Dialogue on

Emerging Safety Risks in the Plastic Sector: What Needs to be Done?

Presentation on

Emerging Safety Risks in the Non-RMG Sector:

Assessing Occupational Safety and Health (OSH) Practices in the Plastic Sector Enterprises

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1. Introduction

1. Introduction

- The plastic industry is a major non-RMG sector in Bangladesh, with around **5000** manufacturing units **(BIDA)** contributing approximately 1% of the country's GDP (The Business Standard, 2023)
  - While a significant portion of plastic products are intended for domestic markets, Bangladesh earned **$210 million in FY2023** through the export of plastic goods
- The plastic sector is labour-intensive in nature, resulting in **significant safety concerns** in the workplace
  - This indicates a pressing need for improved safety measures in plastic enterprises to sustain its growth
- Most plastic sector enterprises operate within the **domestic value chain** and do not adhere to workplace safety codes and workers' rights
  - As domestic stakeholders, such as consumers and workers, **don't pressure factories** to comply with safety standards
- **Lack of transparency** and accountability in monitoring and enforcement by different **public agencies** further creates opportunities for factories to operate without proper safety standards
- In this background, this study focuses on **assessing the OSH practices** in the plastic sector enterprises
- This assessment helps understand the **existing compliance gaps** and weaknesses of plastic enterprises in ensuring worker safety
  - It also serves as a foundation for offering recommendations on **how to improve** compliance within the sector

2. Objectives and Methodology

2. Objectives and Methodology

- The **objective** of this study is to concentrate on industrial safety-related issues in the plastic sector, specifically from the perspective of **occupational safety and health (OSH)**
- The study will encompass **three main areas** of investigation
  - Firstly, it aims to **assess OSH-related practices** at the enterprise level, with a specific focus on fire, electrical, and structural safety within industrial premises
  - Secondly, the study will examine the extent to which **laws, rules, and regulations are implemented** at the factory level, aiming to understand the major challenges in ensuring compliance
  - Thirdly, it will analyze the **perceptions of plastic sector workers** regarding OSH practices at the factory level

2. Objectives and Methodology

- A central focus of the study is to generate **primary data** and evidence related to OSH standards and practices in the plastic sector at the enterprise level.
- To achieve this, the study conducted a sample survey, consisting of **two primary surveys** during the study period
  - **Management-Level Survey:** This survey comprises a total of **50 samples**. It aimed to assess workplace **safety status**, the level of **awareness and preparedness** of factory owners and directors regarding industrial safety, the **involvement of public agencies** in factory inspections, and the **engagement of local and foreign buyers** on workplace safety issues
  - **Worker-Level Survey**: The survey comprises a total of **100 workers**. The second survey focused on workers gathering their **perspectives on OSH** standards, policies, and **practices** within industrial units
    - Additionally, it explored workers' **awareness of workplace safety**, **capacity-building measures** on industrial safety, and other entitled benefits
- **Data Collection Methods:** This study **utilised and adapted** survey instrument from the non-RMG factory **inspection checklist of DIFE** for measuring OSH compliance of enterprises
  - For the information collected from workers, the study adopted the **OHS Vulnerability Measure survey** developed at the Institute for Work & Health (IWH)

3. Sample Enterprise Landscape

3. Sample Enterprise Landscape

3.1 Distribution of sample factories

- The sample size for the management level survey consisted of **50 factories**, while the worker-level survey encompassed 100 workers from the same factories (Table 1)
- Four categories of factories are considered: (a) micro (1-15 workers); (b) small (16-50 workers); (c) medium (51-300 workers) and (d) large (>300 workers)
- The survey locations included Dhaka, Gazipur, and Narayanganj

Table 1: Sample factory size, location and worker distribution

Size Class	Dhaka	Gazipur	Narayangonj	Total surveyed factory
Micro (1 to 15 worker)	14	3	3	20
Small (16 to 50 worker)	16	2	2	20
Medium (51 to 300 worker)	3	5	0	8
Large (More than 300)	0	2	0	2
Total	33	12	5	50

Source: CPD Plastic Sector Survey, 2023

3. Sample Enterprise Landscape

3.1 Distribution of sample factories

- The data reveals that out of the 50 factories surveyed, 28 (56%) are in rented space, 20 (40%) are in owned places, and 2 have both rented and owned buildings (Table 2)
  - **Majority of** micro (55%) and small (80%) are in rented space
- Of the 50 factories, 29 (58%) are located in single-storied buildings, while the remaining 21 (42%) are situated in **multi-storied buildings** (Figure 1)
- A large section of micro enterprises (**60%**) and small enterprises (22.2%) are located in **residential apartments** (Figure 2)
  - Even a section of **medium enterprises** are also located in residential apartments
  - No large enterprises are located in residential apartments
- All enterprises are locally-owned and no foreign investment is involved

Table 2: Factory Building Ownership Status

	Rented	Owned	Both	Total
Micro	55	45	0	100
Small	80	15	5	100
Medium	12.5	75	12.5	100
Large	0	100	0	100
Total	56	40	4	100

Source: CPD Plastic Sector Survey, 2023

Figure 1: Factory Building Type

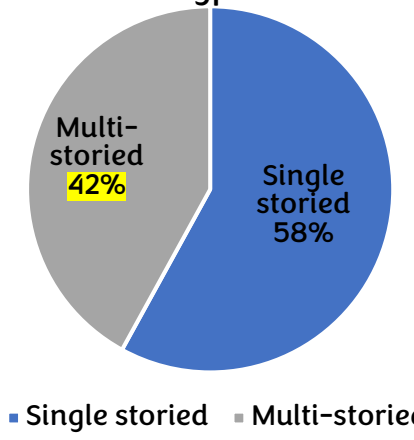
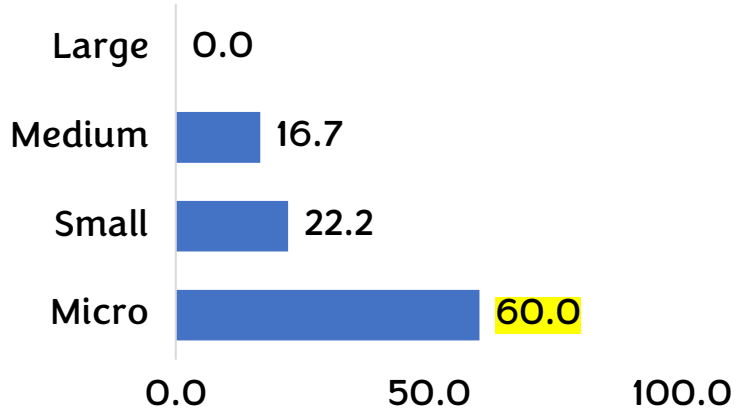


Figure 2: Have residential apartments in the Building



Source: CPD Plastic Sector Survey, 2023

3. Sample enterprise landscape

3.2 Market Exposure

- Out of the 50 enterprises surveyed, only **one-fourth enterprises** (24%) reported to be engaged in exporting their products (Table 3)
  - Major export destinations are – China, USA, Italy & Canada (Table 4)
  - Export a small portion in number of European and **Asian countries**
- **Majority** of enterprises (76%) are reported to have **no market exposure** other than the domestic market
- This indicates that majority of factories are **outside the purview of international safety standards** usually followed in the EU, USA, Canada and Australia
  - Even those who export in the **non-traditional markets** are somewhat follow less safety standards as followed in major developed markets

Table 3: Export Profile of Factories

Product export participation	Freq.	Per cent
Yes	12	24
No	38	76
Total	50	100

Source: CPD Plastic Sector Survey, 2023

Table 4: Export Destinations of factories

Export destination	Per cent	Export destination	Per cent
China	24	**Denmark**	**6**
United States (USA)	16	**Spain**	**8**
Canada	16	**Slovakia**	**4**
Austria	2	**France**	**6**
Belgium	4	**Germany**	**8**
Italy	16	**Australia**	**4**
Netherlands	6	**Malaysia**	**8**
United Kingdom (UK)	10	**India**	**4**
Saudi Arabia	12	**United Arab Emirates (UAE)**	**6**

Source: CPD Plastic Sector Survey, 2023

3. Sample enterprise landscape

3.3 Employment and Management Structure

- The plastic sector is a **male-dominated sector** – the ratio of male and female workers in the sector is around **80:20** (Tab 5)
- The ratio is severe against female workers in **micro enterprises – only 5% are female workers**
  - Worker composition **in large enterprises** modestly in favour of female workers (30%)
- The sector has relatively young management professionals having experiences between 3-10 years (Table 6)
  - There is a **gradual decline** in the number of **senior management professionals** as the years of experience increase, with fewer employees in the higher experience ranges
- There are only ***4 workers out of 100*** who have more than **20 years of experience** in the industry
  - Either the experienced worker switched the industry or was let go by the employers as they aged

Table 5: Proportions of Male and Female Workers

Factory Size	Female Worker	Male Worker
Large	30.2	69.8
Medium	25.8	74.2
Small	21.8	78.2
Micro	4.8	95.2
Overall	20.7	79.3

Table 6: Years of Experience of Management-Level Employees

Years of Experience of management level employee	In Current Workplace (in Number)	In the Industry (in Number)
One to two years	3	2
Three to five years	23	12
Six to ten years	12	17
Eleven to fifteen years	7	7
Sixteen to twenty years	3	8
Twenty-one to twenty-five years	2	3
Twenty-six to thirty years	0	1
Total	50	50

Source: CPD Plastic Sector Survey, 2023

3. Sample enterprise landscape

3.4 Membership status

- Almost all (94%) enteprises are member of BPGMEA (Table 7)
  - Few are members of other organisations particularly Plastic Byabosayee Samity
  - Few are not member of any organization (6%)
- All enterprises are supposed to be member of major organisations

Table 7: Membership of Employer Organisations

Name of Employer Organisations	Freq.	Per cent
Bangladesh Plastic Goods Manufacturers & Exporters Association (BPGMEA)	47	94
Bangladesh PVC Compound or Pipe Manufacturers Association	10	20
Bangladesh Plastic Byabosayee Samity	24	48
Bangladesh Plastic Packaging, Roll Manufacturers Owners Association	10	20
None	3	6

Source: CPD Plastic Sector Survey, 2023

4. Assessment of OSH Practices at the Enterprise Level

4. Assessment of OSH Practices at the Enterprise Level

4.1 Fire Safety

- Majority of factories do not keep open their roof – the concern is **high** in case of **micro and small enterprises (60% and 55% respectively)** (Table 8)
  - However, workers' **access to the roof** is very poor across factories
  - In case of any fire/accidents workers working in multi-storied building would find it **difficult to exit**
- **Fire drill** is not practiced properly in plastic enterprises – only 8% factories have monthly fire drills, mainly happened in **large factories** (Table 9)
  - As high as **one fifth of all enterprises** do not practice any fire drill
  - This share is **high** for micro enterprises (45%)
- Since 92% factories do not do fire drill on a monthly basis, **majority of workers are unaware** of the safety protocol to be followed during the time of emergency

Table 8: Levels of Fire Safety Practices

	Factory stairs open to the roof (Percent)		Worker has access to the roof (Percent)	
Size	**Yes**	**No**	**Yes**	**No**
Micro	40	60	15	85
Small	45	55	5	95
Medium	62.5	37.5	12.5	87.5
Large	100	0	100	0
Total	**48**	**52**	**36**	**64**

Source: CPD Plastic Sector Survey, 2023

Table 9: Frequency of Fire Drill Training (In per cent)

Size	Monthly	Yearly	None
Micro	0	55	45
Small	0	95	5
Medium	25	75	0
Large	100	0	0
Overall	8	72	20

Source: CPD Plastic Sector Survey, 2023

4. Assessment of OSH Practices at the Enterprise Level

4.1 Fire Safety

- Plastic factories use different kinds of **chemicals which are flammable** and injurious for human health (Table 10)
  - Ammonium Nitrate (NH4NO3), Calcium Carbide (CaC2), Petroleum, Flammable Liquid Chemicals, Gases (LPG, Oxygen, Natural Gas, Ammonia, Nitrogen Carbon dioxide, Helium, Argon)
  - **Highest use chemicals** include gases (30%), calcium carbide (12%). Micro and small enterprises use other chemicals as well- Ammonium Nitrate (NH4NO3), Petroleum, Flammable Liquid Chemicals
- Factories use different kinds of **raw materials which are flammable, gaseous** and may cause accidents
  - Polyethylene (PE), Polypropylene (PP), Polyvinyl Chloride (PVC), PVC Resin, Polyethylene Terephthalate (PET), Additives and Fillers, Colorants and Pigments, Antioxidants, Masterbatches
- Factories located in multistoried buildings and residential buildings could face challenges of fire and accidents caused by these chemicals and raw materials

Table 10: Chemicals Used in Plastic Sector (In percentage)

Chemicals	Micro	Small	Medium	Large	Overall
Ammonium Nitrate (NH4NO3)	5	15	12.5	0	8
Calcium Carbide (CaC2)	5	15	12.5	50	12
Petroleum	10	0	0	0	4
Flammable Liquid Chemicals	10	5	0	0	6
Gases (LPG, Oxygen, Natural Gas, Ammonia, Nitrogen Carbon dioxide, Helium, Argon)	10	40	50	50	30

Source: CPD Plastic Sector Survey, 2023

4. Assessment of OSH Practices at the Enterprise Level

4.1 Fire Safety

Table 11: Presence of Firefighting Facilities on Factory Premises (In per cent)

Certificates name	Micro	Small	Medium	Large	Overall sectoral performance
Trade License/No Objection Letter from Local government authorities	85	65	88	100	78
License/Permit from Directorate of Fire Service and Civil Defense	75	100	100	100	90
Electrical Approvals from the Office of the Chief Electricity Inspector	70	70	75	100	72
Electrical Test Certificate from the Electricity supply company	55	60	88	100	64
Electrical Test Certificate from Government-Approved Electrical Contractors	30	50	63	100	46

Source: CPD Plastic Sector Survey, 2023

4. Assessment of OSH Practices at the Enterprise Level

4.2 Electrical Safety

Table 12: Presence of Electrical Safety Facilities Status on Factory Premises (In percentage)

Electrical safety facilities	Micro	Small	Medium	Large	Overall
Instructions in Bengali and English posted for the recovery of electrocuted persons in an easily visible place where electricity is used	10	35	63	100	32
Cut-outs, circuit breaker circuits and devices arranged to prevent charging shock	35	70	88	50	58
Frames or base plates of generators, transformers, switchgear and motors	15	15	63	100	26
Metal coverings of joint boxes, fuse covers, lamp holders	35	20	38	50	30
Earthing system	65	60	75	100	66
A plate with the message 'Dangerous' in Bengali and 'Dangerous' in English is permanently displayed on every generator and motor	15	45	38	100	34
Three feet wide space in front of the main switchboard	25	30	50	100	34

Source: CPD Plastic Sector Survey, 2023

4. Assessment of OSH Practices at the Enterprise Level

4.2 Electrical Safety

- Table 13 presents status of two important safety related practices/measures in plastic factories
- As per the Fire Prevention and Extinction Act 2003, for the generator
- 20% of factories have it separated by a 2-hour fire-rated wall with earthing
  - 4% factories have a 3-hour fire-rated wall without earthing
  - Only 4% have a 4-hour fire-rated wall with earthing
- The electrical substation and substation equipment are separated by –
  - 14% factories have 4-hour fireproof walls, 8% factories have 3-hour fireproof walls and 4% factories have 2-hour fireproof walls
- Overall, electrical security is in weak state in plastic factories

Table 13: Level of Electrical Safety Status

The generator is separated by		The electrical substation and substation equipment are separated by	
Items	% of total factories	**Items**	% of total factories
2-hour fire-rated wall with earthing	20	**4-hour fireproof walls**	14
3-hour fire-rated wall without earthing	4	**3-hour fireproof walls**	8
4-hour fire-rated wall with earthing	4	**2-hour fireproof walls**	4

Source: CPD Plastic Sector Survey, 2023

4. Assessment of OSH Practices at the Enterprise Level

4.3 Structural Safety

- Safety tests and trainings have **unsatisfactory results** as many factories never take these measures (Table 14)
  - Over 60% of factories did not test important testing: boiler, hydraulic, safety valve and water softener-related tests, etc.
  - Only in a few factories tests are taken place in a monthly and yearly basis
  - The factories and buildings where these entities are in operation are **highly vulnerable** in terms of structural safety issues
- About 42% of factories have not provided any training to their officials regarding the storage, transportation, and transfer of hazardous substances
  - Mishandling of storage is one of the primary causes of fire incidents in factories.
- Overall lack of tests and training can lead to mishandling and improper storage of hazardous materials, increasing the risk of accidents and chemical exposure

Table 14: How Frequently Tests are Conducted in Factories

How frequently the following are tested or initiated -	Weekly (%)	Monthly (%)	Yearly (%)	None (%)
Boiler manhole, mudhole, front door, and backdoor gaskets to determine whether they are leakproof	14	20	2	64
Hydraulic test and documentation of the water used in the boiler in logbooks	16	12	4	68
Safety valve settings pressure test	18	14	0	68
Water softener test (chemical, resin, dosing pump etc.)	16	12	2	70
Training given to the concerned officials about the storage, transportation and transfer of the substances mentioned as per MSDS and hazardous properties and safe handling	0	14	44	42

Source: CPD Plastic Sector Survey, 2023

4. Assessment of OSH Practices at the Enterprise Level

4.3 Structural Safety

- Majority of factories (74%) do not have **gas pipelines laid underground** as per gas pipeline regulations as per Bangladesh Gas Distribution Rules 2014
  - Merely 5 – 12.5% of micro to medium factories have laid gas pipelines underground
- Majority of factories do not have **regular hydraulic testing facilities, experienced boiler operator**, properly certified storehouse (Table 16)
- Largely factories do not maintain fireproof wall, strongly constructed dangerous parts of machines and equipment and all parts of rotary converters (Table 17)

Table 15: Factories having gas pipelines laid underground as per gas pipeline regulations (in %)

Size	Yes	No	Not sure/
Micro	5	90	5
Small	15	60	25
Medium	12.5	35	0
Large	100	0	0
Total	14	74	12

Source: CPD Plastic Sector Survey, 2023

Table 16: Status of Different OSH Facilities

Items	Micro	Small	Medium	Large	Overall
Regular hydraulic test	5	15	13	100	14
An experienced boiler operator	10	35	13	100	24
A storehouse constructed/planted in the proper position as per the approved design of the Explosives Authority	0	5	25	100	10
Safe Drinking Water System for Workers	70	95	88	100	84

Source: CPD Plastic Sector Survey, 2023

Table 17: Status of factories on dangerous parts of machines and equipment and all parts of rotary converters are surrounded

Size	Fireproof wall	Strongly constructed safeguards	Not sure/ Do not know
Micro	5	25	70
Small	15	20	65
Medium	50	20	0
Large	50	5	0
Overall	18	28	54

Source: CPD Plastic Sector Survey, 2023

5. Compliance status with legal provisions

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5.1 Status of Safety-related Certificate Availability

Table 18: Status of Factories Having Safety-related Certificates (In per cent)

Certificates name	Micro	Small	Medium	Large	Overall sectoral performance
Trade License/No Objection Letter from Local government authorities	85	65	88	100	78
License/Permit from Directorate of Fire Service and Civil Defence	75	100	100	100	90
Electrical Approvals from the Office of the Chief Electricity Inspector	70	70	75	100	72
Electrical Test Certificate from the Electricity supply company	55	60	88	100	64
Electrical Test Certificate from Government-Approved Electrical Contractors	30	50	63	100	46
Conditional Clearance from the Department of Environment	20	55	50	100	42
Environmental Clearance from the Department of Environment	10	45	25	100	30
Permit from the Department of Explosives	5	5	38	100	14
Permission/ License/ No Objection Letter from the District Administration	30	45	50	0	38
Contract from the Gas distribution company	0	15	13	0	8
Permit from the Department of Energy and Mineral Resources	0	10	25	50	10
License from Bangladesh Energy Regulatory Commission	10	20	38	100	22
Agreement/ authorisation from Bangladesh Petroleum Corporation	5	0	25	100	10
License from Directorate of Inspection of Factories and Establishments	60	45	100	100	62

Source: CPD Plastic Sector Survey, 2023

5. Compliance status with legal provisions

- Majority of factories are not having international safety related compliance certificates, nor does having their OSH policy and practice of safety committees
  - **About 84% of** factories do not have any **international safety** certificate (Table 18)
  - Except large and a few medium sized factories, others do not have **written OSH policy** and are not aware of national plan of action on OSH (Table 20)
  - **Safety committees** are not mandatory for factories having less than 50 workers, hence no such committee is observed in **micro and small sized** factories (Table 21)

Table 19: Availability of International Safety Certificates

International Certificates related to safety	Freq.	Per cent
ISO 14001	7	14
BSCI	6	12
WRAP	0	0
SMETA	1	2
EuPC	0	0
Cefic-FCA, 2011	5	10
None	42	84
Not sure/ Do not know	0	0
Total	61	100

Source: CPD Plastic Sector Survey, 2023

Table 20: Availability of Written OSH Policy

	Have written OSH Policy (In Percent)		Aware of a National Plan of Action on OSH (In Percent)	
Size	Yes	No	Yes	No
Micro	5	95	10	90
Small	5	95	25	75
Medium	50	50	50	50
Large	100	0	100	0
Total	16	84	26	74

Source: CPD Plastic Sector Survey, 2023

Table 21: Availability of Safety Committee Based on Factory Size

Factory size	Yes	No	Total
Large	100	0	100
Medium	62.5	25	87.5
Micro	Not Applicable		
Small			

Source: CPD Plastic Sector Survey, 2023

6. Review of accidents and injury incidents in last five years

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Table 22: Frequency of Industrial Accidents and Injury in the Last Five Years

size	One to five		Six to ten		Eleven to fifteen		Sixteen to twenty		Twenty-one to twenty-five	
	Accidents	Injury	Accidents	Injury	Accidents	Injury	Accidents	Injury	Accidents	Injury
Micro	10	7	9	1	1	0	0	-	0	-
Small	10	11	8	2	0	0	1	-	0	-
Medium	1	3	1	1	0	0	0	-	0	-
Large	0	0	0	1	0	1	1	-	1	-
Total	21	21	18	5	1	1	2	-	1	-

Source: CPD Plastic Sector Survey, 2023

- According to Table 22, the frequency of accidents is quite high in the surveyed factories – **about 84% factories** experienced accidents in last 5 year!
  - About 21 factories faced one to five cases of industrial accidents, 18 factories faced six to ten accidents, 1 factory faced eleven to fifteen accidents, 2 factories faced sixteen to twenty accidents, and 1 factory faced twenty-one to twenty-five accidents in the last five years
- According to Table 23, apparently it indicates with **factories with designated OSH persons t**end to have a lower number of injuries and accidents
  - However, the ratio of accidents: OSH persons shows no difference between the having or not having OSH officer**. Poor quality of OSH officer** is a concern

Table 23: Impact of Having an OSH Person on the Number of Accidents & Injury in the Last Five Years

Have Designated OSH person	Number of Accidents	Number of Injuries (Fatal & Non-fatal)
Yes	7	7
No	36	20
Total	43	27

Source: CPD Plastic Sector Survey, 2023

7. OSH hazards in the plastic sector: worker's perception

7. OSH hazards in the plastic sector: worker's perception

- Except a few issues (cold, dust and smoke) **majority of workers complain** about factories working environment (Table 24)
  - **Heat, changing temperature, draught**, lack of fresh air, noise and stench
  - **Female workers** complained about chemical hazards, dust, smoke, changing temperature, lack of light
- Majority of workers complain about the work **modality in the factories** including **sitting or standing** more than 2 hours at stress, working in high noise level etc. (Table 25)
  - Manually **lift or carry** heavy weights
- Such work modality lead to **reduced productivity** and long-term diseases

Table 24: Workers' Perception on the Factory Environment

Workers Suffer From –	Male	Female	Overall
The cold	12.3	11.1	12
The heat	98.6	100.0	99
The changes in temperature	64.4	81.5	69
The draught	84.9	66.7	80
The lack of fresh air	43.8	48.1	45
The low light/ lack of lighting	32.9	48.1	37
The stench	30.1	37.0	32
The dust	4.1	11.1	6
The smoke	8.2	14.8	10
Chemical hazards like leakage, vapor, gas, emissions	19.2	40.7	25
Noise	31.5	33.3	32

Source: CPD Plastic Sector Survey, 2023

Table 25: Perception of workers on Working Modality

Perception of workers	Regularly	Weekly	Monthly	Rarely	Total
Workers interact with hazardous substances such as chemicals, flammable liquids, and gases (In percentages)	10	5	0	85	100
Manually lift, carry or push items heavier than 20 kg at least 10 times during the day (In percentages)	21	20	11	48	100
Noise levels that are so high that you have to raise your voice when talking to people less than one meter away (In percentages)	63	11	6	20	100
Sit for more than 2 hours in a row (In percentages)	35	28	6	31	100
Stand for more than 2 hours in a row (In percentages)	69	12	3	16	100

Source: CPD Plastic Sector Survey, 2023

7. OSH hazards in the plastic sector: worker's perception

- Most workers are **not aware of or could not practice** safety protocols when an accident takes place in the workplace (Table 26)
  - Majority of cases workers either verbally report to the management persons or does not report
  - **Only a few factories** of designated person to report accidents
- In most cases, micro and small factories rely on reporting to the factory headquarters (Table 27)
  - Medium and large enterprises also report to the DIFE and FSCD
- In case of accidents, **workers receive free medical** attention and paid sick leave (if it causes severe injury) (Table 28)

Table 27: Authorities to Report for Accident-Related Information (In percentage)

Response	Micro	Small	Medium	Large
Factory Head Quarter	75	65	100	100
To DIFE	15	10	50	100
To FSCD	35	30	75	100
None	25	35	0	0

Source: CPD Plastic Sector Survey, 2023

Table 26: Reporting mechanism of accidents, injury, and disease

	Percent
In paper through dedicated human resource/Use BLA form	13
Verbally to the management body	46
Does not report	41

Source: CPD Plastic Sector Survey, 2023

Table 28: If any accident/ injury takes place while working, which of the following(s) are offered to the injured worker

	Per cent
Free Medical Attention	74
Get paid sick leave if the injury is severe	60
Get unpaid sick leave	23

Source: CPD Plastic Sector Survey, 2023

8. Role of public and private organisations

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8.1 Public Monitoring and Inspections

- Public monitoring and inspecting agencies (**DIFE, FSCD**) **have not yet ensured** monitoring all plastic factories- **about one-fourth factories** (24%) are outside of any inspection (Table 29)
  - Even the **frequency of inspection** is also not up to the mark – a section of factories visit only once in last five years
- DIFE has extended support to factories in number of areas – most importantly **awareness raising** support to workers (54%) and inspection follow up (Table 30)
  - However, **36% factories did not get** any support which include factories where no inspection took place

Table 29: Frequency of Inspection by DIFE in the Last Five Years

	One to five	Six to ten	Eleven to fifteen	Sixteen to twenty	Total inspection	No inspection
Micro	7	5	4	0	16	4
Small	0	8	5	5	18	2
Medium	0	1	1	1	3	5
Large	0	0	0	1	1	1
Total	7	14	10	7	38	12

Source: CPD Plastic Sector Survey, 2023

Table 30: Areas of Support Received by Factory from DIFE

Response	Freq.	Per cent
Training for management	11	22
Technical Guidance	9	18
Awareness and training for workers	27	54
Inspection follow up	13	26
None	18	36
Other (specify)	0	0
Total	50	100

Source: CPD Plastic Sector Survey, 2023

8. Role of public and private organisations

8.1 Public Monitoring and Inspections

Table31 : Frequency of Inspection by DIFE in the Last Five Years Based on Factory Size

	One to five	Six to ten	Eleven to fifteen	Sixteen to twenty
Micro	7	5	4	0
Small	0	8	5	5
Medium	0	1	1	1
Large	0	0	0	1

Source: CPD Plastic Sector Survey, 2023

Table 32 : Frequency of Inspection by DIFE in the Last Five Years Based on Location

Location	One to five	Six to ten	Eleven to fifteen	Sixteen to twenty
Dhaka	6	5	9	4
Gazipur	0	5	1	3
Narayangonj	1	4	0	0
Total	7	14	10	7

Source: CPD Plastic Sector Survey, 2023

8. Role of public and private organisations

8.2 Private organisations

- Employers organization private authorities put a strong emphasis on awareness of workers and training for management (Table 31)

- Among the factories that export products revealed that a considerable portion (50 per cent) of clients, brands, or buyers audit factory sites and check OSH performance indicating that external stakeholders are actively engaged in monitoring OSH performance (Table 32)

  - There are also instances (33.3%) where clients do not actively measure OSH performance, potentially leaving room for improvement in accountability and compliance

Table 33: Areas of support received from the employer's organisation (In percent)

Response	Micro	Small	Medium	Large
Credit support	0	10	0	0
Training for management	15	10	38	50
Technical Guidance	0	20	50	100
Awareness and training for workers	35	65	75	100
None	25	25	25	0

Source: CPD Plastic Sector Survey, 2023

Table 34: Participation of third-party stakeholders in OSH Initiatives (in case of export-oriented factories)

Response	Per cent
Most clients/ Brand/ Buyers audit sites and check OSH performance	50
Most clients/ Brand/ Buyers only ask for accident reports on site	16.67
Most clients/ Brand/ Buyers do not measure OSH performance	33.33
Total	100

Source: CPD Plastic Sector Survey, 2023

9. Conclusion and Recommendations

9. Conclusion and Recommendations

- We understand that the occupational safety and health in the plastic sector **is not even the national standard** let alone the international standard
  - This has caused **major risks** to workers, entrepreneurs, the sector and ultimately on the economy
- We all agree to improve the safety standards – the **benchmark for improvement** of OSH standards is to upgrade it to the international standard with a view to make the sector a **competitive export-oriented sector** in the future
  - The plastic sector should not **keep its focus on domestic market** or some non-traditional export markets rather should be developed a fully compliant export-oriented sector for Europe and North America
- The sector should design a **5-10 year strategic plan** for sustainable plastic sector of enterprises, workers, markets keeping the global standards in mind.
  - Such a plan should highlight developing a **globally sustainable plastic value chain** in partnership with local and international players including concerned ministries, public and private agencies, development partners, international organizations, brands & buyers, workers' organizations
  - Such a plan should **highlight OSH, environmental, circularity**, social, product and market development, meeting global commitments and post-graduation opportunities and challenges
  - BPGMEA should take **the lead in formulating** such a strategic plan
- The plastic sector has confronted **four structural OSH** related weaknesses
  - **Over-dominance** of micro-small factories with poor compliance standards
  - **Prone to severe safety** and health risks due to located in residential areas and multistoried rented spaces
  - **Over-focusing on domestic market** with little pressure on compliance from buyers and consumers
  - **Lack of direct monitoring** and surveillance of a large section of enterprises

9. Conclusion and Recommendations

❑ Suggestions for the Ministry of Industry and Ministry of Planning

- **Immediate relocation of factories which are located in residential areas and multi-storied buildings to a state-of-art industrial zone:** Government should **immediately approve** the proposal for relocation about **1200 factories** currently in the residential areas and multi-stories buildings mainly in old Dhaka. Such a relocation will **immediately reduce the safety risks** of the old Dhaka as well as workers working in those factories. The BPGMEA has already working on it
- According to CPD, such a relocation will require **about Tk.3,660 crore.** It is expected that government will allocate about 10 kathas of land for each owner for building a two-storied (8,000 sq feet) industrial space for the factories. It is expected that the BSCIC which has made necessary arrangement of land should provide it to the owners at a subsidized cost – **Tk.10 lac per katha**. The total expenses of this relocated fund will be repaid by the owners in a period of **25 years**
- **Ministry of Industry and Ministry of Planning** should undertake necessary measures in implementing this important project through quick approval of the project at the ECNEC. Ministry of Finance should make necessary arrangement of fund for this project for quick implementation
- Ministry of Industry should **guide BSCIC** for quickly and favorably implement the project

❑ Suggestions for the Public Monitoring and Inspection Agencies

- DIFE should immediately set-up **a separate unit** under its Industrial safety Unit which may be called **'ISU-Plastic'**. Such a unit will **undertake standard monitoring** and inspection following national and international safety protocol for factories which are outside old Dhaka.
- DIFE should list all plastic factories in Bangladesh and prepare a database. These factories should be integrated into the **LIMA database**

9. Conclusion and Recommendations

- All concerned **public agencies should cooperate with BPGMEA on** how its members should get necessary licenses and registration within 3-5 years.
  - This includes **authority dealing** with trade licenses, DIFE, FSCD, Electricity, DoE, Department of Explosives, District Administration, Gas Distribution Company, Department of Energy and Mineral Resources, BERC, Bangladesh Petroleum Corporation
- The inspection and monitoring should be regular and cover all factories concerned in all locations instead of some priority locations
  - **ISU-Plastic should coordinate** the frequency of inspections by specific agencies and inform the agencies accordingly
  - **Quality of monitoring**, inspection and follow-up should maintain standard protocol- it should cover all required issues of monitoring related to fire, electrical, and structural concerns
- A **standard safety monitoring and inspection protocol** should be developed for the plastic sector
  - Such a safety protocol should be **'RMG Plus'** considering the safety and hazardous nature of materials used in the plastic sector
  - In addition to fire, electrical and structural concerns, **this safety protocol includes storage of hazardous** chemicals flammable raw materials, use of gas lines, earthing of pipes, testing of different safety instruments and boilers

9. Conclusion and Recommendations

❑ Suggestions for international organisations

- **International organisations especially ILO** could take a major initiative in helping the plastic sector as part of its intervention beyond RMG sector on **improving occupational safety and health**
  - BPGMEA should request **ILO to develop a three-year partnership programme** targeting the OSH related issues highlighting better monitoring, strengthening capacity building, awareness raising of the management and workers, setting safety committees, maintaining safety protocols
  - Different kinds of workers safety and work modality issues could be better handled through **Better Work Bangladesh Programme** on a pilot basis
  - **Gender related issues** could be better guided by the ILO in the plastic sector

❑ Suggestions for BPGMEA

- The BPGMEA should take the lead role in making the plastic sector **'next RMG of Bangladesh'**
  - In this context it should develop **a five year long strategic plan**. The current plan may be upgraded focusing on sustainability and OSH issues
  - BPGMEA should set a **'OSH unit' gradually** to better inform the members about the safety related issues. Initially it could start with **appointing a OSH officer** and gradually expand its scope and coverage
  - BPGMEA should **sign agreement with private service providers** on fire, electrical and structural safety protocol expert agencies having exposure to work maintaining international standard. Such collaborations found to be effective in the RMG sector
  - The **Association should revise its membership criteria** by including safety related issues as prerequisite for new membership. Renewal of membership should be base don the newly added safety requirements

Thank You