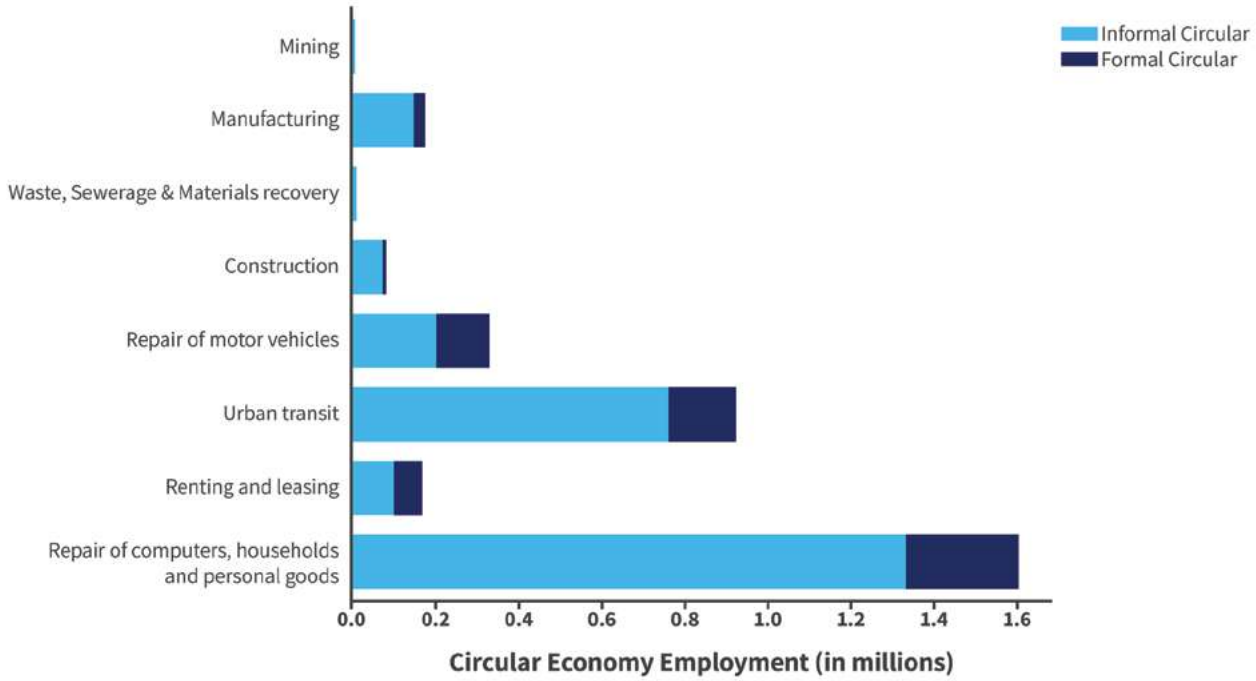

Figure two: The extent of informality in circular economy employment across select sectors in Bangladesh (2023).

These findings demonstrate that circular economy employment in Bangladesh's textiles and apparel sectors are not sufficiently captured by official statistics. In the textile and apparel manufacturing sectors, employment in the circular economy remains marginal. According to official labour statistics, the textiles and apparel sectors together employ approximately 4.1 million workers, of whom over 91% (around 3.8 million) are engaged in informal employment. Modelling based on this data indicates that circular economy jobs represent about 1.4% of total employment—equivalent to roughly 11,400 jobs in textile manufacturing and 47,300 in apparel, with the vast majority of these positions (over 90%) being informal. However, as discussed in subsequent sections (see Table four), findings from the rapid assessment of informal employment suggest that the actual scale of circular activity and employment is considerably higher than reflected in official statistics. Consequently it is clear that official statistics strongly underestimate the true extent of informal circular economy employment within Bangladesh's textile and apparel sectors. Apart from data limitations that mask the true extent of the circular economy, the low number of circular economy jobs in these large sectors also reflects the slow pace of industrial transition towards circular practices in the textiles and apparel sector.

Where evidence is available, women constitute just over a quarter of the circular economy workforce, accounting for 27.5% of circular economy jobs across all economic sectors, which is about 106,000 workers. Out of all

economic sectors, women make up over 50% of the circular economy workforce in the repair of household and personal goods and in mining support activities sectors. Gender imbalances persist across all other sectors (see Figure three). However, these numbers are also unable to account for women's true contribution to the circular economy, often hidden in labour statistics.

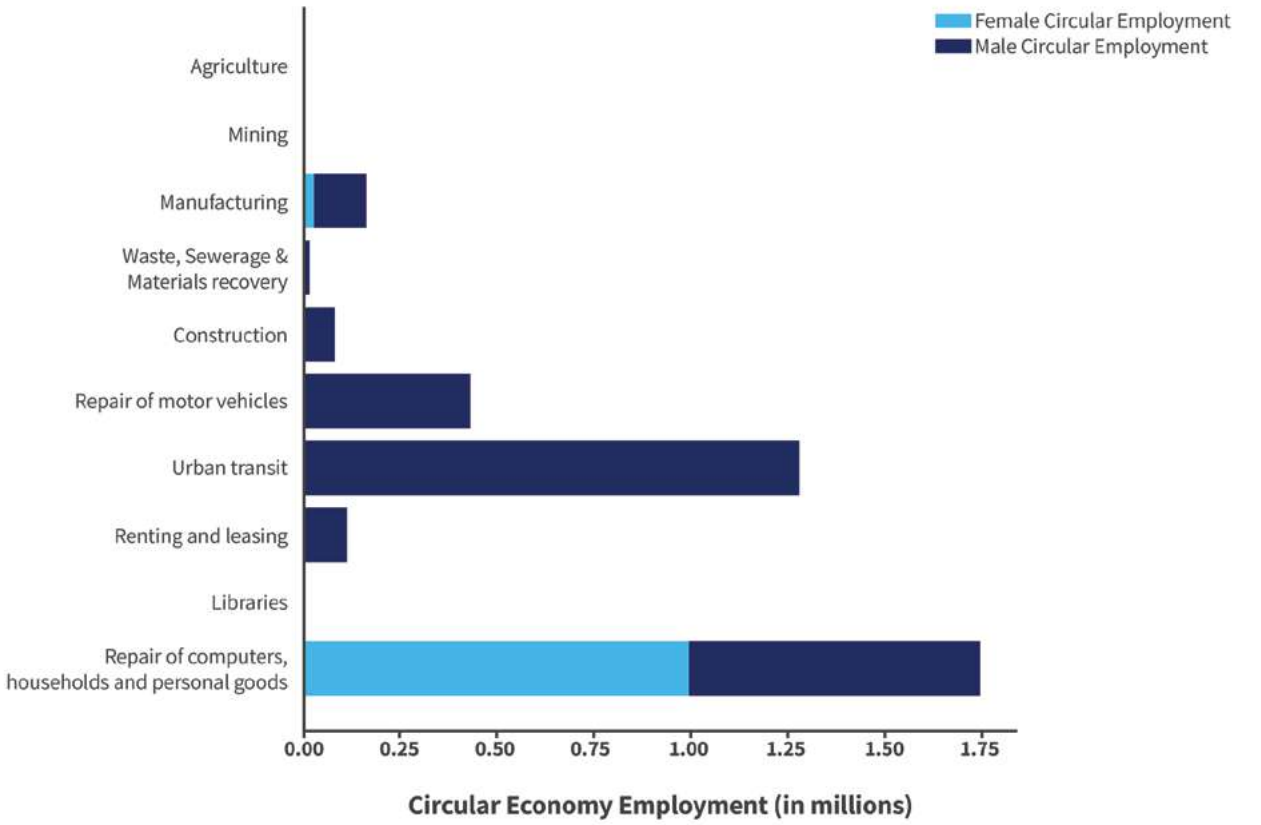

Figure three: Share of female circular economy employment across economic sectors in Bangladesh (2023).

5

Findings: Work and workers in Bangladesh's circular textiles value chain

Photo credit by Labour at the Informal Economy Society

The findings presented in the following sections draw on primary qualitative and quantitative data collected by the research team between February and June 2025. The analysis is organised around the impact categories that shaped data collection, designed to capture different dimensions of decent work. While Bangladesh's formal RMG industry is highly concentrated in and around Dhaka and Chattogram (of the 3,322 registered RMG factories in Bangladesh, 2,932 are in Dhaka and 363 in Chattogram),[48] semi-formal and informal circular economy activities involving *jhut* are far more fragmented and geographically dispersed across the country. Section 5.1 examines formal employment, drawing on survey respondents holding employment identity cards and activities linked to the SWITCH pilots. Section 5.2 turns to semi-formal and informal employment. As noted at the outset, the formal-informal distinction is imperfect and often overlapping; the typology here is used primarily to delineate survey results and provide greater detail on the range of employment arrangements observed. Figure four illustrates the geographic distribution of data collection, including survey respondents engaged in both formal and informal settings, alongside the rapid assessment of informal employment across 12 clusters.

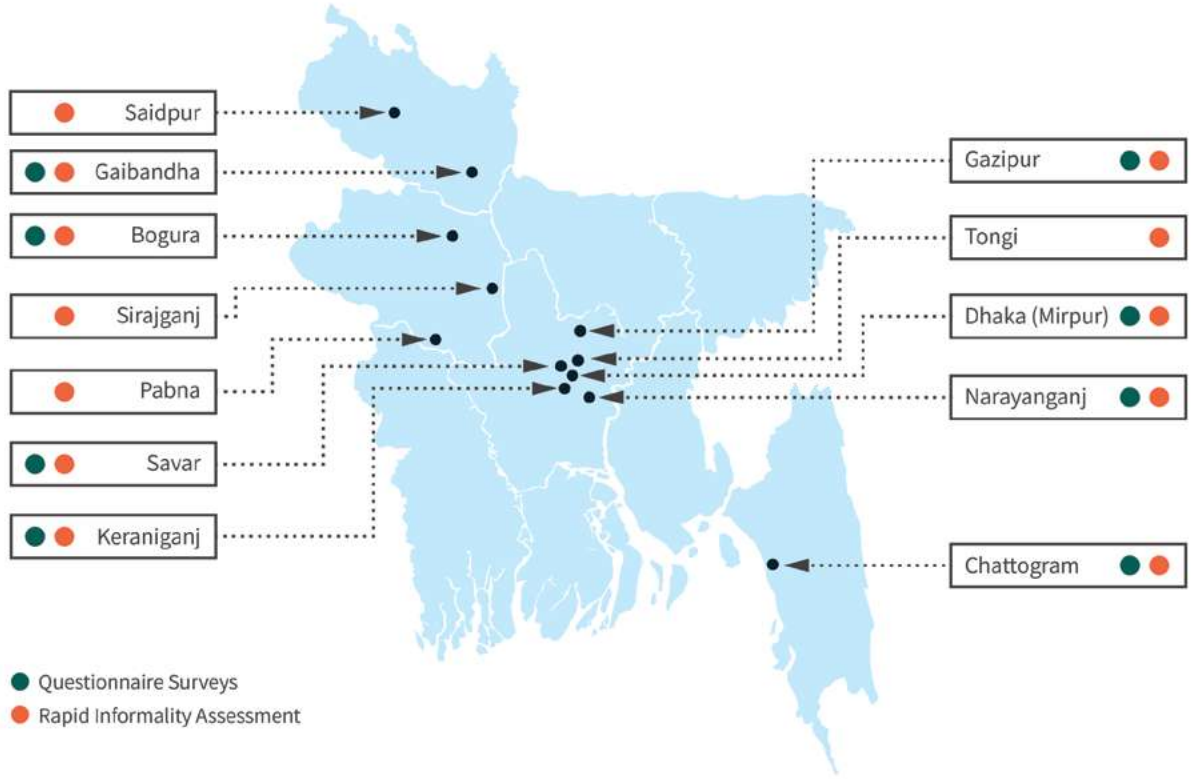

Figure four: Geographic distribution of survey respondents and rapid assessment clusters across Bangladesh's *jhut* value chain.

5.1. Circular economy employment in formal enterprises

5.1.1. Nature of work

A total of 50 workers—25 in supervisory roles and 25 general workers—were surveyed from five formal firms located across Narayanganj (20 respondents), Savar (10) and Gazipur (20). These workers were involved in *jhut* collection and sorting, manufacturing using *jhut*, or recycling. Three of these five enterprises are part of SWITCH2CE pilots aimed at scaling circularity or engaged in circularity-related training offered as part of the SWITCH2CE programme.

48 Bangladesh Garment Manufacturers and Exporters Association (BGMEA), 2024. Member's Directory. Dhaka: BGMEA.

Since the surveys were conducted on-site, these responses may have been influenced by the presence of employers or supervisors, potentially limiting disclosure on sensitive issues such as wages or conditions. Where relevant, findings were cross-checked and contextualised with field notes to strengthen interpretation. Table three sets out a comparison of the formal *jhut* value chain across these three segments, covering tasks, outputs, equipment, training, health and safety, wage impacts, and risks. Working conditions very across segments, from the manual, low-protection environment of sorting to the machinery-intensive but inconsistent safeguards in recycling and circular manufacturing.

Aspect	Waste Collection & Sorting	Recycling	Circular Manufacturing
Main products/ outputs	Sorting *jhut* for resale or further recycling either at the factory site or godowns linked to the factories	Producing recycled yarn and fibre, with some garments such as sweaters, women's wear, denim and socks	Production/assembly of garments, including tops, trousers, t-shirts, sweaters, knit items and 100% knit products
Roles & tasks	Sorting fabrics by colour and size, segregation, weighing, carrying and loading *jhut* sacks	Sorting, crushing, fibre extraction, yarn spinning, packaging and finishing, with additional activities like cutting, sewing and ironing	Operating knitting, spinning and comber machines, production tasks, documentation, quality inspection and supervision
Equipment & protective gear	Mostly manual handling with equipment tools; protective equipment is largely absent	Use of spinning machines, bale pressers, round pluckers and cutting equipment; some workers mentioned gloves or air flags, but many reported no tools or protective equipment	Knitting and comber machines with basic production tools; protective gear provided inconsistently
Training on hazards	Rarely available, most workers had not received training	Limited provision; a few respondents reported regular training, but most indicated no or uncertain access	Training opportunities on hazards were largely absent
Responsible for workplace safety	Typically, the supervisor, occasionally the employer	Mainly the supervisor; in some cases the quality control department was mentioned	Largely the responsibility of the supervisor
Health & safety issues	Common problems included respiratory difficulties, cuts from scissors or metals, burns and injuries from carrying *jhut* sacks. Skin allergies and breathing issues were also reported	Most frequently reported issues were dust inhalation and minor cuts, though long-term risks were often overlooked	Injuries included cuts, falls and accidents linked to *jhut* sacks or machine handling
Targets & consequences	Daily production targets were mentioned, but repercussions for not meeting them were unclear or inconsistent	Workers reported rework without pay, wage deductions and verbal warnings if errors occurred	Most respondents noted no serious repercussions beyond verbal warnings, though some indicated risk of dismissal if machine breakdowns disrupted production significantly

Income/wage impacts	Frequent fluctuations in *jhut* prices had a direct impact on income	Seasonal changes affected working hours and earnings, with some deductions made for contamination or errors	Generally stable, with no deductions reported, but insecurity linked to machine breakdowns was noted
Threats/ intimidation	Reports included demands for bribes, police and intermediaries harassment and legal problems, as well as risks of eviction	Intimidation was rarely reported and not considered frequent	Very few reports of threats or intimidation

Table three: *Comparison of roles and functions, conditions, and risks across three segments of the formal jhut value chain.*

The surveyed individuals in supervisory roles had relatively high levels of education, training and gender balance. Their roles encompassed a wide range of functions, including accounting, documentation, production reporting, machine supervision, certification, quality inspection, human resources and training, partnerships and communications, as well as oversight of dyeing and chemical processes. Out of 25 respondents, 19 reported having a university-level education, and 19 had received training and skills development, with 16 of these taking place within the last 12 months. Training topics spanned fire and workplace safety, chemical management, re-designing for circularity, quality management, waste management, machine operation, labour laws, and medical and nursing support. 11 of the 25 respondents were women, highlighting a notable presence of women in supervisory positions. 19 of the 25 respondents also spoke English, in addition to Bangla.

The surveyed general workers held elementary education and skills levels. Of the 25 worker respondents in the formal enterprises, 11 were women and 14 were men. Only one respondent was aged 18–29, with the rest aged between 30–55 years (13) or 55–75 years (11). In terms of educational levels, two respondents had never attended school, ten had completed only primary or lower secondary education, eight had completed middle-school education, four had completed high-school education, and one reported completing tertiary education. Training opportunities were limited, with 17 workers having received training in the last six months and eight having received none. Training content was heavily focused on occupational health and safety and fire safety (ten respondents), followed by quality check (three), workplace ethics (one) and housekeeping and health-related courses (one). In contrast to the supervisory staff, training on circular strategies has not been provided to the workers. All workers only spoke Bangla.

5.1.2. Fair wages and economic security

While all supervisory members held formal identity documentation, five reported not having a bank account, and five reported not having a written contract, despite being employed in formal firms. Even among those holding full-time positions with written contracts that demonstrate evidence of employment, no respondent reported having a fixed contract duration, suggesting that formal employment contracts offering job stability and predictability are not commonplace, even within more established facilities and factories.

Pay and benefits for those in supervisory roles in the formal *jhut* economy were mostly timely and predictable. Monthly wages ranged from BDT 12,000 or less (≈ US$98) to over BDT 50,000 (≈ US$410), with nine respondents earning BDT 20,000 BDT or less (≈ US$164), nine earning between BDT 20,000 and 50,000 (≈ US$164–410), and seven earning above BDT 50,000 (≈ US$410). All respondents received festival bonuses, while a minority also accessed transportation, accommodation or food-related subsidies. No wage delays were reported, and most respondents also noted wage increases over time. Almost all respondents (24 of 25) reported working throughout the year, with only one reporting less than three months of annual employment. 19 had written contracts and five had verbal agreements, with most contracts ongoing until further notice (nine), 14 as permanent or until retirement, and one falling under other arrangements and another respondent unwilling to disclose), suggesting that, despite working in a formal enterprise, a written contract is not a guarantee. The duration of

the contract (both verbal and written) was generally unspecified (15), although five reported contracts of 6–12 months and one was linked to the completion of specific work. All respondents in the formal enterprises held identity cards.

Compensation and benefits for workers were relatively structured with gaps in social protection. Nearly all (24 of 25) were paid wages or salaries, while only one was paid on a piece-rate basis. Wage levels (monthly) were concentrated at the lower end: 16 respondents earned BDT 16,000 or less (≈ US$131), five were in the BDT 8,000–12,000 range (≈ US$65–98), two earned around BDT 20,000 (≈ US$164), and only one earned above BDT 50,000 (≈ US$410). All respondents received an Eid bonus, while smaller groups reported other benefits such as subsidised food (six), transportation (six), accommodation (three), product benefits (two) and zakat, or religious charity (one). Timely payment was near universal, with 24 respondents receiving compensation as promised and only one reporting delays. Social security was limited: 13 respondents reported access, primarily through gratuity schemes, while 19 had paid annual leave, 20 had sick or injury pay, and 11 had parental leave.

Photo credit by Labour at the Informal Economy Society

5.1.3. Health, safety and well-being

Reported health issues amongst workers included respiratory difficulties, skin allergies, cuts from scissors or metals, burns, injuries from carrying *jhut* sacks, dust inhalation, and accidents linked to machine handling or falls. Six workers reported accidents in the last year, with support varying from first aid and time off to no employer assistance. Supervisors were most often responsible for workplace safety, though in some cases, employers or quality control departments were mentioned. Most workers (24 of 25) worked 40–60 hours weekly, with one exceeding 60 hours; 13 workers wanted more hours (usually 1–10 weekly). One-fifth of workers expressed a desire to change jobs, citing low wages, better opportunities or education.

5.1.4. Rights and representation

Union membership and representation were limited. Across formal supervisory respondents, only four reported affiliation with an employer-employee body (participation committee or PC) and were all aware of leadership, while 21 had no affiliation at all. Among 25 workers, seven reported affiliation to a union or network, though participation was mostly confined to occasional benefits such as food or sports activities. While seven could identify a committee or leader, more than two-thirds remained unaffiliated, highlighting the limited reach and effectiveness of representation structures in formal employment workplaces. All respondents stated they had not observed child labour. 24 out of 25 reported relying solely on one job as their source of income, with only one reporting additional income from property or investments.

5.1.5. SWITCH2CE pilot projects

Under SWITCH2CE, two sets of pilot partners are actively testing approaches for traceable textile recycling in H&M Group and BESTSELLER's supply chains to understand how *jhut*, largely in the form of cuttings, can be cycled back into new products as part of EU requirements for sustainable production practices. The boxes below highlight elements of each of these pilot projects that specifically explore opportunities, challenges and interventions required to support social compliance and ethical traceability. Workshops were conducted with each set of pilot partners to draw out lessons and broader insights regarding scaling circular activities in the value chain in an inclusive manner. More information on the pilots can be found on the SWITCH2CE website.[49]

Learnings from the BESTSELLER pilot project

The BESTSELLER pilot under SWITCH2CE was supported by Global Fashion Agenda, BGMEA, and Reverse Resources. The pilot works on scaling up traceable textile recycling with suppliers in Bangladesh, capturing and valorising high volumes of *jhut*. The pilot aims to help manufacturers in Bangladesh reduce their reliance on virgin materials and increase the accessibility of recycled resources.

Reverse Resources works on digitising and improving textile waste management through its software platform to enable scaling up textile-to-textile recycling. Under the SWITCH2CE pilot, they have developed a Code of Conduct (CoC) to support waste collectors and handlers to comply with new requirements coming from different stakeholders in the value chain, and understand drivers of changes related to demand for traceable recycled textiles in the industry, including incoming EU and brand due diligence requirements. It has been developed in collaboration with waste handlers to help determine what is reasonable and feasible for stakeholders to complete in the CoC.

The CoC can be used to assess workers, worksites, and organisations. It is designed to illustrate an actor's progress in aligning with incoming requirements, rather than serving as an indicator of compliance itself. It is

49 SWITCH to Circular Economy Value Chains. (n.d.). Switch to Circular. European Union.

divided into three levels of compliance:

1. Elementary: where more critical areas of compliance are assessed, that should not require significant outside investment to adopt
2. Progressive
3. Advanced: where additional requirements might require investment for restructuring or new infrastructure.

At the time of writing, the CoC was under development and undergoing testing. However, a guidance document developed under SWITCH2CE is already available (see link below). In the future, the CoC is intended to be available in all countries where Reverse Resource operates.

English version **Bengali version**

Learnings from the H&M Group pilot project

Through SWITCH2CE, H&M Group is piloting strategies to develop local capacity for PET waste collection and recycling by establishing an ethical, transparent, and traceable value chain for synthetic fibres. Alongside exploring how local suppliers in Bangladesh can be supplied with recycled fibres, the pilot also explores how to support broader social impact by working with informal waste pickers through its partnership with Garbageman, a local waste management startup.

Supported by Intellecap, Garbageman has developed a platform to support steps towards transparency and ethical sourcing in PET waste collection, now being implemented across their network of suppliers (scrap dealers) and waste workers. Garbageman's system, which includes a mobile app and a real-time web dashboard, enables waste collectors and scrap dealers to track each stage of the collection process. Digital transactions replace cash payments, adding financial transparency, and QR codes authenticate each transaction, tracking the entire supply chain from waste collectors to recyclers. Once suppliers are onboarded, they undergo physical audits to ensure compliance with social standards. They are then provided with support to adopt ethical practices and follow steps for moving from 'red' low social compliance to 'green' full social compliance. Suppliers are given training on modules, including:

1. Labour rights and elimination of child labour
2. Safety at the workplace: hazard awareness and safety skills
3. Gender inclusion to ensure positive work practices
4. Financial literacy and inclusion

The partnership with Garbageman is providing valuable insights into the opportunities and challenges of formalising work in waste value chains. It helps identify which technologies and compliance measures are feasible for suppliers working at different stages of the value chain.

5.2. Circular economy employment in informal and semi-formal clusters

5.2.1. Geographical distribution and primary activities within SME clusters

Across the 12 major *jhut* clusters profiled using the rapid assessment tool, an estimated 18,400 to 22,000 informal and semi-formal sorting, recycling and *jhut*-based manufacturing enterprises are in operation, supporting the livelihoods of an estimated 195,000 to 214,000 workers in the informal economy. By comparison, application of the Global Circular Jobs Baseline methodology to Bangladesh identifies approximately 69,500 informal jobs

within the sectors of Manufacture of textiles (ISIC C13), Manufacture of wearing apparel (C14), and Waste collection, treatment, and materials recovery (E38). The scale of activity revealed through the rapid assessment demonstrates that a significant share of circular economy employment remains unaccounted for in official labour statistics. This underscores the need for bottom-up, value-chain-level analyses to complement macroeconomic models and refine national estimates of circular economy employment.

These enterprises are concentrated around major garment production hubs, as well as in northern districts, where cottage industries for recycled textile products have flourished. For instance, around the periphery of Dhaka (including Savar, Tongi, Gazipur, Narayanganj, and the Mirpur area of the city), thousands of workers are involved in collecting and sorting scrap from RMG factories. Meanwhile, in several districts outside Dhaka, notably Nilphamari (Saidpur), Gaibandha, Sirajganj, Pabna, and Naogaon, large numbers of informal manufacturing units produce various recycled textile products. Another significant cluster exists in Chattogram, which features both sorting centres and small factories that produce recycled clothing and yarn. In addition, smaller pockets of *Jhut*-based activities were noted in other areas such as Thakurgaon, Dinajpur, Mymensingh, and Narsingdi. However, these are relatively minor (fewer than 50 enterprises) compared to the aforementioned major clusters. Table four lists the geographic distribution of workers, estimates of the number of workers operating there, and, where known, the primary activity taking place and/or the product being produced.

District	Locations	Est. Units (Factory/ Godown)	Scope	Primary activity / *jhut*-related output (indicative %)
Pabna	Pabna Sadar, Indira Road, Noynamoti	2,500–3,000	50,000–70,000	T-shirts (60%); sorting-related activities (35%)
Gaibandha	Gabindhaganj, Kucha Sohor, Noyar Hut, Ratanpur	4,000–5,000	50,000	Raincoats, jackets, ropes, fabric masks, socks, winter garments (with limited *jhut* input) (95%)
Bogura	Rail Gate Santahar, Boshirpur, Adamdighi, Shudhipur, Shawel Bazar	5,000–6,000	24,000–26,000	Dresses; bobbin production (40%); sorting-related activities (30%)
Gazipur	Konabari (Baganbari, Dewlia *Jhut* Polli)	2,000–2,200	15,000–20,000	Sorting-related activities (90%)
Chattogram	Aturar Dipu (Panchlaish, Jangal Para, Shongit Road), Bayazid (Murad Nagar, Shamadpur), Miakhan Nagar, Bakalia, Bou Bazar, Jamai Bazar	2,200–2,400	10,500–13,500	Sorting-related activities (45%); women's garments (T-shirts, plazo, babywear sets, three-quarter pants), mattresses, cotton manufacturing (35%)
Sirajganj	Kazipur (Meghai Bazar, Shimul Dair Bazar, Kauralia, Gandhail), Bechoci, Shahjadpur	350–400	10,000–11,000	Blankets; rural winterwear; children's winterwear; rain protection fabrics; mattresses (70%)
Savar	Polli Biddut, Bagmari, Bilpile, Asulia	400–500	4,500–6,000	Sorting-related activities (90%)
Narayanganj	Jhal Kuri *Jhut* Polli, Shiddirganj	500–600	3,500–5,000	Sorting-related activities (90%); limited cotton manufacturing

Naogaon	Boalia, Ilishabari, Shimulia, Atrai, Vandarpur	600–700	3,500–5,000	Rope; children's winterwear; floor mats (70%)
Nilphamari	Kamal Road, Kejur Bagan Mosque Area, Munshipara, Nilphamari Sadar (Saidpur)	300–500	3,000–5,000	Raincoats, jackets, towels, floor mats, *jhut*-based household items, reusable shopping bags (90%)
Tongi	Milgate, Namabazar	250–300	2,700–3,000	Cotton manufacturing; sorting-related activities (20%)
Dhaka	Mirpur *Jhut* Polli	350–400	2,500	Sorting-related activities (95%)

Table four: *Summary of data collection by workers, districts, and activities using the rapid assessment tool.*

***Jhut*-related activities taking place in informal SMEs are highly varied.** Production equipment includes machinery such as jacquard machines and electric or hand-run looms, which are commonly acquired second-hand from Dhaka-based factories and repaired and maintained in local shops. Clusters with significant manufacturing activity of this nature include Nilphamari, Gaibandha, Chattogram, Bogura, Pabna and Sirajganj. Markets for these products are primarily domestic; however, in Saidpur (Nilphamari), it was noted that most winter wear is exported to countries such as India, Nepal and Bhutan.

Sorting is a crucial stage in the *jhut* value chain, underpinning the organisation and preparation of materials for subsequent production and trade. Sorting involves the manual separation of *jhut* from RMG factories based on colour, composition, and size in ways that prepare it for further value-adding activities. From its point of origin on the factory floor to its use in recycled fibres or new products, some intermediary actors conduct sorting at multiple stages to add value to the *jhut*, refining the material according to quality, textile materials and product potential. Some sorting hubs act as de facto distribution centres, organising waste into more consistent and standardised inputs for downstream use, aggregating volumes to meet the needs of buyers and stabilise supply flows. Key sorting hubs highlighted by this study include Savar, Gazipur (Konabari) and Mirpur *Jhut* Polli. The central hubs for the distribution, sale, and transportation of *jhut* are strategically located in Gazipur (Konabari) and Savar (Asulia). Narayanganj serves as the second-largest hotspot, with Mirpur *Jhut* Polli in Dhaka ranking third, where access for regular heavy transport vehicles is restricted during daylight hours. Smaller pickup vans are used for loading and unloading during daytime operations to facilitate transportation over shorter distances. Products originating from these key hubs are disseminated across various districts within Bangladesh and subsequently loaded onto vehicles for export to India and other neighbouring countries.

In practice, many SME production clusters and communities engage in overlapping activities that span across the different stages of the value chain. While cluster activities may predominantly concentrate on one stage of the circular value chain or a specific product output, the nature of the tasks taking place tends to be more fluid. The range of activity happening in the Adamdighi cluster, in Bogura, is a key example. It is a dense ecosystem spanning 127 hectares of land, comprising approximately 1,400 units and 164 registered enterprises. There are approximately 10,000 workers in Adamdighi, with activities ranging from sorting *jhut* from Gazipur and Chattogram to the production of recycled yarns and products derived from these. This means clear boundaries cannot always be drawn between the value chain stages engaged in by each cluster or enterprise. While some firms are dedicated to sorting, the overlapping nature of activities reflects both the adaptive strategies of enterprises and the inherent volatility of material flows. To remain viable, some clusters integrate multiple functions, allowing them to pivot between tasks as demand fluctuates or as competition shifts within the market.

Although many SMEs in these clusters are formally registered, nearly all workers remain outside formal contracts and legal protections. Findings repeatedly demonstrate that the nature of this informal employment is not uniform and that strong interlinkages exist to enable circular activity. More specifically, four primary contexts of in-

formality emerged from the data in relation to the circular textiles value chain in Bangladesh:

1) **Control of *jhut* by politically connected local intermediaries** introduces another layer of informality and, in some instances, illegality. These actors mediate employment relationships, material flow dynamics, and access at the collection and sorting stage, creating opaque power structures.
2) **Non-contracted labour in informal SME clusters, such as *jhut* godowns and informal factories,** is the dominant mode of informal employment explored in this study. This also includes work in family-owned businesses and home-based *jhut* work. These units may be registered businesses with trade licenses, but often employ workers without formal contracts, benefits, or protections. This shows that enterprise formality does not equate to employment formality. Anecdotal instances in the survey reported that formally registered enterprises would, sometimes not have formal contracts in place for their workers. In these cases, the formality of an enterprise is driven by the need to access public loans, technical assistance, and other benefits for the employer, rather than any gains for the employees within the enterprise.
3) **Home-based workers** represent a distinct but overlapping group of informally employed workers. Primarily, women are engaged in home-based work involving *jhut* activities, which encompass the sorting and manufacturing stages of the circular textiles value chain. This work might be part of extended family labour arrangements or part of piece-rate subcontracting arrangements with factories or godowns.
4) **Subcontracted production** refers to small or unauthorised factories that produce branded apparel outside of official supplier networks. These units, often unknown to buyers and regulators, are not registered and rarely follow occupational safety and health (OSH) protocols or comply with other labour law requirements, such as minimum wage provisions. Workers are often hired informally, via verbal agreements or third-party recruiters, and lack protections and recourse. The extent to which this typical practice of subcontracted informal RMG production utilises *jhut* and other circular inputs is still not well understood due to a lack of material flow transparency.

Key stakeholders in Bangladesh's *jhut* sector

The *jhut* sector comprises a diverse range of stakeholders who participate in the collection, processing, distribution, and governance of the *jhut* industry. The following categories outline the principal groups involved across different stages of the value chain:

- **Micro-entrepreneurs and godown owners:** Small-scale business owners operating *jhut*-based production units, home-based factories or 'godowns'.
- **Waste collectors and handlers:** Workers processing and collecting *jhut* at the point of origin (factory floor) and doing preliminary work of managing, including baling.
- **Transportation workers:** Workers involved in transporting *jhut* and *jhut*-derived products.
- **Sorters:** This group is primarily composed of women who sort *jhut* material for various applications at different stages of the *jhut* value chain.
- ***Jhut* factory and godown workers:** Other workers involved in non-sorting tasks such as machine operation, assembly, loading and baling.
- **Home-based workers:** Many women and family members participate in *jhut*-based work at home.
- **Cluster chairmen and heads of owners' associations:** Figures that oversee localised coordination, such as shared infrastructure management, mediation with buyers or governmental authorities.
- **Intermediary actors:** Actors operating in urban production zones that serve as informal gatekeepers controlling the supply of *jhut* waste. They do not handle materials directly, but directly oversee the collection of *jhut*. They are often politically connected and operate through localised power networks, influencing supply and value chain relationships in ways that are frequently experienced as coercive.

A total of 250 survey respondents from the informal economy were distributed across workers (148 respondents), owners (60) and management (42). The surveyed areas included Mirpur, Keraniganj, Narayanganj, Gazipur, Chattogram, Bogura, Saidpur, and Gaibandha, with enterprises focused on *jhut* collection and sorting (128 enterprises), recycling (114), and the manufacturing of products using *jhut* (seven). The respondents included 150 men and 100 women. Notably, 90% of surveyed enterprises did not disclose their formal business name and were categorised as 'unknown', underscoring the informality and lack of registration that characterise the sector. Informal activities in the *jhut* value chain are disproportionately sustained by older workers. Out of the total respondents, the majority fell within the 30–55 age group (62 respondents), while the largest share was between 55 and 75 years (161). A further 24 respondents were aged 75 or older. Among the 168 respondents who reported moving locations within Bangladesh for work-related reasons were 93 men and 75 women, indicating that domestic migration is common among both genders. Results from the rapid assessment tool add further insight into worker migration patterns. In clusters such as Nilphamari, Bogura, and Pabna, the workforce is overwhelmingly local, comprising over 90% of the workforce. In contrast, informal *jhut* work is often clustered in and around major urban centres, particularly Dhaka (including Tongi, Mirpur, Gazipur, Savar, and Narayanganj) and Chattogram, and is mostly done by migrants from other districts, estimated at between 80-90%. Sirajganj presents a more mixed picture, with around 20% of workers migrating from other districts.

5.2.2 Wages and economic security

A lack of documentation was prevalent across all three stages of the circular value chain. 94% of the surveyed workers mentioned that they are engaged under a verbal agreement, and the remaining 6% chose not to respond. Compensation systems were found to vary significantly by task type:

- Manufacturing jobs typically involve payment based on production output, such as by weight or piece.
- Packaging, loading and unloading work involves daily rates calculated per box or vehicle. This work is significantly better compensated, but is less stably available.
- Sorting usually involves a fixed daily wage for 8–10 hours of work.

In Adamdighi, it was reported that a worker can sort up to ten kilograms of *jhut* in a day. Men performing sorting tasks are compensated more highly, at around BDT 350–400 per day, while women workers receive between BDT 150-200 per day. Male workers are also responsible for the movement of *jhut* bales within and to and from the sorting locations. The average sorting wage across the 12 districts in the rapid assessment was BDT 200-250 per day, or approximately BDT 6,000 per month, significantly lower than the current legal minimum of BDT 12,500 (approximately US$100) per month. Other tasks are compensated more highly and paid based on output rather than per day: for example, in yarn separation, a worker might produce 45–70 kilograms per day and earn about BDT 12 per kilogram. Manufacturing jobs, particularly those operating machines, are slightly better compensated. Men operating the rotor machine in Adamdighi are paid BDT 600 per day (irrespective of volume output) and work 12-hour shifts (06:00–18:00). Dyeing *jhut* was the most highly paid job. In the Adamdighi cluster, only one worker was currently skilled in using the dyeing machine. He had relocated to the area for this work and was paid about BDT 20,000 per month. Physically demanding labour, including packaging, loading, and unloading, is also better compensated. For example, at the formal recycling facility visited, male workers transporting bags of *jhut* are paid around BDT 15,000 per month, while those compressing bales make slightly more, about BDT 20,000 per month. Table five summarises the wage patterns for different tasks across the major districts included in the rapid assessment tool. Some, but minimal, variance was found in the amount workers are compensated in the same role across different regions. Ranges in compensation identified were typically related to the workers' level of experience.

Photo credit by Reed Consultancy Bangladesh

Role	Districts										
	Tongi	Mirpur (Jhut Polli)	Gazipur	Nilphamari	Savar	Narayanganj	Chattogram	Naogaon	Gaibandha	Bogura	Sirajganj
Sorting	250 BDT per day	6,000-8,000 BDT per month	200-240 BDT per day		6,000 BDT per month	200-220 BDT per day	250 BDT per day			200-350 BDT per day	
Assistant operator	350 BDT per day			6,000-10,000 BDT per month							
Machine operator, cutting	500+ BDT per day			12,000-14,000 BDT per month							
Packaging/loading & unloading	1,000-1,500 BDT per day	1,000–1,500 BDT per day			15–25 BDT per package (1,500 per day average)	1,000–1,500 BDT per day					
Factory-based work (cotton or product manufacturing, sewing)							350-500 BDT per day	5,000-1,5000 per month		5,500-12,000 BDT per month	10,000-14,000 BDT per month
Home based								200-300 BDT per day/task		10-15 BDT per kg	5000-7000 BDT per month

Table five: *Wages for different tasks across major districts included in the rapid assessment tool.*

While in principle, contracts offer some stability through wage guarantees and continuity of work. It was found that 79% of survey respondents had no specified duration of work provision, indicating significant employment insecurity. Meanwhile, 10% of the workers surveyed reported having second jobs to supplement the low or irregular income associated with their *jhut* work. The proportion of workers holding second jobs reflects their limited capacity to take on additional economic activities, rather than a lack of willingness to do so. In fact, one-third of the workers surveyed mentioned that they would like to work more hours to achieve greater economic security. Additionally, there is significant seasonal fluctuation in the workforce, particularly during peak agricultural and fishing seasons, when many workers in the informal economy temporarily transition to these sectors. Seasonality underscores the intersection between circular textile employment and the way precarity shapes broader informal rural livelihood strategies.

Notably, these payment systems and amounts do not reflect a living wage or reliably follow national minimum wage standards. Workers are paid regularly—usually on a weekly basis, and sometimes, twice a month. Only 26% of workers surveyed have access to a bank account, of which 8% have an account that they do not use, and 74% of the respondents do not have a bank account. Access to mobile-based financial services is increasing, with 41% of workers reporting that they use such a mechanism. Respondents shared that banking access may not always be preferable for workers in the informal economy, given that it involves additional fees, VAT requirements and other inflexible structures which can present barriers or additional costs. Initiatives addressing decent work in the *jhut* sector could harness this ongoing digital transformation to enable more regulated and predictable wage payment systems through mobile-based payments.

None of the workers participating in the survey has access to any social security, inherent to the informal nature of the work; however, other non-wage benefits do exist, reinforcing traditional dynamics of the employer-employee relationship in the country. The secondary benefits of this relationship include Eid bonuses, in-kind meals, food subsidies, transport, and accommodation. These benefits are unevenly distributed and employer-dependent, creating situations where employers exert greater control when workers rely on benefits over which they have no formal claim, rather than on wages. 14% of survey respondents reported the availability of sick and injury pay. This is high for informal employment, but it also likely reflects variability in how sick leave is defined and granted, especially since it is not linked to contractual obligation but rather an implied social expectation.

A strong gender imbalance exists in both skills and wages, as the more technical and better-paid roles—such as machine operation, dyeing, bale compression, packaging, and loading or unloading—are overwhelmingly held by men. Individuals who own and manage factories, godowns, or supervise machine operations are men. Meanwhile, women dominate lower-paid work, such as *jhut* sorting and home-based piecework. Gender plays a decisive role in shaping both the distribution of tasks and access to economic opportunity: men are more likely to access jobs and training opportunities linked to technical skills, providing them more (though still overall limited) access to higher wages and job security. Informal *jhut* work is linked to low pay, insecurity, and limited upward mobility for both men and women. These adverse conditions are compounded for women, who occupy the most precarious and least remunerated positions, reflecting what feminist scholars have long argued: that structural inequalities in labour markets and informal economies disproportionately burden women, particularly those at the intersection of class, caste, and other forms of marginalisation.[50] [51] Despite some support from institutions like the SME Foundation, which offers training in product quality and design (for men and women), most workers in the *jhut* sector gain skills informally, through on-the-job learning.

5.2.3 Health, safety, and well-being

Across various stages of the circular value chain, OSH, and overall worker well-being are often neglected. The majority of workers operate in environments that are physically demanding, unhygienic, and contribute to poor overall well-being and long-term physical health issues. The physical conditions in informal *jhut* production units and

50 Bhattacharya, T. (Ed.). (2017). Social Reproduction Theory: Remapping Class, Recentering Oppression. Pluto Press. 10.2307/j.ctt1vz494j.

51 Federici, S. (2012). Revolution at Point Zero: Housework, Reproduction, and Feminist Struggle. PM Press. 10.1521/siso.2014.79.3.390.

godowns are poor. These units are often crowded and poorly ventilated, with dust and textile microfibre inhalation being one of the most widespread and hazardous occupational safety and health risks observed in this study. Although some workers cover their mouths and noses with clothes and masks, no specialised personal protective equipment (PPE) supplies, protocols, or other institutional practices were observed. Geographical fragmentation and informality contribute to the current lack of public investment and targeted governance for enforcing better working conditions in the sector, as well as creating barriers to future enforcement. As one interviewee pointed out, even if there were inspections, not all units and godowns are registered and would likely remain unknown to enforcement and implementing bodies.

Heat stress and dehydration are common, as workers endure long shifts in environments with few rest breaks or inadequate resting spaces, despite the work being physically exhausting and high-pressure. Working weeks are six or six and a half days. Shifts are long, averaging 8-10 hours a day, with no overtime pay in most cases. Sanitation facilities are inadequate, and there is unreliable access to drinking water. Minor injuries, such as cuts and needle pricks, are common, with no major accidents reported in the *jhut* workspaces surveyed. Bogura, Gaibandha, and Chattogram reported higher instances of frequent health issues related to sorting, including cuts, burns, and respiratory problems. Gazipur and Savar reported higher access to sick or injury pay, possibly due to greater engagement with formal sector actors or larger facilities.

Home-based workers appear to face fewer physical hazards, as their workspaces are familiar and under their own control. However, respondents noted that this blurs the boundary between work and domestic life and can intensify the physical and emotional demands placed on women, who often balance paid home-based labour with unpaid domestic and care responsibilities. Thin boundaries between paid and unpaid work reinforce gendered divisions of labour and increase women's time poverty and emotional burden. Home work is known to be one of the most precarious types of employment arrangements, and is often the lowest paid.[52] The atomised nature of home-based work can also reduce workers' ability to organise or demand protections collectively.[53] The transformation of their homes into workspaces for flammable material such as *jhut* puts entire families and neighbourhoods in danger. Similarly, accessories such as zips, buttons and textile attachments are fatal when ingested, especially by children who may be present in the household. As noted earlier, exposure to textile dust and fibres poses serious risks to respiratory and cardiovascular health, affecting not only workers but their families. Children were observed in all informal *jhut* clusters, and 6% of surveyed workers reported that they often saw children engaged in *jhut*-related work. This study did not investigate child labour in depth. Nonetheless, the extent of the visible presence of children working raises significant concerns around safety, barriers to education, and the perpetuation of intergenerational precarious labour.

None of the surveyed workers reported any form of harassment, and only one reported sexual harassment. However, this low incidence likely underestimates the true prevalence of harassment faced by women in the *jhut* sector. Literature on labour in Bangladesh's garment sector suggests that gender-based violence is widespread and underreported, especially in informal settings where oversight is absent and social power imbalances are pronounced.[54] [55] Key informants further highlighted that fear of retaliation, job loss, or social stigma often prevents workers, and women workers in particular, from disclosing experiences of harassment or assault. The absence of formal complaint mechanisms and anonymous reporting structures further compounds the problem.

5.2.4 Rights and representation

Access to labour rights and collective representation was found to be severely limited across the circular tex-

52 Corkery, A. (2025, June 30th). Homeworkers' Rights at Risk with EU Directive Uncertainty. WIEGO. Retrieved from: WIEGO website.

53 Rai, S. M., Hoskyns, C., & Thomas, D. (2013). Depletion: THE COST OF SOCIAL REPRODUCTION. International Feminist Journal of Politics. 16(1). 10.1080/14616742.2013.789641.

54 Akter, R., Teicher, J., & Alam, Q. (2024). Gender-Based Violence and Harassment in Bangladesh's Ready-Made Garments (RMG) Industry: Exploring Workplace Well-Being Issues in Policy and Practice. Sustainability. 16(5). 10.3390/su16052132

55 Bhattacharjee, S. S., & Shaheen, A. (2018). Violence Against Women and Men in the World of Work, Executive Summary of New Research on Asian Garment Supply Chains and Recommendations for an ILO Convention. Retrieved from: Academia.edu website.

tiles value chain. Interviewees stressed that the informal nature of most employment in the value chain—combined with systemic power imbalances and the fear of retaliation—means that most workers have little or no access to legal protections, grievance mechanisms, or collective voice. Workers' awareness of their rights and the mechanisms through which they can claim them is low, and seeking legal redress is generally prohibitively expensive, time-consuming, and often unsuccessful. Some organisations are active in providing legal assistance to these workers in the informal economy, but the context is extremely challenging: the system exerts downward pressure and high burdens on already vulnerable marginalised workers. Many cases are dismissed due to a lack of 'physical evidence', such as contracts, payslips, or written agreements. One organisation providing legal support in the sector reported managing 1,500 active cases involving wage theft or unlawful dismissal, including instances where workers were dismissed after 5–10 years of service without receiving full compensation. Multiple key informants described a pervasive culture of fear and intimidation that discourages workers from speaking out.

Rates of union membership in the informal *jhut* sector are extremely low, and where it does exist, it tends to be weak or ineffective. Just 4% of surveyed workers in the informal economy identified themselves as union members. Only 6% of all informally employed workers surveyed knew the name of a group leader or representative, indicating widespread disconnection from any existing structures of representation. In this environment, collective bargaining power is virtually non-existent; the majority of workers have no support to address grievances or negotiate improvements in their working conditions or compensation.

Several stakeholders highlighted the significant fragmentation of the labour movement in the formal RMG sector and the lack of associations to organise informal workers as a significant barrier. Trade unions face declining trust from workers, who are beginning to usurp trade union action through direct action and protest. This lack of trust was thought to be partially driven by the prominence of 'yellow unions'—unions that are co-opted or aligned with management. This is complicated in a space where factory owners are often also involved in government and local politics. Trade unions find themselves in an ambivalent and precarious position, especially given the current political transition context, and there is little clarity regarding which workers' demands they will support or whether they will support the new government. This has the potential to give rise to division within the labour movement, weakening collective bargaining power and complicating any potential efforts to extend union membership to *jhut* and workers in the informal economy or develop other modes of solidarity between groups.

6

Conclusions

Photo credit by Labour at the Informal Economy Society

Circular activity in Bangladesh's textile value chain is strongly related to the recycling of *jhut*—post-industrial textile waste. Hundreds of thousands of people work across formal and informal facilities in the collection, sorting, recycling and manufacturing processes that utilise the vast quantities of *jhut* generated annually by the RMG industry.[56] The *jhut* sector is a layered economic and employment ecosystem that illustrates many of the environmental goals of the circular economy, including waste valorisation, resource efficiency, extended product life cycles, and manufacturing systems that often rely on recycled inputs. However, it is also largely a necessity-driven ecosystem, characterised by low-paid, hazardous, and insecure work.

Our rapid assessment tool estimates that the sector sustains tens of thousands of jobs. Yet across all impact categories relating to the pillars of decent work, a significant lack of protection was highlighted for workers in informal settings, as well as gaps in social protection for workers in formal settings. Informal workers typically do not earn living wages, nor do they hold written contracts and identity cards. In formal enterprises, while most workers earn above the minimum monthly wage (BDT 12,500 or US$102), written contracts and social protections are largely absent, working environments are unsafe, and there are limited structures for effective worker organisation and collective bargaining.

The *jhut* sector highlights the importance of integrating social ambitions into circular economy initiatives. Embedding these ambitions can ensure that scaling circular practices provides not only environmental but also meaningful economic and social benefits for the workers and communities driving these practices. This study demonstrates that in some cases, the environmental benefits of circularity are not yet translating into social gains. It illustrates how and why the mere existence of jobs cannot be assumed as an automatic social good. Detailed studies that examine the elements of decent work associated with these jobs highlight the urgent need to recognise the existing needs of marginalised workers within value chains, and underscore the importance of explicitly addressing these needs in circular economy policies, investments and corporate strategies.

Realising a socially just circular economy demands explicit systemic action by all stakeholders to confront underpayment, marginalisation, and power asymmetries that characterise the linear textiles industry—not just in words, but through value chain initiatives, institutional action, social dialogue, buyer practices, and governance. Multi-stakeholder collaborations and initiatives, such as SWITCH2CE, can contribute to this by working collaboratively to shift buyer and price norms in ways that more accurately reflect workers' existing needs and the costs of social compliance. By examining the realities of decent work deficits in circular economy employment within Bangladesh's textiles value chain, this study reveals the complex nature of the *jhut* sector, interconnections between formal and informal enterprises, and the specific decent work needs that must be considered and integrated into plans to scale circular economy activities in export-driven stages of the value chain. Leading circular economy actors, such as those in SWITCH2CE, play a key role in shifting circular practice, policy, and discourse to be more socially inclusive and equitable.

Labour rights organisations will serve as essential intermediaries in this process, communicating workers' concerns, priorities, and rights violations to state and industry actors. Key informant interviews highlighted that without the living wage baseline, labour and rights-based organisations in Bangladesh lack the capacity to engage meaningfully in the circular economy or just transition efforts—an exclusion that limits the social impact of circular outcomes. The broader institutional environment further inhibits core principles of decent work. For example, despite the living wage being a core mobilising issue for the labour movement in Bangladesh and South Asia, even 12 years on from the Rana Plaza disaster, it remains unattained for formal RMG workers—and even more so for informal recyclers and other *jhut* workers.

The findings from this study also reinforce the broader insight that informal employment, even within a single value chain, is not homogenous or adequately captured by the binary categories of 'formal' and 'informal'. Specifically, value creation within the *jhut* sector relies on an intricate and synchronised interaction among formal

56 GIZ & H&M. (2024, June). Study for a regulatory framew.ork to enable recycling of post-industrial waste (*Jhut*) for the RMG industry in Bangladesh. STILE Project. Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ). Retrieved from: Asia Garment Hub website.

and informal enterprises, as well as legal and illegal actors. These diverse groups simultaneously enable and exploit each other, strategically collaborating or competing to maximise profits and sustain business viability. This complex interplay frequently results in highly circular products. Still, through suppressed wages and compromised working conditions, it maintains minimal standards of decent work as a deliberate strategy to ensure profitability and financial sustainability within enterprises. At the same time, the very flexibility of the informal employment is what makes it attractive to the economy: workers are mobilised as demand fluctuates, providing formal and informal firms with an adaptable and low-cost labour pool. The policy challenge is therefore not to eliminate this flexibility, which meets important seasonal and market needs, but to retain its strengths while safeguarding workers through minimum social protections and basic standards of security and dignity.

The data collected in this study reveal a complex spectrum of employment arrangements and working conditions, ranging from fully undocumented casual labour to partially formalised or formal contracted work within registered enterprises. This aligns with the Asia Floor Wage Alliance's definition of informalisation not as a static status, but as a spectrum of practices designed to reduce employer accountability, fragment worker rights, and suppress labour costs, especially for women and socially marginalised workers.[57] This has critical implications for developing policies to support workers and achieve decent work, which must clarify the utility and specific mode of 'formalisation' for each group of workers. While many actors involved in this study were supportive of formalisation as a way of securing better working conditions and rights, the different statuses of workers portrayed in this study reflect the necessity for different strategies for different workers. Strategies for realising decent work in the value chain that go beyond the blanket strategy of 'formalisation' are considered in the following section.

57 Asia Floor Wage Alliance. (2024). Threaded Insecurity: The spectrum of informality in the garment sector. Retrieved from: AFWA website.

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7

Recommendations: Ways forward for decent work in Bangladesh's circular textiles value chain

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The following recommendations are grounded in five critical insights from the study:

1. Workers in Bangladesh's circular textiles value chain are largely not protected by existing national labour laws and protections. Formal enterprises offer relatively higher compensation and working conditions, but still face critical decent work deficits. In the semi- and informal economy, workers, especially women, form the lowest rung of the ladder.
2. Employment in the circular economy transcends the binary categories of formal versus informal employment. *Jhut* and workers who are engaged in collecting, sorting, transporting and harnessing the potential of *jhut* exist in both the formal and informal economy, and at times in between, reflecting that materials necessary for the circular transition also flow through formal and informal settings.
3. Scaling up circularity in the value chain may not automatically lead to advancements in decent work. At the same time, employment generation efforts and decent work progress risk being eroded if enterprises are not adequately supported and prepared to adapt to the growing demands of integrating circular strategies in the export market.
4. As such, while policy is an essential lever for advancing decent work, these recommendations also respond to the reality that labour protections in the textile sector in Bangladesh are often currently poorly implemented and weakly enforced.
5. The ability of employers and business owners to pursue decent work outcomes is constrained (to varying degrees) by prevailing market structures, which currently offer poor incentives, especially for SMEs, to improve conditions and cover these costs.

As a result, this section proposes multi-level interventions that combine policy and regulatory action with practical, context-responsive suggestions to support textile value chain workers across the formal-informal spectrum in a just transition. The recommendations from this study are summarised in Table six and elaborated further below.

Theme	Recommendation	Key action	Target stakeholders
Policy and governance	Inclusion of decent work in the upcoming *National Circular Economy Strategy for Textiles and Garments*	Embed decent work dimensions as a core objective, not an assumed outcome, of the circular economy policy. This could be accompained by skills and capacity development recommendations to support workers and employers to develop themselves as the industry develops in line with social and environmental sustainability objectives.	Ministry of Labour and Employment, Ministry of Industries, National Bureau of Revenue, Ministry of Textiles and Jute, Ministry of Commerce, and the Ministry of Environment, Forest and Climate Change
	Inclusion of informal textiles enterprises and workers in the *National Labour Act*	Expand to include legal protections for workers in the informal economy explicitly; recognise *jhut* workers as textile workers (sectoral approach). Formal employment contracts should be adapted and normalised for daily wage workers, home workers, and third-party or contractor workers. Introduce incentive-based registration of informal recycling units (such as, access to subsidised electricity or municipal trader lists) to create visibility and a pathway to gradual formalisation without immediate punitive measures. Develop simplified occupational safety and health guidelines for informal enterprises; train community-based inspectors; subsidise basic protective gear; and provide infrastructure upgrades like ventilation and sanitation. Pilot contributory micro-insurance and pension schemes for workers in informal employment, supported by government/donor matching contributions, with voluntary enrolment through cooperatives.	Ministry of Labour and Employment, Ministry of Industries, Ministry of Textiles and Jute, legal experts, and informal economy experts
	Support differentiated and realistic formalisation pathways.	Tailor formalisation efforts to specific roles across the *jhut* sector; priorities must reflect workers' needs. In parallel, acknowledge the de facto complexity of informality and respond with flexibility.	Ministry of Labour and Employment, Ministry of Textiles and Jute, DFIs, CSOs
	Strengthen legal and institutional support for unions and other forms of worker-led collective bargaining.	Protect rights to organise and bargain collectively for all textile sector workers, including those in informal employment.	Ministry of Labour and Employment, unions, CSOs, donors

	Strengthen Human Rights Due Diligence (HRDD) laws	Develop and enforce binding HRDD laws in states where lead firms are based (rooted in United Nations Guiding Principles on Business and Human Rights).	EU (and international) regulators, legal experts
	Safe urban, peri-urban and rural policy integration	Incorporate informal recycling hubs into urban development planning by designating safe zones and markets with basic infrastructure, rather than evicting them.	Municipal and local governments
	Ratify ILO conventions	Ratification of fundamental, governance, and technical ILO conventions to underscore the institutionalisation of decent work. Establish local task forces to remove children from hazardous *jhut* work and ensure appropriate rehabilitation.	Ministry of Labour and Employment
Brands and buyers	Commit to responsible recycled material sourcing	Extension of existing labour requirements (such as Codes of Conduct, supplier audits, due diligence mechanisms) to cover all sorting and recycling aspects of the value chain, including required parallel actions on traceability, feasibility, and structural barriers.	Brands, buyers, SMEs, SWITCH partners
	Extend Responsibility Across Waste Supply Chains	Ensure codes of conduct, audits, and due diligence explicitly cover textile waste sorting and recycling, including informal units.	Brands, retailers, buyers
	Align price-setting and purchasing practices with social commitments	Decent work ambitions must be reflected in commercial terms: base pricing must include minimum cost of statutory wages, paid leave and social security, and OHS compliance.	Brands, retailers, buyers
	Re-commit and realise living wages across supply chains	Start living wage implementation with formal suppliers and expand to workers in the informal economy via benchmarks and collective action.	Brands, unions, CSOs
	Support Innovation for Circularity	Facilitate incubators and innovation ecosystems to create low-cost, safer recycling machinery or higher-value recycled products for the informal sector.	Brands, CSOs
	Skill Training Integration	Include recycling and upcycling modules in RMG training centres, with access for workers in both formal and informal employment.	

Table six: *Summary of recommendations for a just transition in the circular textiles value chain.*

Policy and governance

The following recommendations primarily pertain to Bangladeshi government actors—including the Ministry of Labour and Employment, Ministry of Industries, Ministry of Commerce, Ministry of Textiles and Jute, and the Ministry of Environment, Forest and Climate Change—who have a mandate to develop and implement labour rights protections, circular economy strategies, and industrial policies.

To succeed, all interventions must embed **worker consultation and participation** in their revisions, design and implementation. This involves establishing collective spaces where workers, including those in the informal economy, can safely express their needs, assess risks, and provide feedback. These spaces are required to challenge cultures of fear, coercion, and retaliation; and identify and respond to both persistent and emerging risks across the value chain. Involving workers through such spaces can also help avoid formalisation strategies that create new burdens for workers, such as reduced job mobility, complex registration processes, or tax obligations that outweigh benefits. Organisations such as trade unions, cooperatives, worker associations (especially those focused on informal employment), and allied civil society groups should be at the forefront of these efforts.

Equally important for all these recommendations is a strong intersectional awareness. *Jhut* work—like other forms of waste labour—is shaped by intersecting hierarchies of gender, class, and migration status, and often carries deep social stigma. To enable a just circular transition, stakeholders must take active steps to challenge the invisibility of workers in the informal economy and ensure they are present, visible, and heard in policy dialogues, governance platforms, and sustainability initiatives at national and international levels.

1. **Build on earlier calls for a National Circular Economy Strategy for Textiles and Garments:[58] this centralised framework should explicitly incorporate decent work concerns and the inclusive integration of workers in the informal economy.**
    - Decent work must be explicitly embedded as a core objective, not an assumed outcome, of circular economy policy. This requires policy coherence through cross-ministerial alignment (between the Ministry of Labour and Employment, the Ministry of Industries, the Ministry of Textiles and Jute, the Ministry of Commerce, and the Ministry of Environment, Forest and Climate Change). Different ministries must align their objectives to break down the silos between environmental, economic, and labour policy, which act as a barrier to realising decent work across the circular textile value chain.
    - Within this national strategy, enforcement of basic workplace standards should extend to all workers in the circular textiles value chain, including informal *jhut* workers. While the 2023 amendments to the 2006 Labour Act introduced new obligations for *jhut* traders and recyclers—such as cleanliness requirements (Section 51), mitigation of harmful dust and fumes (Section 53), and protections for minors (Sections 34, 39, 41)—these are poorly implemented, particularly in informal settings where inspections are rare and enforcement mechanisms are weak.
    - Field work components of this research highlight a set of urgent decent work priorities that should be codified within circularity interventions and regulatory frameworks for informal *jhut* workers, such as:
    - Standardised working hours, such as eight-hour workdays with protected lunch and rest breaks;
        - More regulated and predictable wage payment systems through mobile-based payments;
        - One day off weekly and double pay for overtime;
        - Paid sick leave and better healthcare access;
        - Improved basic hygiene and safety provisions, such as water access and toilets.

2. **Push for legal recognition of informal *jhut* workers as part of the RMG supply chain.**
    - Given the protracted timelines involved in passing new legislation, advocacy should prioritise targeting existing policy processes. The most critical points of intervention highlighted by this study are the

58 Chatham House, Policy Exchange and Unido (2025). Policy Packages for Bangladesh's Circular Garment and Textile Transition. SWITCH2CE Value Chains. Retrieved from SWITCH2CE website.

National Labour Act. This study reinforces and builds on earlier calls for the Bangladesh Labour Act to be expanded to explicitly include protections for workers in the informal economy, including those working with textile waste. Legal recognition is a vital prerequisite for workers to access the most basic rights and protections.[59]

- Similarly, a sectoral approach to labour reform is recommended as a pragmatic strategy, given the existing scale, visibility, and policy attention afforded to the textile and RMG sectors. While workers in the circular textiles chain share many of the same vulnerabilities as those in other informal sectors, leveraging the prominence of textiles offers a more strategic and potentially impactful entry point for recognising and protecting informal labour.
- Groups of informal textile workers highlighted in this study that may be explicitly included are: *jhut* sorters and handlers in godowns and warehouses; SME-based factory workers producing from jhut inputs; and home-based workers, who are often invisible in both policy and market systems.
- Legal recognition and protection for workers can most clearly be established in the form of written contracts. Formal employment contracts should be adapted and normalised for daily wage workers, home workers, third-party and contractor workers.[60]

3. Support tailored and realistic formalisation pathways.

In line with ILO Recommendation 204 (Transition from the Informal to the Formal Economy) and SDG 8, formalisation is regarded as an instrumental and strategic way of addressing decent work (although not as an end in itself). Building on Chatham House and Policy Exchange's recommendation to formalise the waste sector in Bangladesh,[61] key principles and actionable steps to work towards developing contextually relevant formalisation processes include:

- Develop sector-specific ratios of formal to informal employment in collaboration with trade unions, employers, and government. Where informal hiring exceeds agreed thresholds, classify this as a labour rights risk requiring corrective measures.[62]
- Establish role-specific compliance benchmarks, recognising the diversity of informal roles across the *jhut* value chain. For example, small-scale aggregators, sorters, machine operators in SME factories, and home-based workers will require differentiated formalisation tools and protections. Lessons from Garbageman's piloting of traceability platforms as a tool for supporting ethical practices will provide important insights for promoting proportional social compliance in the textile value chain.
- Funding from financial bodies—notably DFIs—can better support workers in the informal economy and equitable employment transition pathways by recognising diverse needs and the variance in realistic pathways available.
- Conduct further studies such as this and impact assessments to understand the potential impact of formalisation strategies on livelihoods.

4. Strengthen legal protections and institutional support for unions and other forms of worker-led collective bargaining, for workers in both the informal and formal economy.

- Worker voice and collective bargaining are essential components of ensuring that any circular transition benefits workers. Unionisation is growing in the garment sector in Bangladesh, but yellow unions are common and representation in informal spaces is largely absent. Processes of collective bargaining must

59 Circle Economy. (2024). Circularity & Informality: Redefining Narratives. Ikea Social Entrepreneurship, UNDP Accelerator Labs, Ashoka and Circle Economy Foundation. Retrieved from: Ikea Website.

60 Asia Floor Wage Alliance. (2024). Threaded Insecurity: The spectrum of informality in the garment sector. Retrieved from: AFWA website.

61 Chatham House, Policy Exchange and Unido (2025). Policy Packages for Bangladesh's Circular Garment and Textile Transition. SWITCH2CE Value Chains. Retrieved from SWITCH2CE website.

62 Asia Floor Wage Alliance. (2024). Threaded Insecurity: The spectrum of informality in the garment sector. Retrieved from: AFWA website.

be worker-led to ensure legitimacy and effectiveness.[63]

- Policy frameworks, including the Labour Act, must explicitly protect the rights of all textile sector workers—including informal *jhut* workers, sorters, and home-based workers—to organise, unionise and participate in collective bargaining.
- In parallel, workers should be educated on the forms of collective bargaining and grievance mechanisms available to them. Funding should be provided (from DFIs and the government) to identify and enable the best-placed organisations for this crucial work.
- The decentralised and informal character of much circular textile work may better align with network approaches or non-union-based bargaining models: more research is needed on appropriate forms of organisation for informal *jhut* workers and how best to bring their voices into policy processes.

5. **Strengthen human rights due diligence (HRDD) laws in states where lead firms are based, and align national policy with ILO conventions to support effectiveness:[64]**

- States where brands and buyers are headquartered should continue to legislate binding HRDD obligations, moving beyond voluntary codes of conduct. The UN Guiding Principles (UNGPs) on business and human rights should serve as a cornerstone for this legislation, emphasising both the state's role in protecting human rights and businesses' responsibility to respect human rights. The Organisation for Economic Co-operation and Development's (OECD) Due Diligence Guidance for Responsible Supply Chains in the Garment and Footwear Sector provides a critical guiding framework for further developing due diligence within the industry.
- In parallel, Bangladesh should ratify outstanding fundamental, governance, and technical ILO conventions with particular relevance to the circular textiles value chain, including[65]:
  - C122 - Employment Policy Convention, 1964 (No. 122)
  - C095 - Protection of Wages Convention, 1949 (No. 95)
  - C102 - Social Security (Minimum Standards) Convention, 1952 (No. 102)
  - C130 - Medical Care and Sickness Benefits Convention, 1969 (No. 130)
  - C131 - Minimum Wage Fixing Convention, 1970 (No. 131)
  - C135 - Workers' Representatives Convention, 1971 (No. 135)
  - C154 - Collective Bargaining Convention, 1981 (No. 154)
  - C175 - Part-Time Work Convention, 1994 (No. 175)
  - C177 - Home Work Convention, 1996 (No. 177)
  - C189 - Domestic Workers Convention, 2011 (No. 189)

Three fundamental conventions were ratified at once in late 2025 by Bangladesh, alongside updates to the 2006 Labour Act: C155 - Occupational Safety and Health Convention, 1981 (No. 155); C187 - Promotional Framework for Occupational Safety and Health Convention, 2006 (No. 187); and C190 - Violence and Harassment Convention, 2019 (No. 190). This signals a promising shift, however, upcoming elections will also be crucial in determining the government's stance on labour movements in coming years.

63 Carré, F.; Tilly, C.; Bonner, C. (2014). International informal worker organizations: Transforming the world of unprotected work. LERA. 16. Retrieved from: WIEGO website.

64 Asia Floor Wage Alliance. (2024). Threaded Insecurity: The spectrum of informality in the garment sector. Retrieved from: AFWA website.

65 International Labour Organisation. (n.d.).Up-to-date Conventions and Protocols not ratified by Bangladesh. ILO. Retrieved from: Normlex website.

Brand and buyer practices

Bangladesh's textiles sector—and national economy—is heavily reliant on private sector development, leading to downward cost pressures for the industry to stay competitive, which in turn contributes to the weak enforcement of labour laws. This makes upward accountability a core principle of a just circular transition: the costs of ensuring better wages and working conditions must be borne proportionally by the more powerful actors in the value chain. For SME actors operating in the circular textile chain, often as suppliers for larger actors who frequently face thin margins, a lack of institutional support, and limited access to finance, this means that upstream buyers must be held responsible for supporting the conditions under which social compliance by their suppliers is possible. Without redistributing the costs of compliance and decent work, these actors remain structurally excluded from the benefits of circular value chains, and an uneven playing field is maintained between entities that meet or fall short of social standards. Significant work has been done on successful human rights due diligence from both the brand and buyer perspectives. The UNGPs and OECD Due Diligence Guidance for Responsible Supply Chains in the Garment and Footwear Sector should be more meaningfully reflected in brand and buyer practices.

1. **Commit to responsible recycled material sourcing:**
    - Buyers and brands pursuing recycled-content inputs as part of their sustainability strategies must extend their existing labour requirements (such as Codes of Conduct, supplier audits, due diligence mechanisms) to cover all sorting and recycling aspects of the value chain.
    - Given that *jhut* typically passes through multiple intermediary actors before being reprocessed, this requires coordinated action alongside initiatives for traceability and chain-of-custody, as well as discussions regarding the feasibility of certain suppliers to comply with standards and the corresponding support required.
    - Strategies that seek to utilise and trace recycled inputs within formal production, in the context of brands' sustainability initiatives or international and national policies, such as the pilot projects taking place under SWITCH2CE, present an opportunity to valorise these materials and, with them, the labour that keeps them in circulation.

2. **Align price-setting and purchasing practices with social commitments:**
    - Decent work ambitions must be reflected in commercial terms. Purchasing models should be revised to ensure that base pricing includes the minimum cost of statutory wages, paid leave and social security, and compliance with workplace health and safety standards.[66]
    - Brands should publicly commit to fair pricing mechanisms and longer-term supplier relationships to reduce the volatility and squeeze faced by SMEs engaged in circular activities.
    - Current pricing models pose a critical obstacle to both circularity and decent work. In the longer term, collective efforts must be made to acknowledge and combat the economic and institutional pressures that sustain informality. Collective efforts should bring together actors from across the value chain, civil society, research, and government to:
        - Surface systemic constraints—such as low margins, compressed timelines, and cost transfer to subcontractors—and the specific ways that they limit the ability of informal and SME actors to invest in safer, more secure employment.
        - Create a shared agenda for an inclusive circular transition, focusing on fairly distributing the costs of decent work, reducing labour precarity, and integrating the needs of workers in the informal economy into circularity efforts.

66 Asia Floor Wage Alliance. (2024). Threaded Insecurity: The spectrum of informality in the garment sector. Retrieved from: AFWA website.

3. **Re-commit to realising living wages across supply chains:**
    - Brands should support a phased rollout of living wages, starting with formal suppliers and gradually extending to informal or subcontracted workers through remediation plans, collective bargaining support, and contractor accountability mechanisms. Addressing current illegal subcontracting practices that obscure employment relationships is central to this process.
    - In parallel, coalitions of government, civil society organisations and SMEs should develop living wage benchmarks and pathways in the *jhut* sector. In the absence of formal wage structures in many parts of the *jhut* value chain, localised benchmarks—developed in consultation with workers and labour groups—can provide a basis for public support, fairer price-setting, and buyer due diligence. Over time, these should inform efforts to formalise pay structures, reduce wage gaps, and ensure income security across the circular economy.

Photo credit by Labour at the Informal Economy Society

Annexe A: Methodological considerations

This annexe has been developed to provide more detail on the research approach, including the design, development, and implementation of the methodology. It outlines the frameworks and tools used in more detail, alongside reflections on limitations and learnings that offer critical insights for researchers and organisations working on questions of employment and decent work in informal economies. It provides a basis for critical reflection and potential replication—not as a context-agnostic template, but as a situated example of approaching just transition questions in a dynamic context—offering guidance for research strategies in complex and data-scarce settings.

National baseline of circular economy employment methodology

The method used to produce the national baseline of circular economy jobs in Bangladesh provides a data-driven framework for measuring global employment in the circular economy. It uses the methodology developed by Circle Economy, the ILO and the World Bankto produce the first global baseline of circular economy employment in 2025 as part of Jobs in the Circular Economy with support from the Partnership for Action on Green Economy (PAGE) an interagency programme that brings together the expertise of five UN agencies: UNEP, UNDP, ILO, UNIDO and UNITAR.

Data approach

Designed to be truly global, the methodology relies on data with global coverage and aligns with the International Standard Industrial Classification of All Economic Activities (ISIC). It draws on several key sources of data to produce its results. This includes the following data sources:

- Employment data at ISIC 2-digit for 2023, sourced from ILOSTAT.
- Input-output tables sourced from EORA are aligned to the same year as the employment data.
- Technical cycling taken from the Circularity Gap Report (CGR®) 2025. Technical cycling rate refers to the share of secondary materials, including technical biomass—both recycled and downcycled—in total processed materials.

Defining the circular economy and circular economy employment

Different frameworks have been developed by various research organisations and academics to categorise and provide greater detail on the activities and strategies that are deemed part of the circular economy. This methodology builds closely on existing efforts to define circular economy jobs and classify and measure employment-related circular activities, which were reviewed extensively and their producers engaged across the development of this first baseline. In developing this methodology, the authors reviewed all current approaches to measuring circular economy jobs (Circle Economy, ILO & World Bank, 2024)[67] and have made efforts to align closely with existing circular economy employment classifications, namely classifications and methodologies produced by Circle Economy and UNEP (2021),[68] ADEME (2024),[69] and Eurostat.[70] The latter is also currently providing the basis for understanding jobs in circular economy sectors as part of the development of guidelines for measuring the circular economy by the UNECE.

The methodology employs a building block approach, informed by an international advisory board that advises on the methods and sectoral inclusions. The building block approach is intended as a practical approach to support the widespread application across many countries. As a result, countries and institutions can choose to focus on certain sectors to estimate circular economy jobs within, or to build on and improve the estimates in line with their own needs. This approach also focuses on direct circular economy employment, not on induced or supply chain (indirect) effects.

67 Circle Economy. (2024). Measuring and Modelling Circular Jobs. Circle Economy, ILO, Solutions for Youth Employment and PAGE. Retrieved from: Circle Economy.

68 Circle Economy. (2021). The Circular Jobs Methodology. Circle Economy, UNEP. Retrieved from: Circle Economy.

69 Ministères Territoires Écologie Logement. (2024).Quantification de l'emploi dans l'économie circulaire. Retrieved from: SDES website.

70 Eurostat. (n.d.). Circular Economy Monitoring Framework. European Union. Retrieved from: Eurostat website.

The building block methodology that has been developed considers a select group of ISIC sectors as either fully circular or partially circular:

- **Fully circular sectors:** This denotes sectors in which all jobs are considered to contribute directly to the circular economy by virtue of occupational functions in this sector, and are not determined through the biological, material or economic circularity of the sector itself. All employment in these sectors is considered circular. These are sectors that contribute to the generation of circular products and services, which include repair and maintenance activities, remediation activities and other waste management services (excluding landfill and incineration), wholesale of waste and scrap and other products, renting and leasing activities, sewerage, waste collection, retail sale of second-hand goods, material recovery and a sub-sector of public transport: urban and suburban passenger land transport (ISIC H4921), hereafter, urban transit, are referred to as 'fully circular sectors'. The partial inclusion of urban transit is based on the principle of shared access and the R framework's 'reduce'. Studies that suggest the use of urban public transport contributes to reduced car ownership and the necessity-driven nature of the circular economy in many parts of the world, which finds cost and poverty are often drivers of engaging in R-strategies and therefore important to consider within frameworks intended to inform policy internationally.[71] [72]
- Partially circular sectors: These are material-intensive sectors where circular activities can be found, including mining, manufacturing, and construction. To account for ISIC four-digit employment data not disaggregating circular activities for these sectors, circularity within these sectors is estimated by modelling approaches. These approaches estimate the extent to which partially circular economy sectors contribute to material circularity (proxied by estimating the percentage of secondary inputs over total inputs into the sector) and economic circularity (proxied by the sector's contribution to the material recovery sector through domestic sales and exports).
    - For construction, manufacturing and mining, an average of the economic and material circularity is applied to determine the final estimate for circularity in this sector.

The analysis integrates estimates of the contribution of the informal economy to global circularity from ILOSTAT. In countries with employment data disaggregated by status (formal/informal), circular economy employment in each sector is apportioned using the sector's informal employment share, allowing us to estimate the number of informal circular economy jobs within that sector.

For more details on the methodology, please refer to the Technical Annexe.

Limitations

In utilising existing statistical classifications (ISIC) and datasets with more global coverage, this methodology also inherits their limitations. Four pertinent data limitations can be noted:

- The methodology is applied at the highest resolution of **employment data** available for a given country. Due to the global scope of ILOSTAT, there are some inconsistencies in coverage, including by year, sex-disaggregated data and level of sectoral granularity. To overcome data gaps, older employment data, aggregated ISIC sections and country income-group averages, including for gender shares, have been used as needed. Country income group averages have also been used to impute detailed ISIC 4-digit data from the aggregated ISIC categories.
- An increasing number of countries are collecting data on employment in the **informal economy.** However, for many countries, questions remain about definitions and classifications, which data and indicators to produce and how to use them. The estimates derived for a specific region or sector should

71 Okraszewska, R., Romanowska, A., Laetsch, D. C., Gobis, A., Reisch, L. A., Kamphuis, C. B. M., Lakerveld, J., Krajewski, P., Banik, A., Braver, N. R. D., Forberger, S., Brenner, H., & Żukowska, J. (2024). Interventions Reducing Car Usage: Systematic Review and Meta-analysis. Transportation Research. Part D: Transport & Environment, 131, Article 104217. 10.1016/j.trd.2024.104217.

72 Korsunova, A, Halme, M, Kourula, A, Levänen, J & Lima-Toivanen, M 2022, 'Necessity-driven circular economy in low-income contexts: How informal sector practices retain value for circularity', Global Environmental Change: Human and Policy Dimensions. 76, 102573. 10.1016/j.gloenvcha.2022.102573.

be interpreted as an indicative rather than a comprehensive measure of informal economic activity, as reflected through standardised survey methodologies.

- The methodology draws on MRIO databases (Eora and Eora26), which provide valuable insights into global trade, economic flows, and environmental impacts. Like all IOTs, these databases rely on official national accounts, which often exclude or under-represent informal economic activity. They also aggregate sectors, which can obscure important differences within broad industries. The assumptions of homogeneous sectoral outputs and standardised input structures may oversimplify the complexity of diverse production systems. These considerations are important to keep in mind when interpreting results for partially circular sectors which use MRIO-derived coefficients.
- In light of the diverse nature of activities in the manufacturing sector, it has been categorised as a partially circular sector. However, a fraction of employment in this sector (that is, ISIC C331-Repair of fabricated metal products, machinery and equipment) is fully circular. Nevertheless, this categorisation does not impact the overall number or presentation of results for the manufacturing sector. Unless mentioned otherwise, jobs in the manufacturing sector include repair jobs in C331.

Many of these limitations demonstrate that current statistical systems are designed to capture linear activities, rather than circular ones, thereby limiting the inclusion of activities and actors vital for driving the circular economy. The results in this report should be interpreted within the context of their data availability limitations and should be broadly considered as an underestimation of global circular economy employment. For further discussion of the limitations and assumptions of the methodology, please refer to the Technical Annexe.

Levels of analysis, impact categories and data collection tools

In developing the replicable methodology framework for studying employment dynamics under the SWITCH2CE study, it was considered that a three-tier approach to data collection would generate the most meaningful and comprehensive insights:

- Level one: National baseline of employment in the value chain: formal and informal labour distribution in various stages of the value chain, including disaggregation by gender, utilising the methodology for measuring employment in the circular economy recently developed by Circle Economy, the ILO and the World Bank-IFC, under Jobs in the Circular Economy Initiative with support from PAGE, an interagency programme that brings together the expertise of five UN agencies: UNEP, UNDP, ILO, UNIDO and UNITAR.[73]
- Level two: Deep-dive assessment of circular economy employment in select stages of the value chain: a deep-dive into the select stages of the value chain most relevant to circularity. In Bangladesh, the key stages for circular textiles activities are: manufacturing; waste collection and sorting; and recycling.
- Level three: Firm-level: employment potential and requirement of circular solutions being demonstrated through SWITCH2CE pilot projects.

Alongside these levels of analysis, four impact categories were used to guide the qualitative and quantitative data collection to yield meaningful insights on inclusive employment:

1. **Employment quantity and range:** formal/informal distribution, and disaggregates by demographic factors where possible.
2. **Fair wages and economic security:** assess whether workers receive fair, timely compensation that enables their financial stability and security.
3. **Health, safety and well-being:** Physical indicators of workplace health and safety, as well as workers' physical and psychological health and well-being as related to employment.
4. **Rights and representation:** workers' autonomy, voice, and participation; effectuality of organised structures, including unions.

73 Circle Economy, ILO and World Bank Group (2025). Employment in the Circular Economy: Leveraging Circularity to Create Decent Work. Retrieved from Circle Economy.

A mixed-methods approach was chosen, using both quantitative and qualitative methods to support triangulation and enrich the analysis. Data collection took place from February to June 2025.

- The survey attempted to cover a random sample of (predominantly) workers across the three identified value chain stages. A total of 300 respondents were surveyed (125 female and 175 male). The majority of these respondents were working in informal settings (239), 50 were formal and 11 semi-formal (the meaning and significance of these distinctions will be elaborated in the findings section). The survey locations included textile clusters in Bogura, Gaibandha, Gazipur, Keraniganj, Mirpur, Narayanganj, Saidpur, and Savar.
- Three FGDs took place online in Bangla, each focused on a different VC stage (manufacturing, waste collection and sorting, and recycling). The sessions were facilitated by the BUTEX-Reed consultancy team, with participants primarily owners and managers from both informal and formal contexts. Discussions centred on the impact of policy, market trends and other contextual developments on employment from business owners' perspectives.
- KIIs (carried out online in English by the Circle Economy team) primarily captured the perspective of unions, workers' rights, and advocacy organisations. Many of these organisations primarily focus on advocacy in the formal RMG sector, given extensive institutional obstacles and limited resources, which make strategic focus necessary. Insights from here offer valuable learnings and potential leverage points for creating synergies between long-established decent work advocacy and the emerging attention to informal circular economy employment spaces in Bangladesh.
- Firm-level workshops (carried out online in English by the Circle Economy team) captured perspectives and learnings from SWITCH pilot partners to sense-check preliminary findings, identify gaps, and elaborate conclusions.

Rapid assessment tool: Pilot methodology for understanding an informal economy

Understanding informal employment, particularly in complex and under-researched value chains like the *jhut*-based circular textile sector in Bangladesh, presents significant methodological challenges. At the same time, researchers may unintentionally misrepresent or pathologise informality, or fail to account for broader socio-political and economic contexts in which informal labour operates. Conventional data collection tools often fail to capture the realities of informal economies, and collecting data on marginalised and vulnerable workers comes with a plethora of ethical obstacles. The significant distance (geographic and epistemic) between labour market researchers, research organisations, and the realities of informal employment can produce oversimplified solutionist or technocratic interventions. Taking account of these risks and limitations, an additional layer was added to the methodology to attempt to capture more grounded insights into informal labour.

In response to these challenges, an Informality Rapid Assessment Tool was developed and piloted in collaboration with Labour at Informal Economy Society to generate timely, grounded insights into informal employment, workforce size, and working conditions in Bangladesh's *jhut* sector. This approach aimed to provide a flexible methodology that can theoretically be adapted and replicated to other sectoral and national contexts to elicit high-level qualitative insights on informal employment. This section provides reflections on the process and some challenges encountered. Central to the successful development and piloting of this rapid assessment tool methodology was a trusted local partner with pre-established connections to communities of informal employment. Labour at Informal Economy Society is a membership-based organisation representing nearly 3,000 workers in the informal economy in Bangladesh, including street vendors, waste pickers, home-based workers, and agricultural workers. Established in 2011 and affiliated with the Bangladesh Free Trade Union Congress (BFTUC), Labour at Informal Economy Society works to promote decent living and working conditions for workers in the informal economy through organising, advocacy, and policy engagement. It is also connected to global networks as a national affiliate of StreetNet International, an institutional member of WIEGO, and a member of HomeNet South Asia. This is an example of the type of actor well placed to implement versions of this rapid assessment tool: the main prerequisite is close and long-term connections with workers in the informal economy. Community-rooted organisations are better positioned to facili-

tate honest dialogue, ensure ethical engagement, and interpret local dynamics with sensitivity to risk and power. By contrast, government and business actors—while important for policy reform and structural change—often lack the trust, access, and contextual understanding needed to gather reliable data from workers in the informal economy. Their involvement may also be more likely to be perceived as extractive, coercive, or aligned with formalisation agendas that threaten livelihoods, discouraging open participation (a problem encountered even during piloting with an organisation that had a pre-established network in place).

The rapid assessment tool was developed and implemented in three key stages:

1. **Mapping:** LIE conducted a preliminary mapping exercise to identify major hotspots of informal *jhut* activity across selected urban and peri-urban locations. This step defined the scope and geographical focus of subsequent data collection.
2. **Development of the key informant interview (KII) tool and key informant selection:** A KII tool was designed to harness the knowledge of individuals closely involved in *jhut*-related work, to produce reliable, experience-based estimates about workforce size and employment dynamics. Informants included community leaders, *jhut* shop owners, market committee members, trade unions, and experienced workers in the sector (aged between 30 and 45).
3. **Implementation of rapid assessment (KII tool) in combination with ethnographic methods:** in each target location, multiple in-depth interviews were conducted with diverse stakeholders (workers, shop owners, waste handlers, traders). This was complemented by direct ethnographic observation, enabling the team to:
    - Observe work environments, tools used, and types of waste handled
    - Sense-check estimated workforce numbers and demographics (gender, age)
    - Document visible working conditions

Key learnings for future research:

- **Value of embedded relationships:** The success of the pilot hinged on Labour at Informal Economy's long-standing relationships with communities where informal employment was happening, which enabled trust-building and data reliability. At the same time, there were some areas without pre-existing volunteers from the Labour in Informal Economy Society network, resulting in limited access to individuals for KIIs in these areas.
- **Time constraints:** The scope of work demanded more time than was available (approximately six weeks). Future efforts should budget for a longer timeline, particularly for verification, methodological refinement, and triangulation.
- **Contextual challenges:** Fieldwork was affected by external disruptions beyond the control of the research team. They are shared here to demonstrate the need for flexibility and adaptability, as well as to highlight critical contextual features of *jhut* economies. Challenges included flooding in Chattogram and Saidpur, weekly factory closures, political instability, and the Indian border closure, which led to some factory closures.

This pilot illustrates the importance of community-led, flexible methodologies in understanding informal employment in circular and non-circular economy sectors. While not without limitations, the rapid assessment tool offers a scalable foundation for future research, especially when implemented by trusted actors embedded in communities to which workers in the informal economy belong.

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CIRCLE ECONOMY

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