Securing **Green** Transition of the

TEXTILE & READYMADE GARMENTS SECTOR IN BANGLADESH

Presented by

Muntaseer Kamal

Research Fellow
Centre for Policy Dialogue (CPD)

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STUDY TEAM & ACKNOWLEDGEMENT

❑ The Study Team includes

> *Dr Fahmida Khatun*, Executive Director, CPD
> *Mr Muntaseer Kamal*, Research Fellow, CPD
> *Mr Foqoruddin Al Kabir*, Research Associate, CPD
> *Ms Nadia Nawrin*, Research Associate, CPD
> *Mr Mohammad Syful Hoque*, Visiting Fellow, CPD

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❑Context

❑Sources of data and methodology

❑Analytical framework

❑General information of factories and workers

❑Green measures undertaken by factories

❑Social aspects of greening factories

❑Barriers for greening factories

❑Recommendations

CONTEXT

❑ **Green economic transition** is **crucial** for **sustainable economic growth**

  ➢ Following the Paris Climate Agreement in 2015, there is increasingly higher demand for environment and climate friendly production and consumption

❑ **Export-led growth** model is **critical** for Bangladesh's sustained economic growth

  ➢ In FY2022-23, the RMG sector alone generated USD 46.99 billion, accounting for 84.58% of the country's total foreign exchange earnings and 10.35% of its GDP

  ➢ Major export destinations for Bangladesh's RMG include the European Union (EU) countries and the United States, with 50.07% and 18.12% of total RMG exports, respectively

❑ **Bangladesh** is transitioning to **green manufacturing but lacks an integrated green industry** transition policy

❑ Textile and RMG industry has the potential to reduce greenhouse gas emissions

❑ **Adoption of green practices** is **limited to frontier firms**, and many small and medium-sized enterprises are not equipped to adapt

❑ Policy frameworks for greening the textile and RMG sectors are necessary for an inclusive and just transition

OBJECTIVES OF THE STUDY

❑ In this context, the study aims to **examine** the **state of ongoing initiatives** in the textiles and RMG sector of Bangladesh **based on evidence collected from primary sources.**

❑ The **specific objectives** of the study are:

➢ To build a nationwide firm-level evidence on the **state of green practices** in the textile and RMG sector

➢ To collect evidence on the **type of barriers to** and **drivers of green transformation** in the textile and RMG factories and **investigate if these are symmetric** across all sizes of factories

➢ To explore **factories' knowledge, interest, and capacity** in adopting green transition initiatives

➢ To **understand workers' awareness and perception on benefits of green practices**

❑ **The core objective of the study is to make recommendations towards securing green transition of the textile and RMG sector in Bangladesh**

SOURCES OF DATA AND METHODOLOGY

This study employed a mixed-methods approach, combining quantitative and qualitative tools and techniques

1. Primary data collection

❑ A survey was conducted among owners, managers, workers, and supervisors of **403 factories** in the textile and RMG sectors **between Jun 2022 and Nov 2022**

 ➢ **RMG:182 factories; Textile: 221 factories**

❑ The sample selection was carried out using the Simple Random Sampling (SRS) method

❑ These factories were categorised according to the Survey of Manufacturing Industries (SMI) 2019 classification by the Bangladesh Bureau of Statistics (BBS)

 ➢ **Micro factories: 10-24 employees, small and medium factories: 25-249 employees, large factories: >=250 employees**

Survey Coverage
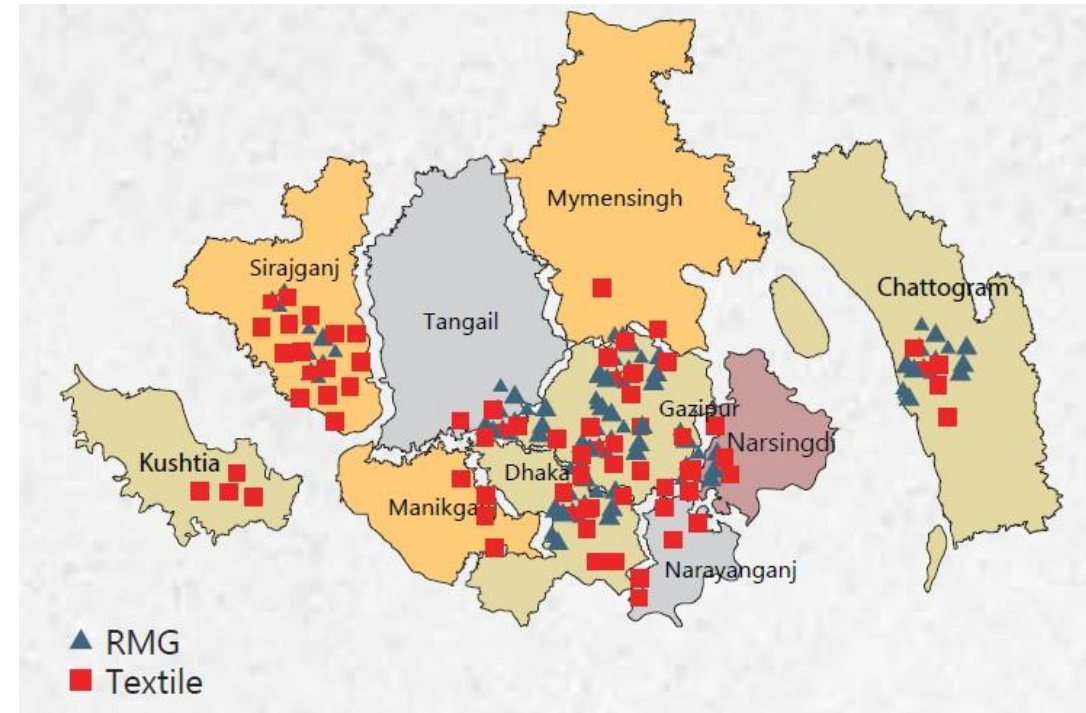
2. Key Informant Interviews (KIIs)

❑ **120 semi-structured KIIs** were conducted with factory owners and top managers to gather valuable information and insights from key stakeholders within the sector

❑ **Additional 6 KIIs were held with industry insiders, including owners, managers, sustainability officers, and green certification consultants**, to gain a deeper understanding of the barriers and challenges associated with the green transition

❑ **4 KIIs were conducted with brands and buyers** to uncover their motivations and initiatives regarding sustainability

3. Focus Group Discussions (FGDs)

❑ **7 different FGDs** were organised by the study team in Dhaka and Chattogram

➢ These discussions involved stakeholders such as factory owners, senior managers, sustainability managers, environmental officers, factory workers and supervisors, and industry experts

4. Expert Group Meetings (EGMs)

❑ 2 EGMs were held with owners and officials from textile and RMG factories, as well as representatives from brands to validate the study's findings and receive feedback from key stakeholders

ANALYTICAL FRAMEWORK

Two central concepts are used in the parlance of green industrialisation

❑ *Greening of industries* imply the commitment of industries to reduce environmental impacts of their production processes and products

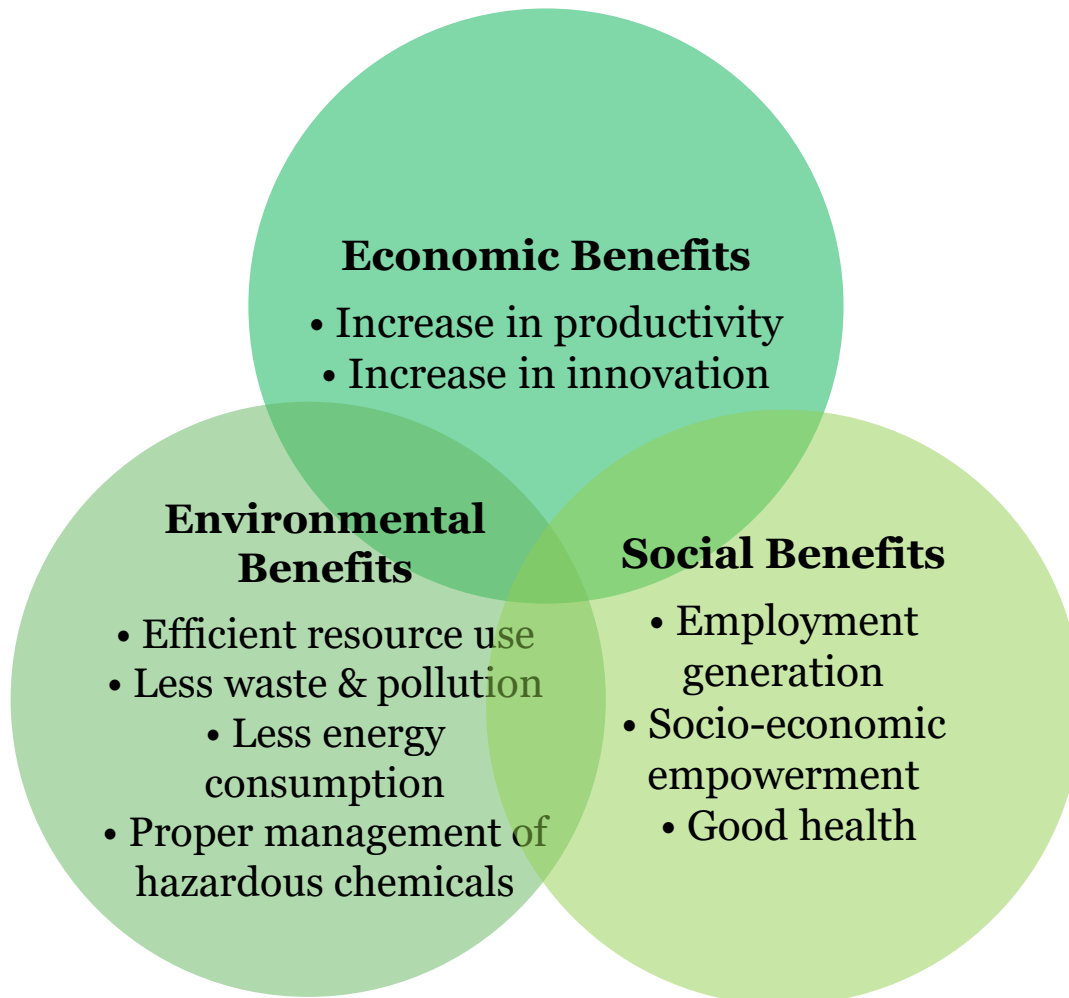 ➢ This is done through resource efficiency, environmentally sound management of chemicals, waste management, replacing fossil fuels by renewable energy and eco-design of products

❑ *Green industries* are those which are basically industries in the environmental goods and services sector

  ➢ These industries manufacture clean technologies to achieve environmental objectives
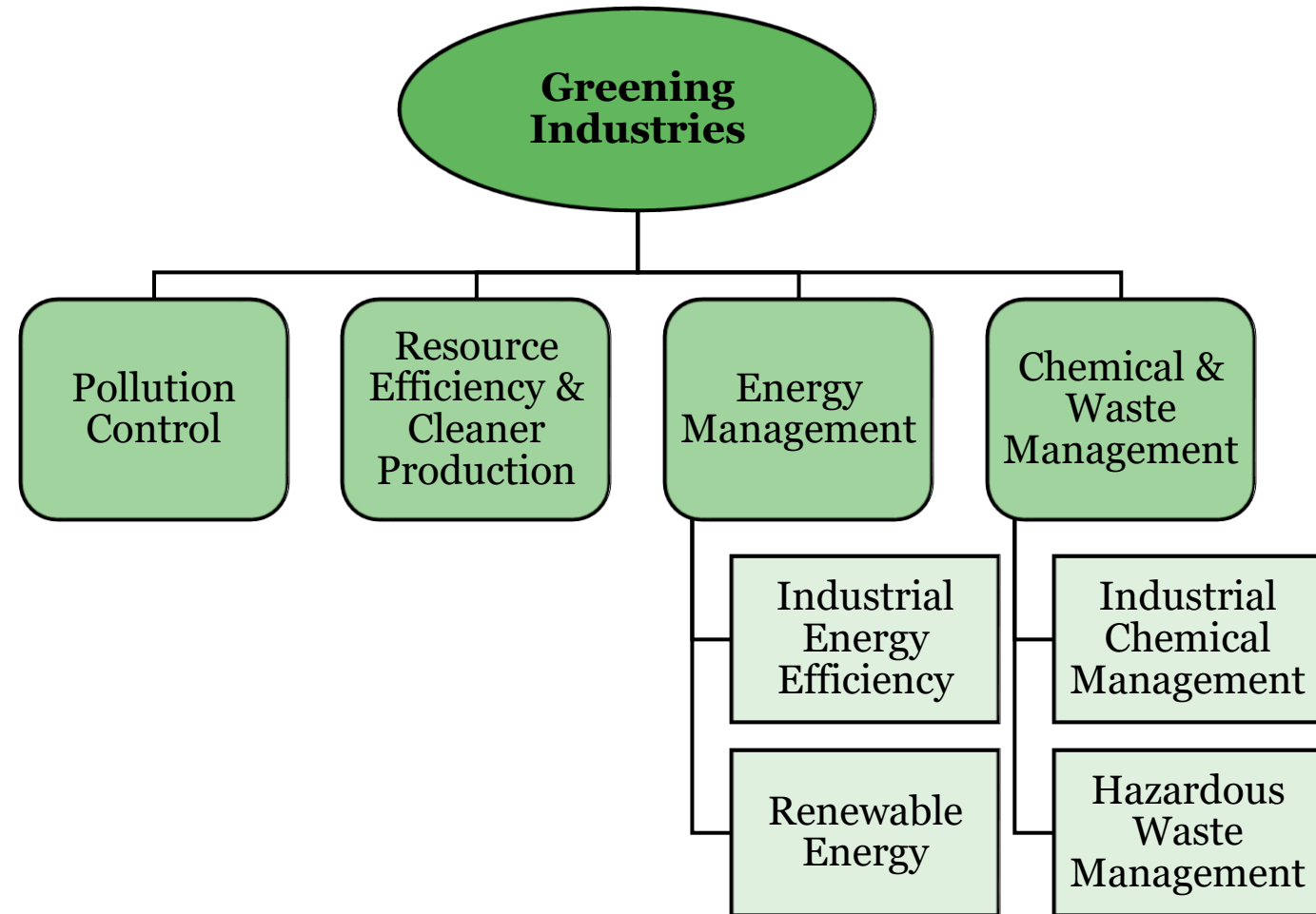
> *The current study focuses on greening the industry*

Holistic View of Greening Industries

Economic Benefits
- Increase in productivity
- Increase in innovation

Environmental Benefits
- Efficient resource use
- Less waste & pollution
- Less energy consumption
- Proper management of hazardous chemicals

Social Benefits
- Employment generation
- Socio-economic empowerment
- Good health
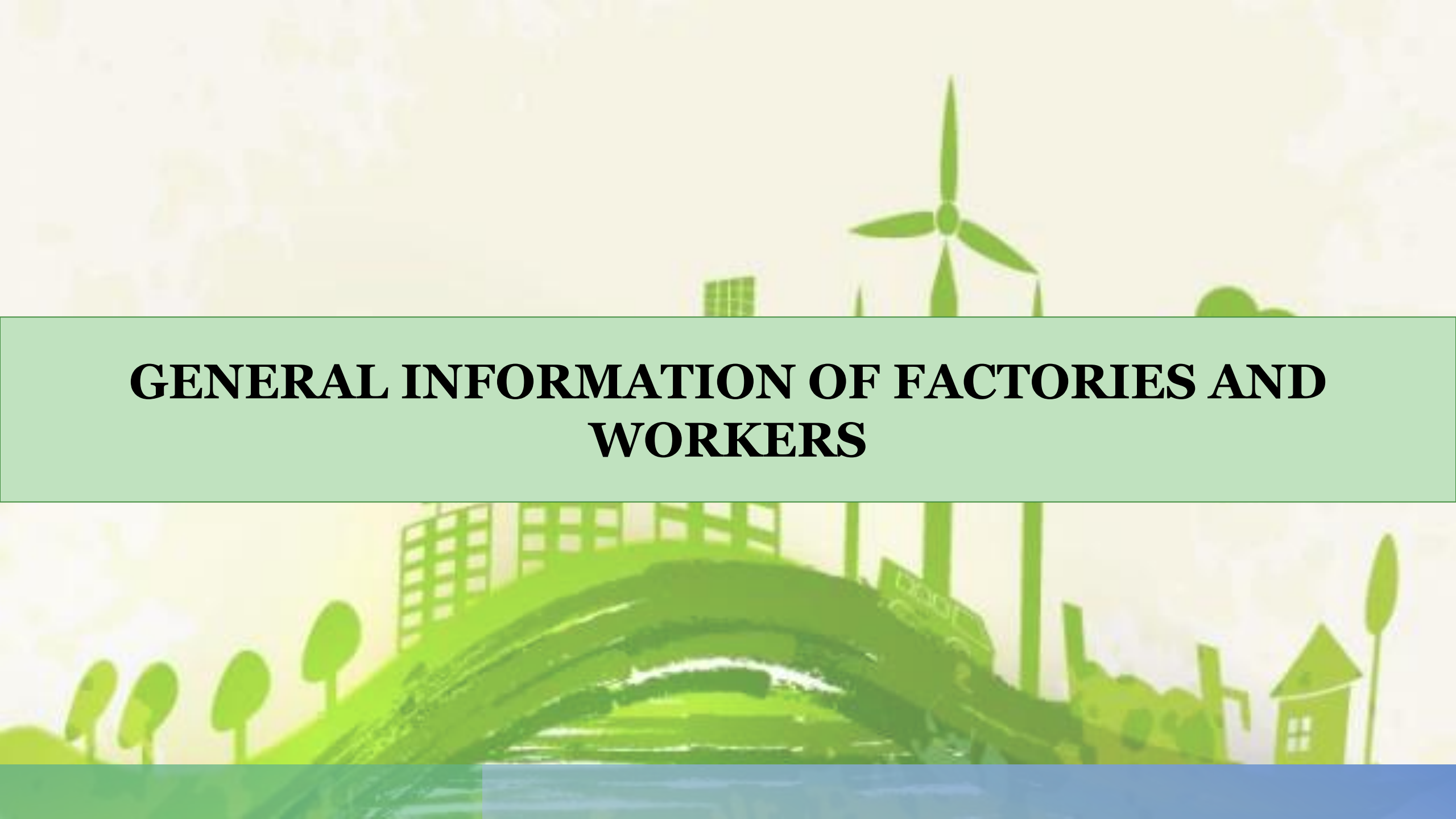
Source: Author's illustration.

Pathways of Greening of Industries

Greening Industries

- Pollution Control
- Resource Efficiency & Cleaner Production
- Energy Management
  - Industrial Energy Efficiency
  - Renewable Energy
- Chemical & Waste Management
  - Industrial Chemical Management
  - Hazardous Waste Management

Source: Adapted from UNIDO (2011) and Luken & Clarence-Smith (2019).

GENERAL INFORMATION OF FACTORIES AND WORKERS

☐ Factory size distribution

➢ *Large Factories:* Approximately 20.60% of the surveyed factories fall into this category

➢ *Small and Medium Factories:* 21.09% of the surveyed factories fall into this category

➢ *Micro Factories:* A significant portion, accounting for 58.31% of the surveyed factories, falls into the micro category
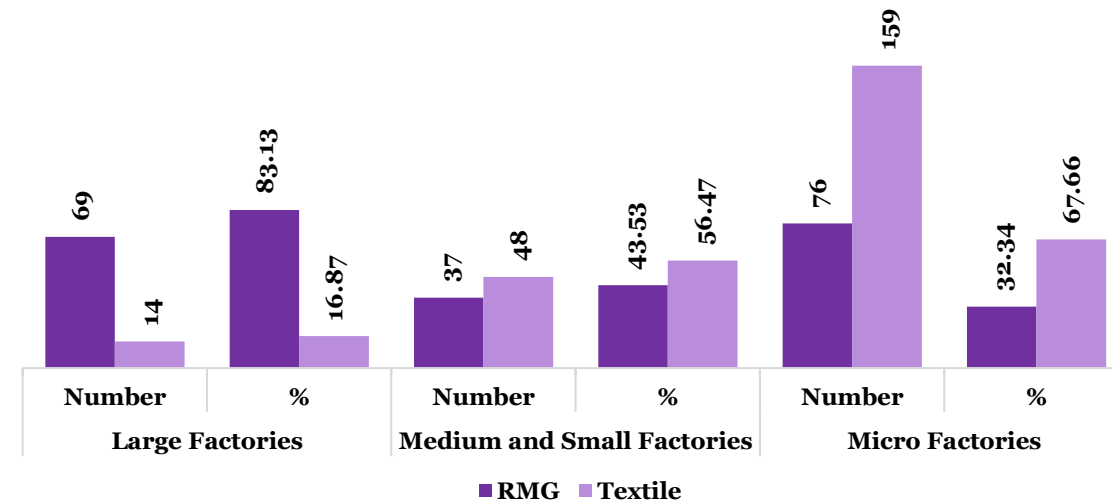
Distribution of Total Factories by Size
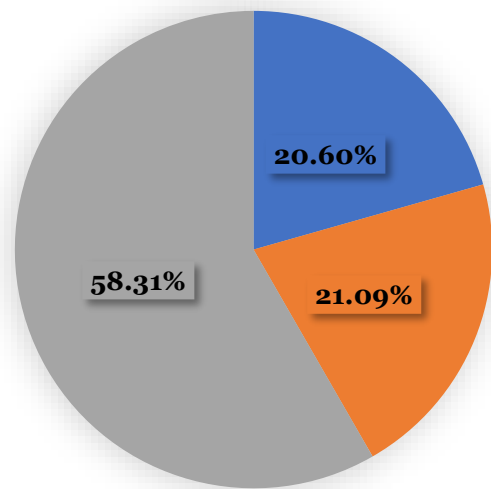
Distribution of Factories by Textile and RMG Industries

Source: Calculated from the CPD-GTS survey data.

Source: Calculated from the CPD-GTS survey data.

❑ Tier-wise Distribution in RMG Factories (Tier classification was followed from ILO working paper 38, authored by Khan & Wichterich, 2015).

➢ Tier 1 RMG Factories: These factories make up 7.69% of the RMG factories in the survey (located in EPZs, large, with direct foreign buyer relations)

➢ Tier 2 RMG Factories: A substantial portion, 30.22% of the surveyed RMG factories, falls under tier 2 (located outside EPZs, large and medium, with direct foreign buyer relations)

➢ Tier 3 RMG Factories: The majority, comprising 62.09% of the RMG factories, falls into tier 3 (located outside EPZs, varying in size, no direct foreign buyer relations)

❑ A total of 4,541 workers and supervisors were interviewed from the textile and RMG sectors. Of the RMG large factories' respondents, 58.88% were female and 41.12% were male

❑ The highest number of workers (1178 workers which is 25.94% of total workers) were aged between 21-25 years. The second highest number of workers (1063 workers which is 23.41% of total workers) are from age group 26-30 years

Distribution of Respondents by Size and Gender

Category		RMG		Textile	
		Female	Male	Female	Male
Large Factories	n	796	556	75	202
	%	58.88	41.12	27.08	72.92
Small and Medium Factories	n	101	430	78	492
	%	19.02	80.98	13.68	86.32
Micro Factories	n	116	566	63	1066
	%	17.01	82.99	5.58	94.42

Source: Calculated from the CPD-GTS survey data.
Note: Numbers in parentheses imply percentages.

Age Group Distribution of the Workers
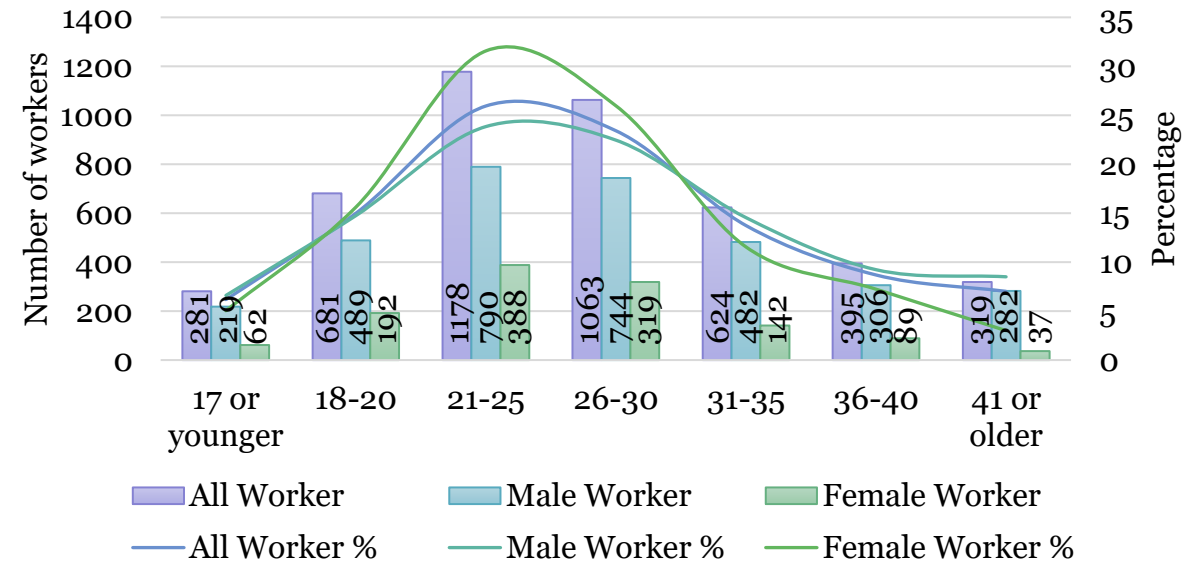
Source: Calculated from the CPD-GTS survey data.

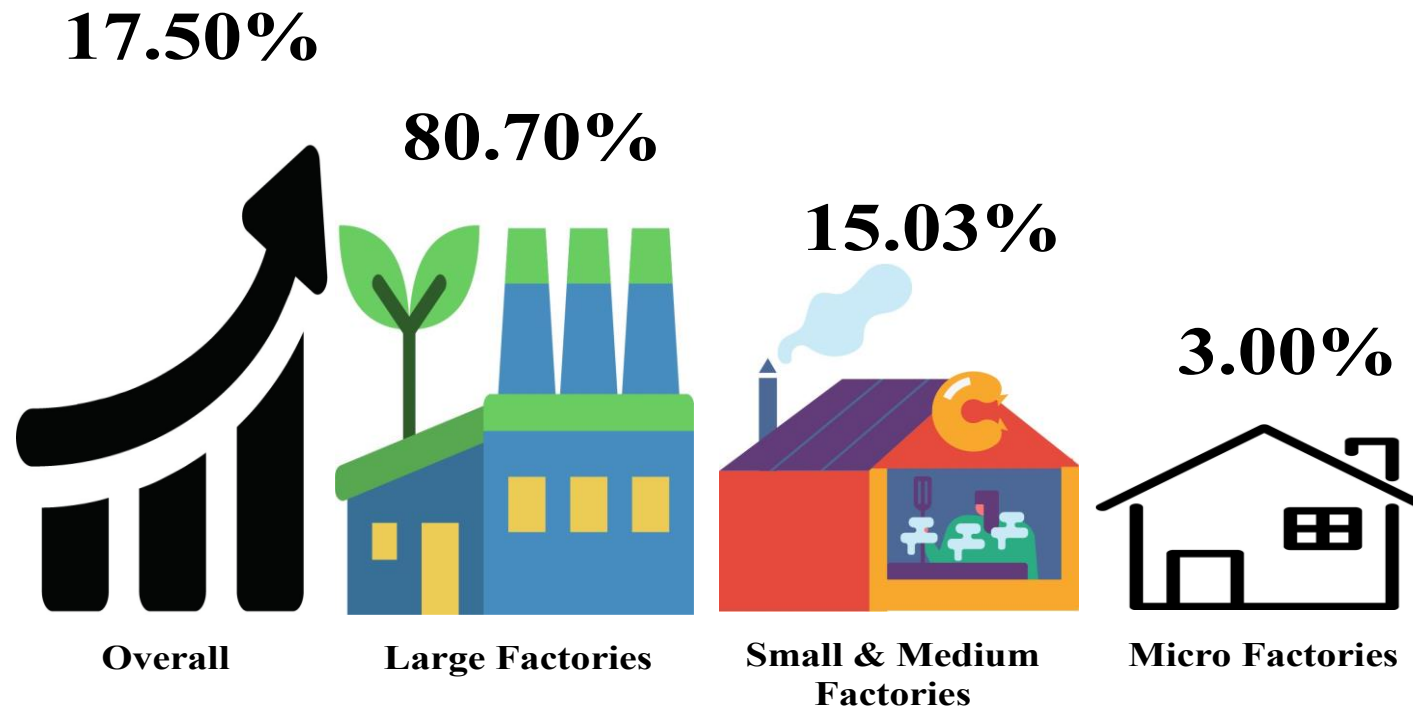## ❑Awareness of Green Certification

➢ Large factories are more likely to be aware of Green certification than smaller factories

Factories' Knowledge about Green Certification

17.50%

80.70%

15.03%

3.00%

Overall   Large Factories   Small & Medium Factories   Micro Factories

Source: Calculated from the CPD-GTS survey data.

❑**Awareness of Green Practices among Workers**

➤ Workers in large factories are more aware of green practices than smaller factories

Workers' Knowledge on Green Practices in Factories

% of workers who know about green practices or environmentally friendly practices in the factory	Large	Small and Medium	Micro	Total
	99.26	78.02	79.57	86.26

Source: Calculated from the CPD-GTS survey data.

➤ The main perceptions of workers for green practices in factories are that it **reduces health hazards** and **improves workers' productivity**

Workers' and Supervisors' Perception on Types of Benefits of Green Practices

Types of Benefits of Green Practices	Large	Small and Medium	Micro
Reduces Health Hazards	96.86	81.54	84.48
Reduces Health/Medical Cost	89.58	65.20	63.13
Improves Workers' Productivity	95.07	76.33	75.71
Improves Factory's Productivity	84.16	64.59	63.87
Increases Factory Profit	34.09	33.80	15.95
Others	0.12	0.60	0.74
Don't know	0.86	1.71	2.09

Source: Calculated from the CPD-GTS survey data.

What motivates factories to attain green certification?

➤ Factors motivating factories to obtain Green certification include self-motivation, market-driven factors (buyer requirements), and a desire for competitiveness

➤ Government regulations related to environmental standards have a relatively weaker influence

Motivations for having Green Certificate

Reasons	Factories with Green certificate		Factories that do not have Green certificate but want to obtain the in the future	
	Frequency	% of Cases	Frequency	% of Cases
Self-Motivation	21	80.77	27	61.36
Buyer's Requirement	19	73.08	16	36.36
Sustainability Practice	18	69.23	17	38.64
To Become More Competitive	18	69.23	17	38.64
Marketing Strategy	17	65.38	23	52.27
Buyer's Influence	10	38.46	17	38.64
Government Environmental Regulations	7	26.92	10	22.73
Following Other Factory Examples	1	3.85	2	4.55
Others	-	-	4	9.09

Source: Calculated from the CPD-GTS survey data.

GREEN MEASURES UNDERTAKEN BY FACTORIES

WHERE ARE THE FACTORIES INVESTING?

❑ The study also identified several **significant sustainability areas**, such as energy, water, air, and chemical and waste management, **where firms are investing** in upgrading the technology for sustainable and green practices

Green Investment of Firms in Various Sustainable Practices

Energy
- Energy Conservation Technology
- Renewable Energy Technology
- Building Level Energy Meter

Water
- Building Level Water Meter

Air
- Air Pollution Control Technology
- Dust Pollution Control Technology

Chemical and Waste Management Technology
- Solid Waste Management
- Wastewater Management

Source: Authors' illustration based on CPD-GTS survey data.

❑ Large factories are doing better in terms of taking green related measures

❑ Along with Green certified factories, other factories are also taking various green related measures

Green Related Measures Taken by Factories

Have any Facility/technology /machinery/equipment related to:		Large Factories				Medium and Small	Micro	Total
		Total	Green Certified Factories	Applied for Certification	Other Factories			
Energy								
Energy Efficiency by Reduction of Energy Use	%	95.18	96.15	100.00	93.18	48.24	40.43	53.35
Renewable energy	%	51.81	80.77	30.77	40.91	16.47	5.53	17.37
Building Level Energy Meter	%	46.99	80.77	38.46	29.55	3.53	0.00	10.42
Water								
Building Level Water Meter	%	72.29	92.31	69.23	61.36	2.35	0.43	15.63
Air Pollution								
Air Pollution	%	66.27	68.38	46.15	72.73	22.35	8.09	23.08
Dust Pollution Control	%	68.67	73.08	53.85	70.45	24.71	7.23	23.57
Chemical and Waste Management								
Solid and Hazardous Waste and Recycling System	%	25.30	42.31	7.69	20.45	5.88	2.13	7.69
Management of Wastewater Treatment	%	48.19	69.23	38.46	38.64	3.53	1.70	11.69
Reduce Chemical Use	%	21.69	26.92	23.08	18.18	0.00	0.00	4.47
Reuse Any Resource/Reduce Waste	%	21.69	30.77	0.00	22.73	8.24	2.13	7.44

Source: Calculated from the CPD-GTS survey data.

ELECTRICITY USAGE PATTERN

❑ Small and medium-sized and micro-sized factories have a greater reliance on grid electricity compared to large factories

❑ Tier 3 RMG factories have the highest dependency on grid electricity (76.94%), followed by other factories including tier 2 (57.05%), and Tier 1 factories (40.83%)

Average Use of Electricity in a Month by Factories

Large Factories
- Average 16,068.98 MWh of Total Electricity Use
- Average 8,562.56 MWh from Grid Electricity **(65.12% of Average Total Electricity Use)**

Small and Medium Factories
- Average 53.06 MWh of Total Electricity Use
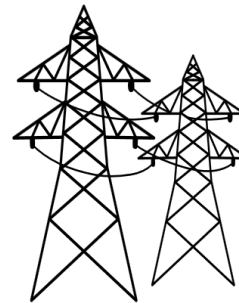- Average 40.25 MWh from Grid Electricity **(86.59% of Average Total Electricity Use)**

Micro Factories
- Average 9.99 MWh of Total Electricity Use
- Average 8.38 MWh from Grid Electricity **(93.35% of Average Total Electricity Use)**

Source: Calculated from the CPD-GTS survey data.

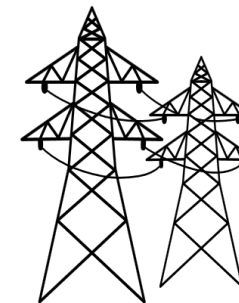**Average Use of Electricity in a Month by Factories in Tier Groups**
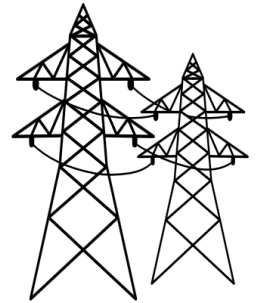
40.83% Electricity from GRID

57.05% Electricity from GRID

76.94% Electricity from GRID

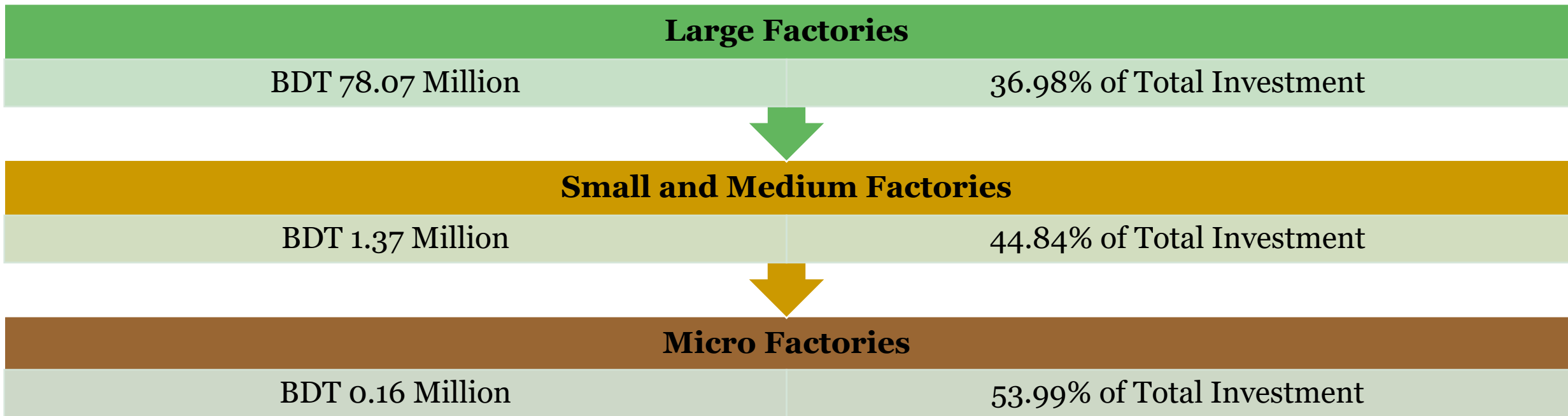**Tier 1 Factories**

Tier 2 Factories

Other Factories including Tier 3

Source: Calculated from the CPD-GTS survey data.

HOW MUCH FACTORIES ARE INVESTING?

❑ Large factories invest significantly more in green initiatives compared to smaller factories
❑ Despite lower total investments, small and medium-sized and micro-sized factories allocate a higher percentage of their total investment toward green initiatives

Average Green Investment in Last Five Years Per Factory

Large Factories	
BDT 78.07 Million	36.98% of Total Investment

Small and Medium Factories	
BDT 1.37 Million	44.84% of Total Investment

Micro Factories	
BDT 0.16 Million	53.99% of Total Investment

Source: Calculated from the CPD-GTS survey data.

SOCIAL ASPECTS OF GREENING FACTORIES

PRODUCTIVITY AND SICKNESS OF WORKERS

❑The workers in large firms are more likely to meet their daily production targets, with a higher percentage reporting that they "Often" or "Always" meet their targets than workers in small and medium-sized, and micro factories

How Often do the Workers Meet their Daily Production Target?

Response	Large Factories	Small and Medium Factories	Micro Factories	Total
Never	0	1	1	2
N (%)	(0.00)	(0.86)	(0.44)	(0.33)
Rarely	2	1	6	9
N (%)	(0.78)	(0.86)	(2.64)	(1.50)
Sometimes	83	23	131	237
N (%)	(32.42)	(19.83)	(57.71)	(39.57)
Often	78	29	32	139
N (%)	(30.47)	(25.00)	(14.10)	(23.21)
Always	93	62	57	212
N (%)	(36.33)	(53.45)	(25.11)	(35.39)
Total (N)	256	116	227	599

Source: Calculated from the CPD-GTS survey data.
Note: Numbers in parentheses imply percentages.

❑ Workers in large factories tend to have a lower absence rate due to sickness compared to smaller factories

Workers' Absence in the Last Month due to Sickness (N=1176)

	Yes *N (%)*	No *N (%)*
Large Factories	210 (49.76)	212 (50.24)
Small and Medium Factories	190 (61.49)	119 (38.51)
Micro Factories	237 (53.26)	208 (46.74)
Total	637 (54.17)	539 (45.84)

Source: Calculated from the CPD-GTS survey data.
Note: Numbers in parentheses imply percentages.

Key points from the survey and interviews regarding the perception of green practices among workers and their associated benefits include-

❑ An overwhelming majority of surveyed workers, including those in large, small and medium-sized, and micro factories, believe that green practices bring benefits for workers

❑ Workers identified several benefits associated with green practices in their workplaces, with the top three being **reduced health hazards, reduced medical costs, and improved productivity**

❑ Over 80% of the owners and managers expressed the opinion that the transition to green practices in their factories would lead to increased production efficiency among workers

❑ KIIs revealed that green factories implement measures such as improved air quality, reduced noise pollution, and sustainable practices to prioritise the health and safety of their employees

BARRIERS FOR GREENING FACTORIES

The present study identifies four major types of barriers that factories in the textile and RMG sector face while embarking on their journey towards green transition
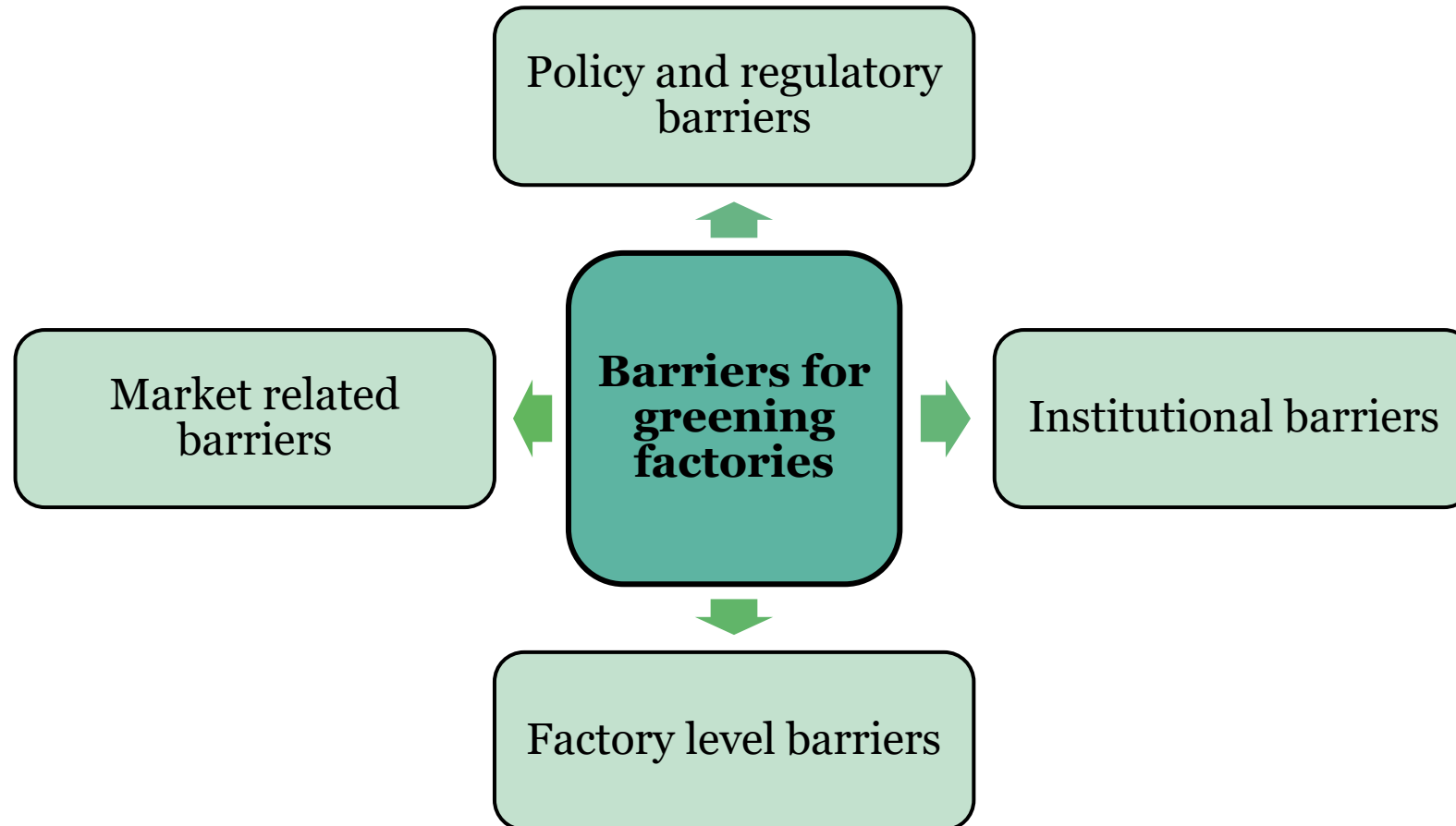
❑ **Challenges in policy and regulatory frameworks**

➢ The existing environmental policy framework needs to clearly define goals for firms to follow sustainable practices, which has led to insufficient implementation of regulations

➢ Additionally, more policy support and incentives for encouraging investment in large-scale renewable energy generation must be provided

❑ **Lack of harmonisation of policies and regulations**

➢ Specific policy options and strategic direction for managing climate and environmental challenges that accounts for both the green transition of industrial sector and economic growth in a harmonised way is missing

➢ There is also a lack of a holistic plan for ensuring balance between sustainable environment-friendly industrialisation (green transformation) and sustainable growth addressing adverse impact of climate change and industrial pollution on welfare of workers

❑ **Regulatory and policy uncertainty**

➢ This can make it difficult for firms to assess the potential risks and benefits of investing in green technologies

❏ **Weak regulatory, management, monitoring systems, and enforcement**

➢ Weaknesses in regulatory systems and lax enforcement hinder the effectiveness of existing environmental laws and regulations, leading to non-compliance by firms, as highlighted in key informant interviews (KIIs), where owners and managers emphasise the need for more stringent rules and policies to drive green management and lament the slow progress due to inadequate implementation

❏ **Lack of coordination among government agencies**

➢ Inadequate coordination among government ministries and agencies (such as between the Ministry of Industries and environmental authorities like the DoE) is hampering the development and execution of cohesive green industrial policies, hindering effective promotion of the technology-climate nexus and policy coherence for a successful green industrial transition

❑ Several factory level barriers to the adoption of green initiatives were identified

Factory level barriers

Lack of information and awareness	• In general, higher level of awareness is observed in large factories compared to small and medium, and micro factories • Workers' understanding of green activities was primarily limited to physical and visual aspects of the workplace rather than the broader environmental impact
Finance related constraints	• Access to finance is one of the most cited barriers for factories seeking environmental certification or adopting green practices • Lack of funds, especially for small, medium, and micro-sized factories or factories in tier 2 and tier 3, may put them at a disadvantage where the brands/buyers may avoid them for being environmentally non-compliant. Also, collateral requirement is a major issue
Limited capacity and capability of factories	• Compared to the others, large factories were performing better in terms of embeddedness of environmental sustainability issues in their policies and workforce • There is a shortage of skilled human resources when it comes to maintaining the greening-related technologies
Operational barriers	• Factories that operate in rented infrastructure may find it challenging to make significant investments in green initiatives, as they need more control over the building and its systems • Limited demand for green products from domestic buyers is also a challenge

❑**Lack of market-driven incentives**

➢ The absence of market-driven incentives acts as a significant impediment to firms embracing sustainable practices

➢ The absence of premium prices for green products in the textile and RMG sector poses a substantial barrier to adopting environmentally friendly production processes

❑**Informational market failures**

➢ Informational market failures can also hinder firms from developing technological capabilities

➢ A lack of information and knowledge about green technologies and best practices can restrict firms' capacity to embrace sustainable technologies

RECOMMENDATIONS

❑ **Developing a comprehensive strategy** that covers all aspects of a green transition for the textile and RMG sector based on stakeholder consultation and evidence-based analysis

  ➢ The strategy should include short-term and long-term goals, indicators, targets, timelines, roles, responsibilities, budgets, and monitoring mechanisms

❑ **Creating a task force/committee to review policies and regulations** related to the green transition in the textile and RMG sector

  ➢ This will help identify any ambiguities or contradictions and take timely actions to address them, promoting a conducive environment for green transition
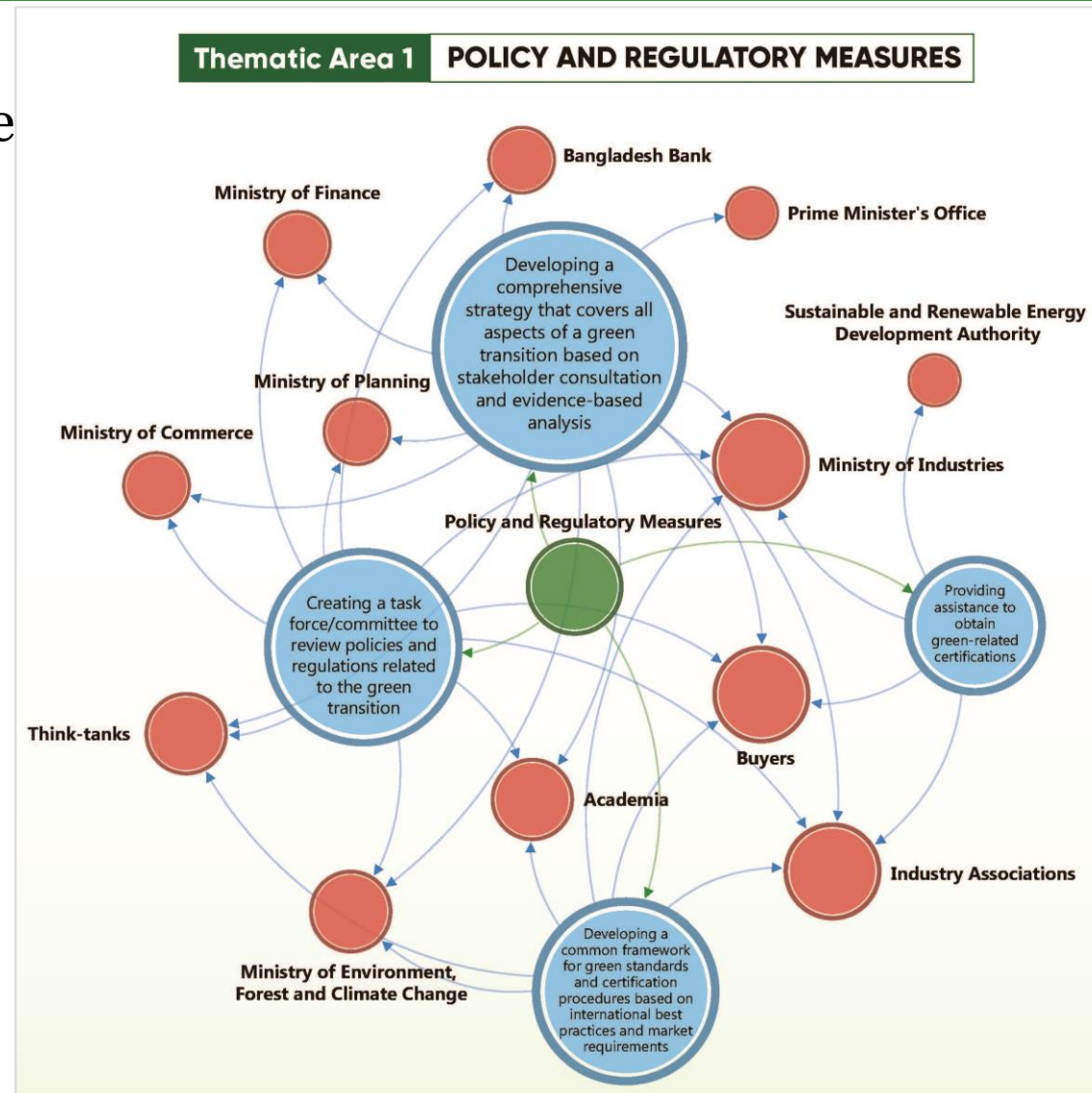
❑**Developing a common framework for green standards and certification** procedures based on international best practices and market requirements

➢ All firms would adhere to the same environmental benchmarks with a uniform standard. Moreover, a uniform certification procedure would make it easier and less costly for factories to obtain green certifications required by various buyers

➢ Buyers' consensus on green standards and certifications should be in place

❑**Providing assistance to obtain green-related certifications**

➢ Technical assistance and guidance could be provided to factories to help them in implementing green standards and certification procedures, such as conducting audits, improving energy and water efficiency, reducing waste including chemical waste, and using renewable energy sources

❑**Providing market-driven incentives**, such as tax breaks and subsidies, **for factories that invest in sustainable production processes**

➤ These incentives should be aligned with the sectoral climate goals and environmental standards

➤ Tax incentives may be provided to small and medium factories which want to import effluent treatment plants and obtain green certificates

❑**Withdrawing fiscal support to the polluters**

➤ Fiscal support to polluting industries and fossil fuel-based power generation should be withdrawn and transferred to clean technologies

➤ The textile and RMG factories investing in green production processes should have access to those funds
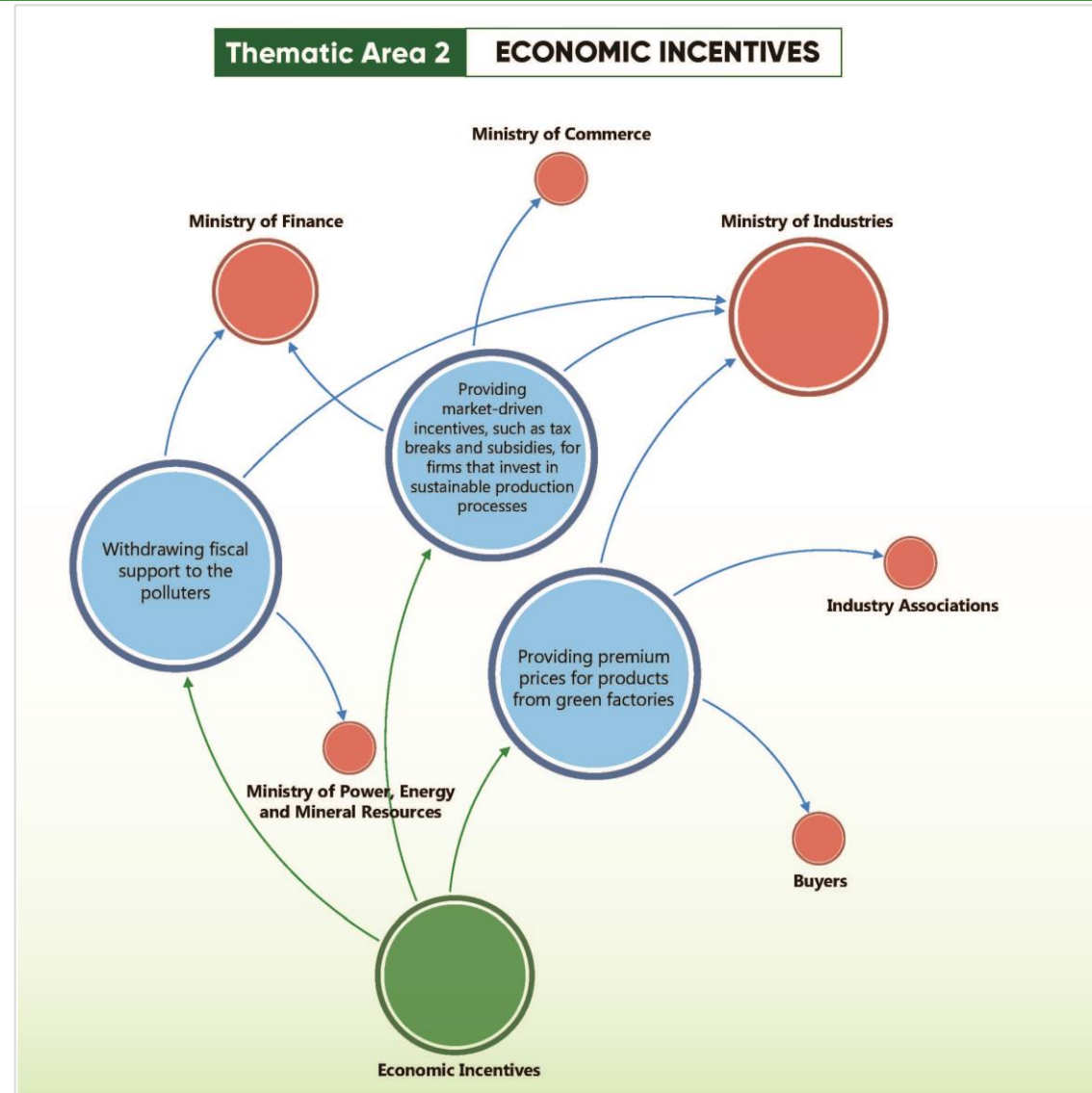
❑ **Providing premium prices for products from green factories**
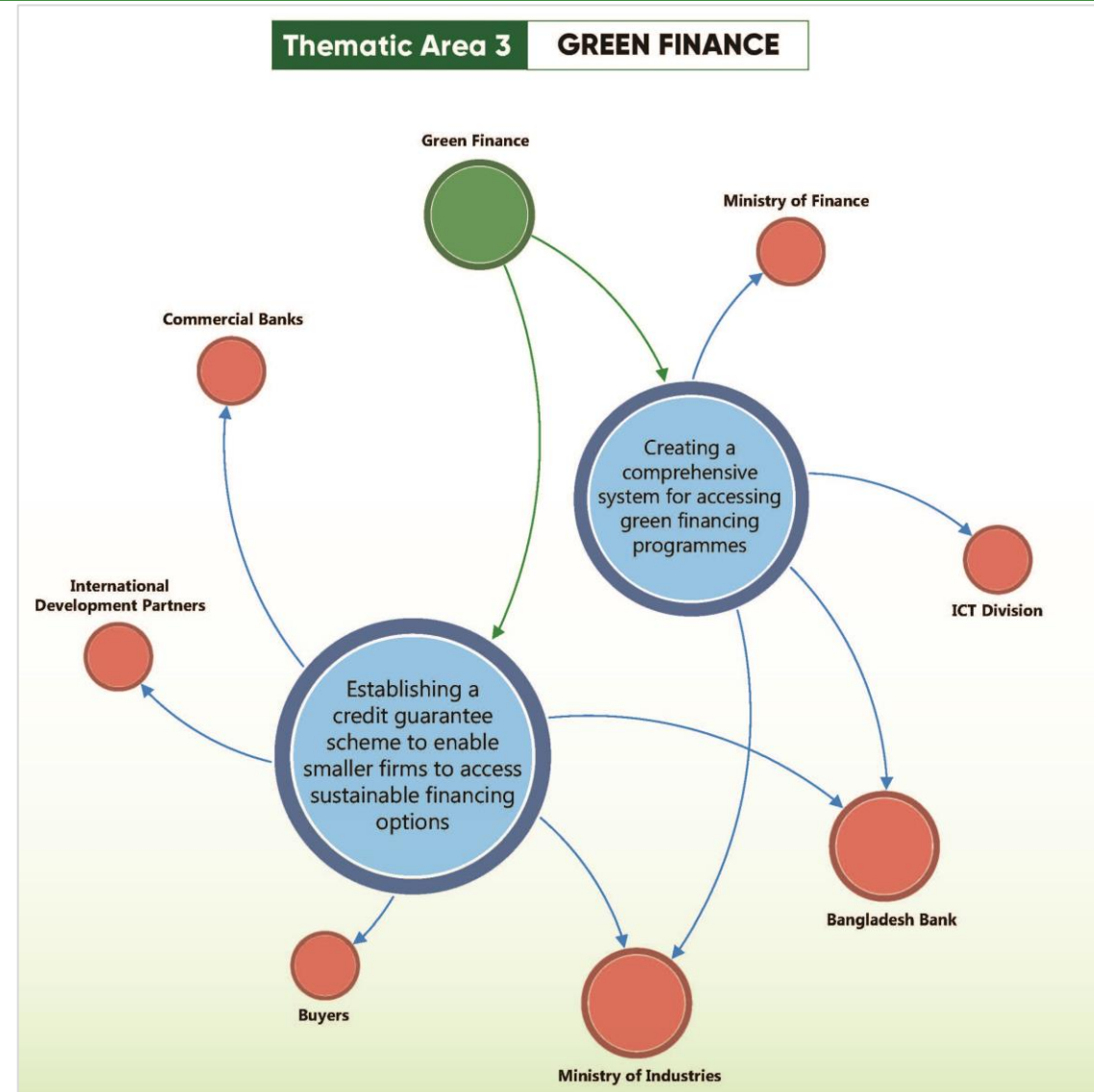
➢ Premium prices are expected to encourage more factories to engage in greening initiatives

➢ Furthermore, such an initiative will be able to compensate for the huge initial investment required for greening the factories

➢ The buyers will have to play the lead role in this regard. The industry associations will need to continuously pursue this agenda. The MoI can act as the interlocutor in case of a possible deal or agreement between the buyers and the industry

❑ **Creating a comprehensive system for accessing green financing programmes**

➢ Easy access to green finance can be facilitated by creating an online portal for factories willing to invest in sustainable practices. This portal may include all relevant information pertaining to green finance opportunities and how to access them

❑ **Establishing a credit guarantee scheme** to enable **smaller factories** to access sustainable financing options

➢ This may include providing guarantees or insurance for smaller factories that face difficulties obtaining loans for green investments

➢ Accessibility of Bangladesh Bank's Refinance Scheme for Green Products/ Projects/Initiatives should be enhanced


Thematic Area 3 — GREEN FINANCE

❑ **Making information** on greening **publicly available** via a **central database**

➢ Through publicly available information, firms can gain access to the necessary knowledge and tools required to transition toward sustainable practices

❑ **Conducting workshops, training sessions, and campaigns** to **foster changes in values and attitudes** toward sustainability

➢ Regular workshops and training sessions will contribute towards raising industry stakeholders' awareness of the benefits of sustainable practices

➢ Launching campaigns to promote sustainable practices and their importance can also be beneficial in spreading awareness

AWARENESS AND KNOWLEDGE SHARING (CONT.)
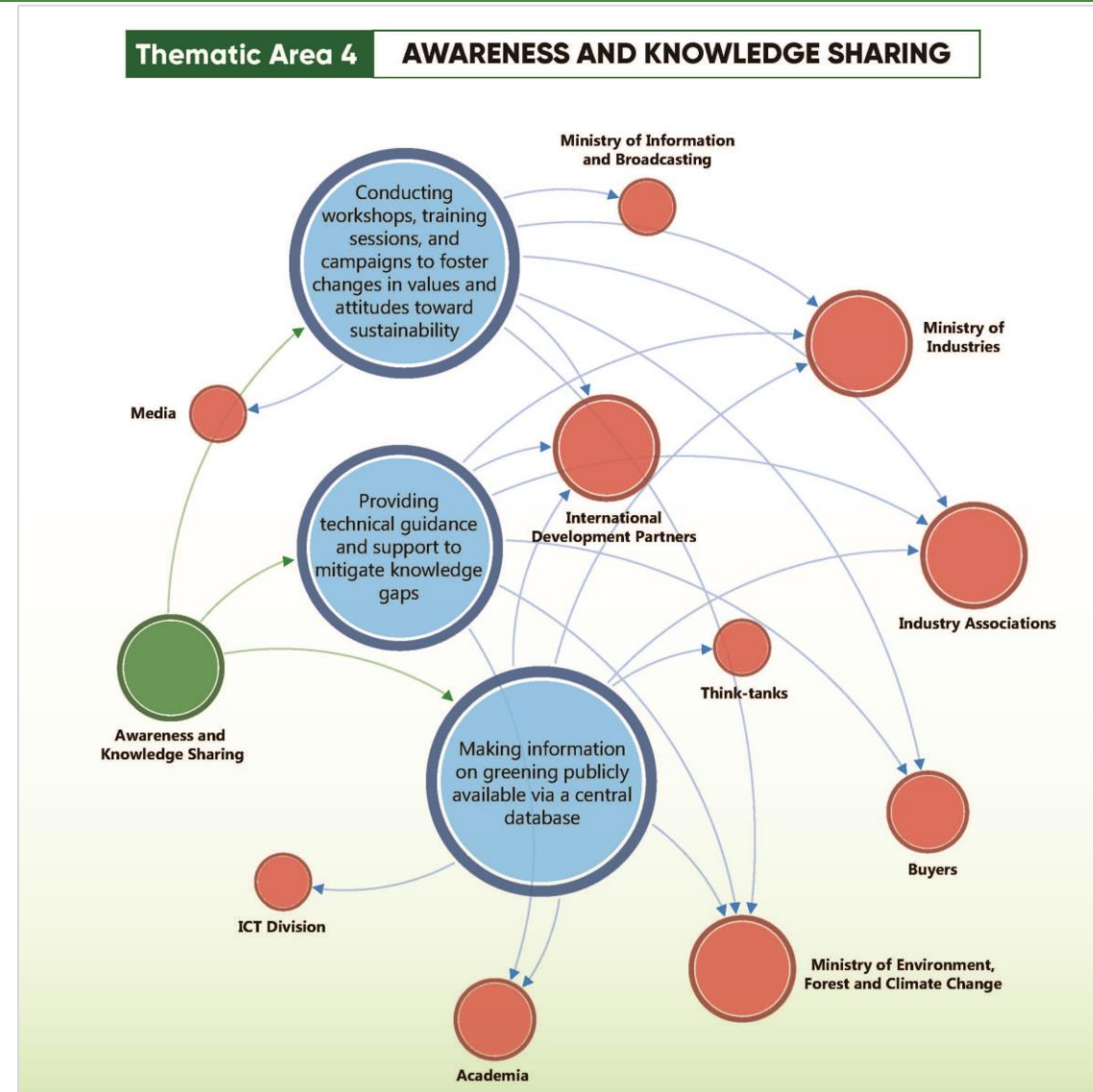
❑**Providing technical guidance** and **support** to **mitigate knowledge gaps**

➢ This can include:

- Assistance in obtaining green certifications

- Assistance in identifying cost-saving opportunities for factories to transition to sustainable practices

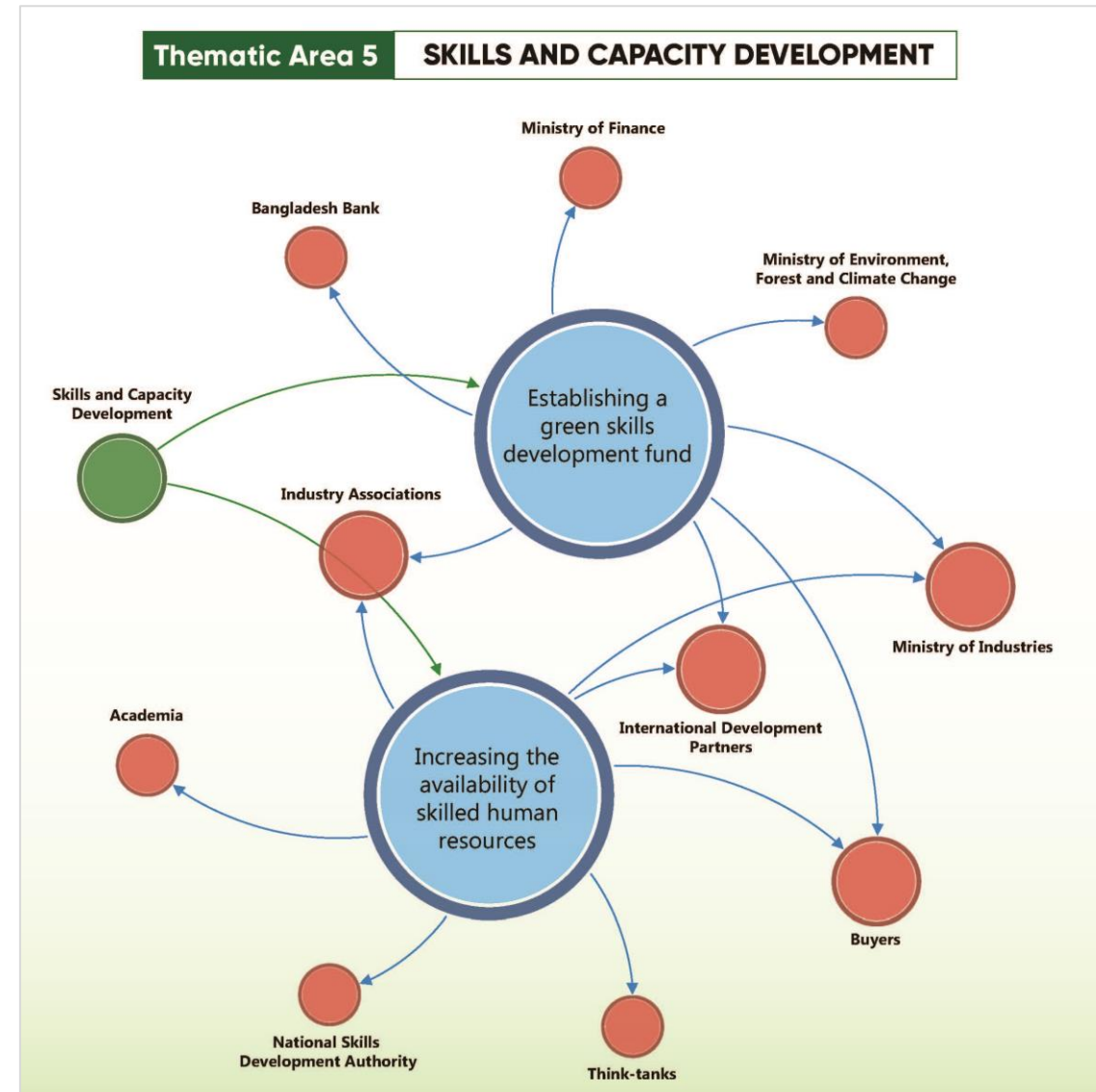- Helping the factories develop sustainable business models

❑ **Increasing the availability of skilled human resources**

➤ This can be achieved via developing and expanding apprenticeship and mentorship programmes in green industries, developing partnerships with private sector organisations to provide training and certification programmes for green skills, and incentivising individuals and businesses to participate in green skills training programmes

➤ Women's participation in such trainings must be ensured

❑ **Establishing a green skills development fund**

➤ This will support firms to provide training for their workers on energy efficiency, waste management, and circular economy

➤ Buyers, international development partners, and industry association can contribute to this fund

➤ Also, a levy on high-carbon energy sources or a portion of the green incentives for firms could finance the fund