COVID-19 and Impact on Employment : Assessing the Situation of Chattogram based Industrial Sectors

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EXECUTIVE SUMMARY

The basic objective of the study was to assess the impact of COVID-19 on employment in the Chattogram based industrial sectors. Six sectors, as per the terms of reference, were selected for the purpose of the study. They are RMG, Construction, Hospital, Restaurants, Port and Transport sectors. To achieve this objective, we conducted a survey comprised of two groups of samples – workers and firms, covering all the six sectors. Some 300 workers and some 50 firms were mostly selected randomly from the lists. In addition to collecting quantitative and qualitative data, three FGDs (two FGDs involving workers and one FGD for firms and stakeholders) were conducted.

As in previous studies, several unforeseen contingencies including identifying the samples always adversely affect targeted primary data collection in this study. Consequently, we could not complete collection of data within the stipulated time; we lagged from the beginning of the study including coordination with the Chattogram office. Despite the constraints, we have been able to complete the data collection successfully.

FINDINGS FROM THE WORKERS SURVEY

The critical findings are quite well known or well perceived. The key findings of quantitative survey are as follows:

First, some seventy percent of the workers at the aggregate level were affected by Covid-19. However, intensity varied by sector. The workers in three sectors, as presented in Table I, – restaurant, construction, and transport – were worst affected by COVID-19 induced lockdown[1]. Port users' workers were moderately affected. Relatively least affected sectors were the RMG and health sectors. The respondents were 33 years old on an average, and most of them were male (81%) (Table-5 in main report). About 42% of the respondents went to high school and studied between grade-VI and secondary school. More than half (68%) of the participants were married. On average, there were 5 members in a family, while the mean earning member in the family other than the respondent was around one. On average, the workers had 12.3 years of work experience. About 43% of the respondents were fully unemployed during the lockdown period, with the unemployment rate being quite high for the affected group compared with the unaffected counterpart (55% vs. 17%). The participants, on an average, worked

1 In this report, we consider the general holiday and the restrictions announced by the government of Bangladesh from March 24 to May 30 for preventing the spread of COVID-19 and protecting the people from it as "lockdown", which was extended up to July 2020 in case of transport, housing, and restaurant sectors.

for 23.5 hours and earned Tk. 6,468 per month during lockdown. Those in the affected group earned an income that was substantially lower than the unaffected group (Tk. 3,772 vs. Tk. 12,809). The affected group maintained an average savings amount of Tk. 5,902 as opposed to Tk. 30,608 for the unaffected group.

Table-I: Percentage of workers affected by COVID-19 by sector

	Total (N)	Affected	Unaffected
Garment	52	56%	44%
Port	49	59%	41%
Construction	49	90%	10%
Restaurant	45	98%	2%
Health	51	31%	69%
Transportation	50	90%	10%
Total	**296**	**70%**	**30%**

Second, around 98 percent of the workers, as noted in Table-I, were affected in restaurant sector, followed by 90 percent in both construction and transport sectors during the lockdown period; three other sectors-port, garment, and health were less affected with 59 percent, 56 percent and 31 percent of the workers respectively during the same period due to COVID-19 induced lockdown.

Third, at the aggregate level, amid the lockdown period, intensity of unemployment increased by some 40 percent, and intensity of full employment decreased by around 54-percentage point (Table-II). As a result, average working hours per week declined to 24 hours during the lockdown period from the pre-lockdown average working hour of 58 hours a week as a consequent of 47-day closure of firms on an average. Around 49 percent (48.99% exactly) employees did not receive their salary (Table II). Intensity of Covid-19 on employment varies by sector.

Table- II: Aggregate level impact of COVID-19 (Lockdown)

Work type	March 2020	Lockdown Period
Fulltime, N (%)	285 (96.3)	126 (42.7)
Part-time, N (%)	1 (0.3)	41 (13.9)
Unemployed, N (%)	1(3.4)	128 (43.4)
Secondary work, N (%)	41 (13.8)	45 (15.2)
Hours worked per week, $Mean\ (Std\ Dev)$	58.0 (20.33)	23.5 (27.11)
Mean days factory remained closed, Mean (Std Dev)	0.27 (0.90)	46.9 (47.57)
Salary received, N (%)	296 (100)	151 (51.01)

On the other, we find that unemployment rate varies by sector (Table-III). It was 80 percent (highest rate) in restaurant sector, followed by 64 percent and 56 percent, respectively for construction and transport sectors. By duality, it is positively related with the number of days of closure of firms. On an average, restaurants were closed for 90.13 days, construction works were closed for 75.59 days, and transport sectors were closed for 61.14 days. Consequently, we found that 82 percent of the restaurant employees did not receive their salary in the time of lockdown. It was 80 percent for construction and 74 percent for transport sector. More than 50 percent of employee in all other sectors received salary during lockdown.

Table-III: Work-related information over time

		Work type			Secondary work N (%)	Hours worked per week, mean	Mean days of factory remained closed, mean	Salary received N (%)
Area		**Fulltime N (%)**	**Part-time N (%)**	**Unemployed N (%)**				
Restaurant (N=45)	Mar-2020	44 (98)	0	1 (2)	2 (4)	64.93	0.06	45 (100)
	Lockdown Period	3 (7)	6 (13)	36 (80)	11 (24)	3.33	90.13	8 (18)
Construction (N=49)	Mar-2020	47 (96)	1 (2)	1 (2)	11 (22)	56.55	0	49 (100)
	Lockdown Period	8 (17)	9 (19)	31 (64)	9 (18)	11.98	75.59	10 (20)
Transport (N=50)	Mar-2020	49 (98)	1 (2)	0	5 (10)	67.16	0	50 (100)
	Lockdown Period	13 (26)	9 (18)	28 (56)	9 (18)	14.6	61.14	13 (26)
Port (N=49)	Mar-2020	49 (100)	0	0	7 (14)	58.18	0	49 (100)
	Lockdown Period	26 (53)	8 (16)	15 (31)	3 (6)	34.96	24.33	28 (57)
Garment (N = 52)	Mar-2020	49 (94)	0	3 (6)	4 (8)	51.65	1.16	52 (100)
	Lockdown Period	32 (62)	8 (15)	12 (23)	4 (8)	27.63	31.19	46 (88)
Health (N = 51)	Mar-2020	47 (92)	0	4 (8)	12 (24)	50.55	0	51 (100)
	Lockdown Period	44 (86)	1 (2)	6 (12)	9 (18)	45.88	4.71	46 (90)

Fourth, because of the narration in the above second, economically workers became worse-off. Total income declined at the aggregate level by some 50 percent. But the intensity of decline was higher for the workers in the restaurant and transport sectors. There was a decline in income by around 86 percent. Income fell by some 13 percent for the health and around one-third for the RMG workers. Modest fall was noted for construction and port users' workers. Quite a significant percentage of workers had secondary income. Not only total income decline, but secondary income also declined.

Fifth, how did the workers maintain their livelihood? Households maintained their livelihoods using three means – use of savings, consumption rationing, sale of assets. Around 70 percent of the affected workers used savings in meeting consumption expenditures (Table IV). Generally, most of the affected workers regardless used savings to cope with the adverse shock of COVID-19 induced lockdown.

Sixth, not all the affected workers used borrowing as another means of coping. Around 50 percent of the affected workers borrowed to some extent (Table IV). This happened when savings was not sufficient to meet the consumption demand. Only one-third of the affected workers in the RMG and health sectors borrowed for consumption purpose. In other sectors, more than 60 percent of the affected borrowers had borrowed to meet consumption need.

Seventh, not all of them were lucky to use savings and borrowing to meet their full consumption needs. Some of them were forced to sale property. Some 10 percent of the workers did sell whatever limited properties they had to cope with the situation.

Table-IV: Erosive and non-erosive coping strategies of the affected workers by sector

	RMG	Port	Construction	Restaurant	Health	Transport	Total
	(%)	(%)	(%)	(%)	(%)	(%)	(%)
Dissaving	66	83	67	73	50	73	70
Borrowing	31	72	45	59	38	62	53
Selling property	12	7	5	8	0	4	7
Consumption rationing							
Half meal	31	34	27	34	6	31	29
Occasional meal skipping	10	10	16	9	0	7	10
Temporary employment	14	7	7	5	0	2	6
Total (N)	**29**	**29**	**44**	**44**	**16**	**45**	**207**

Eighth, under some extreme circumstances, some affected workers had to ration consumption. Some 29 percent of the affected workers rationed consumption by food rationing. Under some more extreme situation, some 10 percent of the workers had to skip meal occasionally. All these extreme situations or circumstances were experienced relatively more by the affected workers in transport, restaurant, and construction sectors.

Ninth, the affected workers have recovered from the shock by the end of August 2020, almost two months after the lockdown was withdrawn in the beginning of July. Not all could recover. Some 78 percent of the affected workers had their pre-level income restored by the end of August (Table V). Some 12 percent of the workers could recovery partly (below 50 percent). The intensity of partial recovery was more pronounced for the workers in the transport sector, followed by the restaurant and construction sectors. The workers with long experience recovered quickly than the young workers. This was also supported by our econometric analysis.

Table-V: Income recovery of workers by sector

Percent	Garment	Port	Construction	Restaurant	Health	Transport	Total
	(%)	(%)	(%)	(%)	(%)	(%)	(%)
<25	0	0	0	0	0	0	0
25 - 50	0	0	0	0	0	10.20	1.79
50 - 75	4.44	6.12	10.42	4.65	2.17	20.41	8.21
75 - 100	8.89	14.29	18.75	4.65	8.70	16.33	12.14
100	86.67	79.59	70.83	90.70	89.13	53.06	77.86
Total	100	100	100	100	100	100	100.00
N	45	49	48	43	46	49	280
Mean wage (taka)	12,887	13,632	15,804	11,958	13,559	13,946	13,657

Tenth, insurance mechanism like savings has played a key role in smoothing consumption and recovering from early shock of COVID-19.

Eleventh, the role of trade unions in unorganized sectors was very limited. They were quite active in the health sector. The same initiative was visible in RMG sector with the significant timely initiative taken by the government. In the port sector, the port authority with the help of port users' workers association provided with financial support from the 'welfare fund' to the extent of BDT 11,000 including loan of BDT 5,000 to the workers of the port users, namely berth, terminal and ship handling operators.

Twelfth, covid-19 has created a long-term impact on the lives of many workers. Although the economy has opened, employment and income recovery have taken place at the pre-lockdown level. Some 22 percent of the workers has remained as net-borrowers. That means, they are trapped in long-term indebtedness.

COMPLIMANTARY EVIDENCE FROM FGD

The quantitative findings are corroborated with the qualitative findings. The FGDs of the workers provide a similar gloomy picture of life. Based on the FGDs, we could easily classify the workers into two groups – most affected and moderately affected. It became clear that workers from restaurants, transport and construction sectors were most affected by COVID-19; the least or moderately affected in other three sectors. In this case, we explored many sad but remarkable stories from the samples of each sector. Of which a few cases have been cited below:

> "…before the lockdown, I used to earn 11,000 to 12,000 taka per month, actually my salary was 5,500, and the rest of the amount was from tips. Now the income is like half of my previous income since there aren't customers like before…. I have house rent due, I borrowed 40,000 from my brothers…..we had 25,000 in hand….we spent our livelihood on this amount during lockdown…we bought 1 kg instead of 3 Kg…. We lived on mashed potato and dry fish…. my boss did not receive my phone calls…" A Restaurant Worker stated.
>
> " …one of my daughters is in class 5 and another one is in class 4…my son is in class 1…I used to spend 1,500/- for their coaching… I am compelled to stop this now…school is off…no study…"- transport worker
>
> "…contractors were fine…., but daily labors like me….our distress is indescribable…I earned around 14,000/- per month before Corona…I was at home for 15 days, I did not have anything to eat….I got out to look for work… I went to Halishohor for work…I worked for 550/, even for 300/- which was usually 700/- before Corona…but it was for few days…finally I was compelled to sell my wife's gold….At that time all shops were closed…I called one of my known jewelers, then I mortgaged the gold to him and got 10,000/-….now I don't work under the contractor from then since I did not get any help from them during my distress….I go to labor market at Chawk Super Market…" a Construction worker stated.

"…..I worked in a garment factory…. I was in maternity leave before the general holiday due to Corona, it was leave for 112 days, when I came back for joining after lockdown, my company gave the salary of 56 days, took signature from me on a white paper and told me that my service is no longer required….later on I came to know that as the company fired many employees….I even did not get the due salaries….", distressed situation of a Garment worker.

What is the intensity of impact on the life of the workers? The story became clear that workers in construction, restaurants and transport sectors had to take major blow from the COVID-19. Although initially these workers could survive on their savings, they could not carry for long time. As reported by the workers, food insecurity became a critical issue in their lives. Many of them had to ration their food forcing them to move from three full meals to two meals, and in some cases even to one meal a day. The workers in hospital, port and RMG sectors were little better-off because of the government initiatives and/or the nature of business. Despite lockdown, port operated at some capacity; RMG workers could receive their salary under the stimulus package of the government. Despite potential risk, hospitals had to remain open to meet-up with overwhelming number of COVID-19 patients.

The FGD of firms and stakeholders provided some analysis of the state of workers in lockdown period and afterwards (Table VI). Given the nature of RMG business, the operating and financial sustainability was hinged upon international order; in many cases RMG-capacity reduced significantly. This was also relevant for port operations. Because of the reduced export and import related activities, port has also operated at a reduced capacity.

Table-VI: Themes identified and the findings

Themes/Topic	Issues Raised
1. Employment Issues	- Job loss - Reduced salary - Employer's role - Labour Federation's role - No formal appointment letters - Firing from job without prior notice
2. Value Chain Issues	- Interrupted supply of raw materials - Shipment delay & limited distribution - Limited workforce/reduced number of workers

3. Operation and Profitability Issues	- Stopped operation - Reduced operation - Costly operation - Reduced demand - Cancellation of previous order - Reduced buying power - Business contraction - Stopped loan/lease rental repayment & rent payment - Less Profit/high Loss
4. Sustainability Issues	- Management and commitment - New opportunities for business - Integration of political commitment and research - Governmental Policy support

It became clear from the FGDs and the quantitative analysis that workers were affected; it was matter of degrees in different sectors. The reality that workers had to ration their food consumptions; many of them have become more indebted. This is particularly true in construction, transport and restaurants. The workers have recovered within two months of the opening of the economy. Around 78 percent recovered their pre-lockdown income. Some 12 percent of the workers could recover only less than 50 percent of the pre-lockdown income level. They are more likely to trapped into the vicious cycle of poverty.

In addition to the FGDs and the quantitative analysis for assessing the impacts of COVID-19 on employment, workers' lives, and livelihoods, we have investigated employers' value chain system, workers' safety measures at workplace and the impacts of the same on their overall operations of business and how they responded to the challenges.

FINDINGS FROM THE FIRM SURVEY

Intensity of impacts on the lives and employment of workers was an outcome of the intensity of impacts on the firms. We derived the following findings from the analysis of the impacts on the firms:

First, all firms surveyed were affected by Covid-19. Because of the closure, they had to keep their firms also closed. Degree of closure was longer for the restaurant, construction and transport sectors.

Second, because of scaling down of operations and cancellation of work-order forced some RMGs to default in wages or salary payment. However, with the Bangladesh Bank stimulus packages the situation improved in the RMG sector.

Third, firms in the restaurant, construction and transport severely suffered from liquidity because of the closure during the lockdown. As a result, they could not extend financial supports to their workers in most cases.

Fourth, firms have recovered mostly when the lockdown was withdrawn. But the losses incurred by the firms during the lockdown period have brought new challenges for some of the firms. However, with subsidized credit facilities, the challenges may ease for the firms who can avail.

Could the state of firms affected by COVID be avoided? It could be but initial incomplete information about COVID and its extent of impact led to lockdown, perhaps following the footprint of international community. The responses of the government were relatively more focused on the RMG sector. However, Bangladesh Bank, as per designs of the government, came out with different stimulus packages for different size of firms and other beneficiaries including workers of some sectors. The important question from the perspective of workers was the employability and coping with the shock. No doubt that firm workers were affected, but even with the limited government responses, benefits could not be distributed for the workers for some limitations. What was missing in the most vulnerable three sectors (construction, restaurants and transport) in COVID-19 was formal list of workers employed in these sectors and sector-specific financial package. It also became apparent in the discussion that many firms lacked financial capability to cope with shocks and stand by the affected workers.

Despite the fact that firms were also affected during the lockdown period, it emerged during our discussion with the stakeholders that some of the firms resorted to the bad practices like termination and taking the signature of the workers on white paper during the lockdown period. Such behavior has deprived many workers of their rights. Workers are rarely seen as partners in the good and bad tines of a business. Absence of humane approach was reported in the meeting of the stakeholders.

RECOMMENDATIONS

In view of the findings, we have drawn the following policy recommendations to cope with shocks like COVID-19:

First, since savings have played a critical role in consumption smoothing, we recommend that in all enterprises, employers in collaboration with employees should create worker 'welfare fund' with contribution from both employees and employers. This should be managed by the association or by the employer jointly with worker leadership. In addition, special savings instruments may be developed to increase marginal propensity to save of the workers.

Second, workers need to be organized. Government should ensure that employees are organized in all sectors so that concerned association can work jointly with the employers. It is always better taking positive steps in the interest of the workers in situation like COVID-19 if workers are organized.

Third, there will be some long run impacts of COVID-19 and the lockdown period. Some 12 percent of the workers have partially recovered (less than 50 percent). In other words, these workers are more likely to fall below poverty line on perpetual basis. In order to assist them to smooth consumption, the government needs to bring these workers under the social safety net programs.

Fourth, not only the employers need supports to run their business, but workers also need supports from the government. As has been evident in this study, quite a significant percentage of workers are engaged to complement their low primary income. Loan facilities may be extended to the workers to finance their self-employment activities.

Fifth, entrepreneurs in construction, restaurant and transport are different from the RMG; they generate revenue when their businesses are open. The RMG sector could function in many cases because of the international work orders. Financial stimulus package should be drawn separately for these sectors.

Sixth, it is probably high time that government in collaboration with insurance companies introduce 'social insurance scheme' for the workers and employees.

CONCLUSION

Like all other studies, this study has some limitations. First, the study has been conducted over a small sample of 300 workers with a sub-sample of 50 workers from each of the six sectors. Certainly, larger sample would have always been better. Resource constraint of the sponsoring organization put us in a constraint. However, we might add here that we are confident of the robustness of the findings on two grounds –300 samples for aggregate analysis were sufficiently large, and findings from each of the six sectors truly represent the aggregate level findings as there was no large variance. Second, the study is limited to Chattogram. Therefore, it may not represent the national level.

The world has already witnessed the grievous effect of COVID-19 on public health as well as socio-economic condition. While workers from all sectors got adversely affected by the on-going pandemic, the experiences of construction, transportation, and restaurant workers were bitter than that of the RMG, health, and port laborers. COVID-19 type shock will have long run effects; but this is a shock. Shock of different types, particularly covariate shocks, will emerge. Adverse impacts of all these shocks will adversely affect the workers in future as well if we are not prepared.

Moreover, when we finalized the report at the end of December 2020, the situation of COVID-19, in terms of new cases and the death rate, was getting better (WHO, 2020e). However, the situation is getting worse again and the Government of Bangladesh has enforced a weeklong lockdown again from April 5, 2021 and a week of strict lockdown from April 14, 2021. Given the recurrence of lockdown, workers will be worst sufferers again. Whatever the workers have recovered will be lost again. More workers are likely to be trapped in long-term debt. The worsening situations can be avoided with a set of constructive and collaborative policies, as recommended above, with the participation of all stakeholders. Further research is highly recommended after this second wave for getting the trend on this aspect.

COVID-19 is a deadly shock with both short- and long-term impacts. Shocks will always be there. Covariate shocks will always have devastating effects. The worst affected groups in the labor market will be the workers in unorganized labor markets. To cope with long term shocks of COVID-19, multi-party initiatives will be required.

1. Introduction

The world has already witnessed the grievous effect of COVID-19 on public health as well as socio-economic condition. 'Lockdown', 'no-touch' emergency state situation, 'stay-at-home order' 'isolation', 'quarantine', 'social distancing' evoked by the COVID-19 have impacted the lives and livelihood all over the earth. Though people with higher education and stable jobs where telework is possible are comparatively at better position, the life of working public without work from home are putting themselves at risk (Blustein et al., 2020). The rapid spread of COVID-19 is placing economies and labor markets worldwide in a state of emergency. The slump in world trade and export demand, losses of working hours, nonessential business closures, the turmoil in the supply chain system, as well as the decrease of the local consumption resultant from COVID-19 has created unprecedented numbers of unemployment worldwide. The labor market with the unemployment rate soaring so high that the rate has not been seen since the Great Depression. International Labour Organization (ILO) noted that 'as job losses escalate, nearly half of the global workforce at risk of losing livelihoods' (ILO, 2020a).

The Organization for Economic Co-operation and Development (OECD) reported that the number of unemployed people in the OECD area increased by 18.4 million to 55 million in April (OECD, 2020). The unemployment rate rose faster among women than among men in OECD countries. Further, OECD documented that younger people (aged 15 to 24) are particularly affected with a surged by 5.5 percentage points (to 17.6%), compared to an increase of 2.7 percentage points for people aged 25 and above. Petrosky-Nadeau, & Valletta (2020) noted that the labor market of the USA is in a complete disruption with substantial job losses and a spike in unemployment to its highest level since the Great Depression.

According to the ILO nowcasting model, global working hours declined by 4.5 percent and 10.5 percent in the first and second quarter of 2020 respectively, compared to the pre-crisis situation (fourth quarter of 2019). These statistics are considerably warming where 4.5 percent is equivalent to approximately 130 million full-time jobs, (assuming a 48-hour working week) and 10.5 percent is equivalent to 305 million full-time jobs (ILO, 2020b). Further, ILO stated that 1.6 billion informal economy workers, as the most vulnerable in the labor market, are significantly affected by the COVID-19 measures (ILO, 2020b).

The COVID-19 has not only disrupted lives and businesses, but it has also manifested underlying fragilities in both the local and the global value chain that drives economies in developed and developing world. Traditional and modern domestic value chains are

more likely to be affected in different time scales due to the spread of COVID-19 and different restriction measures (Arouna et al., 2020). On one hand, the spread of COVID-19 has affected procurement of raw materials, logistics, processing, human resource and labor, marketing and sales since trading activities have already been contracted; on the other hand, subcontracting or outsourcing has allowed for a finer division of labor and greater gains from specialization within and across the countries could be seriously hampered.

Considering the value chain analysis, COVID-19 has impacted employment, lives, and livelihoods of different classes of workers in variant ways depending on the type of sectors selected in this proposed study. Among different sectors, the RMG as a manufacturing sector has been challenged by the upstream activities such as procurement of raw materials from outside and for operations including both inbound and outbound logistics which impact employment of workers in a negative way. For other selected sectors which fall in service industries (including transport, hotel and restaurants and port) this pandemic has affected the downstream of the value chain resulting a severe impact on employment in domestic businesses as well as on the economy as a whole.

Bangladesh, one of the Next Eleven emerging market middle income economies and a frontier market, is not immune to the COVID-19, hence severely hit by the shock wave. Similar to the other countries, the national economy of Bangladesh is severely impacted by COVID-19 disaster. According to ILO, lower-middle-income countries are expected to register the highest rate of hours lost, at 12.5 percent (ILO, 2020b). ILO also noted that Bangladesh is with 85.0 percent informal labor who are extremely vulnerable in this pandemic situation. Financial Express (FE) noted that the pandemic is hurting the 20.0 million youth labor force of Bangladesh (FE, 2020). The entire labor market of the country is going through a huge disruption. The working class of the country is the worst hit. Observations and available scattered information suggest that the COVID-19 has impacted the nature of employment: from full time to part-time contract; full-time to unemployment. While agriculture is least affected in terms of farming, but COVID-19 has greatly affected the industrial and formal employment. Many firms have been laid-off, and many firms have reduced their number of employees based on their size of product demand. The worst-affected are observed to be the contractual and day labor. Quite a number of sectors have been affected; but the commercial centers and industrial centers are the worst victims of COVID-19.

Chattogram, the commercial capital and the port city of Bangladesh, is under the huge pressure of COVID-19. The city is the contributor of 40 percent national industrial output and 80 percent of its international trade in the country. Different industrial sectors of the

city are under substantial stress. Layoff and termination without prior notice are very common now in the informal labor market as well as in the formal market. After the removal of the bar of lockdown, organizations have started to resume their operations. But questions are arising whether the organizations will be able to continue in full-fledged similar to pre-disaster. It seems reasonably impossible since safety measures for workers are not set reasonable and trustable, which can increase the number of infected persons as well as the death case. Besides, RMG is not obtaining foreign order similar to the pre-disaster phases the world trade shrunk. People contracted their travel plan in this pandemic situation although there are no direct restrictions to travel. Consumers are thinking twice to dine at restaurants. Healthcare professionals are at excessive risk due to lack of proper Personal Protection Equipment (PPE). Port is not running at its full capacity due to the decline of worldwide export and import. All these circumstances made a turbulence condition for the labor market in different industries in Chattogram. Further, the labor-intensive sectors in Chattogram usually attract a large number of daily labors from across the country (mostly the North Bengal of the country). Those labors often gather in set locations in different areas to be picked up by contractors. However, due to the restrictions on travel and gatherings imposed by the government, the workers are increasingly returning to their home areas. Therefore, production-oriented organizations where work from home is useless, as a result, are facing problems in their value chain both in primary activities and supportive activities. More specifically, operations (one of the five primary activities) and marketing and sales (another primary activity) are disrupted. Experiencing the problems, many organizations in China advised their employee to stay close to their organizations to avoid travel hassles.

Since Chattogram plays a role as the economic backbone of the country, the issues mentioned above should be addressed promptly to avoid the large extent economic collapse of the country. Considering this pandemic situation and its impact on the different industrial sectors in Chattogram, this research will analyze the current situation that the city is going through now. Policy recommendations and strategies will be made based on the assessment of the practical scenario of the port city that will be of relevance to the policyholders, professionals and different government and international agencies.

This research focused on highly affected six sectors of COVID-19 in Chattogram - such as RMG, Construction, Restaurant, Health & Diagnosis, Transport and Port. The researchers have concentrated on how COVID-19 influenced those sectors in terms of short-term and long-term employment, the influence on the economy from macro and micro perspectives. This study will also locate the current and upcoming challenges in those sectors due to COVID-19. We have also searched the avenues for workers who have

been affected by the COVID-19 and lost their works from the psychology of working theory and related social-justice oriented perspectives. Besides, the concentration has been placed to evaluate what major roles different stakeholders can play to uphold the health of those sectors as well as the national economy. We have also focused on how governmental and nonprofit interventions can reduce vulnerability.

Besides, we have focused on the degree of safety measures have undertaken by the organizations that resumed their operations to know the working environment's facilities to protect oneself from being affected by COVID-19. For better explaining the issues related employment, we have reviewed the different national such as Labour Act, 2006 (amendment 2018), Bangladesh National Labour Policy 2012, Bangladesh Labour Welfare Foundation Law, 2006, Occupational Safety and Health (OSH) Policy, 2013, and other related national policy instruments; and international policy instruments such as - International Labour Standards, Sustainable Development Goal (SDG) (special focus will be given on Goal 8) along with other relevant instruments available.

Finally, we have proposed that number of sectors will be six. But we felt that ideally the number of sectors should be limited to five sectors as this would enable the Research Team to assess impacts of COVID-19 with analysis both at the aggregate and sector level with reasonable sample size. Finally, both the number and the sectors have been finalized in consultation with the sponsor of the study.

2. Objectives of the Study

As per the Terms of References, the broad objective of the study is to assess the impact of COVID-19 on Employment in Chattogram based selected industrial sectors and analyze the situation of workers' lives and livelihood in these industrial sectors.

The specific objectives are:

- To measure and evaluate the impacts of COVID-19 on Employment in Chattogram based six selected industrial sectors,
- To identify the likely impacts on workers lives & livelihoods for basic needs,
- To assess the workplace situation including workers' health & safety issues, job security, workload, hygiene factors and others,
- To assess the policy arrangement and regulatory framework,
- To identify the role of different stakeholders to deal with COVID-19 situations,
- To develop a set of recommendations and the best way forward as future advocacy tools.

3. COVID-19 Scenarios

The Coronavirus Disease of 2019, later named as COVID-19, is an infectious and a rapidly spreading disease caused by the Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV2) (World Health Organization -WHO, 2020a). Due to its ability to attack almost all of human being and to spread all over the world as well as it caused to high infection and death rate, the WHO declared it as pandemic on March 11, 2020 (WHO, 2020b). Though the first case of COVID-19 was reported in Wuhan, China, on 31st December 2019 (WHO, 2020a), Bangladesh reported its first case on 08 March 2020 (WHO, 2020c). Since the disease is highly contagious and the number of fatalities were increasing, Chinese government ordered to quarantine Wuhan on January 23rd, 2020 (Lopez, Vasu, & Gallemore, 2020), whereas Bangladesh declared nationwide lockdown on 26 March 2020 (Kamruzzaman & Sakib, 2020). However, the nations have observed the severity of fatalities and devastating effects of COVID-19 on economic health. COVID-19 caused to 76,250,431 confirmed affected and 1,699,230 death cases all over the world as reported by WHO on 22nd December 2020 (WHO, 2020d). Though it was started in China, the beginning was very devastating in developed countries and some developed countries are experiencing the worse situation, for instance, as on 22nd December 2020, the USA is on the top in terms of both confirmed affected cases and death case with 17,712,290 and 315,318 respectively (WHO, 2020d). However, the current situation is different where the death rate of most of the developed countries has started to be reduced and the low-and-middle income nations are suffering a massive health crisis. For example, Brazil reported 186,764 death cases and India reported 146,111on 22nd December 2020, placing themselves in the second and third position respectively (WHO, 2020d). However, Bangladesh is considering itself as a nation with immense blessings of the Almighty with a death record of 7,312, as on 22nd December 2020 (WHO, 2020d), though it was thought that the death rate would be so high, and it would be really difficult for Bangladesh to properly manage the funeral. Nevertheless, from the month of December 2020, while we are writing this report, the second wave of COVID-19 has started in Bangladesh as well as in other countries too.

The extensive COVID-19 containment measures implemented by governments across the world have resulted in unemployment dramatically in most of the countries. The research on the topic is burgeoning. Though organized data is available in developed countries for extensive research in the area, data is not available in most of the developing and underdeveloped countries. Consequently, research studies on the topic are highly visible related to developed countries compare to developing or underdeveloped countries. The social science researchers and labour economist are

contributing substantially to provide the assessment of the impact of the COVID-19 crisis on jobs and workers. However, Sumner et al. (2020) estimated that COVID-19 poses a real challenge to the UN Sustainable Development Goal of ending poverty by 2030. After 1990, global poverty could increase because of this pandemic and it will slow down world's progress in reducing poverty (Sumner et al., 2020). The ILO, using "nowcasting" model, has continued to inspect the labour market impacts of the COVID-19. The ILO estimated that there will be between 9 and 35 million new working poor (at the higher World Bank poverty line of US$3.20 per day) in developing countries in 2020 (ILO, 2020c). For the International Food Policy Research Institute (IFPRI), Vos, Martin and Laborde (2020a, 2020b) estimate that a 1 percentage point slowdown of global gross domestic product (GDP) would increase poverty (at the lower World Bank poverty line of US$1.90 per day) by between 14–22 million people. On the other hand, World Bank recently reported that an additional 88 million people will live in extreme poverty in 2020 as a result of COVID-19 and this number could rise to 115 million (World Bank, 2020). However, there are extensive literature on poverty projection (Jedwab et al., 2020; Kartseva and Kuznetsova, 2020; Mahler et al., 2020; Parolin & Wimer, 2020; Sumner, Hoy, & Ortiz-Juarez, 2020). Even then empirical investigation is still in its infant stage. It was extensively predicted that the poverty impact of the COVID-19 will be immense in emerging market economies (Mahler et al., 2020; Sumner et al., 2020). Researchers have already started investigating the poverty impact of the COVID-19.

3.1 Developed Countries

Using traditional and non-traditional data to measure the collapse in the U.S. labour market, Bartik et al. (2020a) reported that the unemployment rate spiked by 10.6 percentage points between February and April 2020, reaching 14.4 percent, while the employment rate fell by over 9 percentage points. These changes were 50 percent higher than the two years' cumulative changes occurred during the Great Recession (Bartik et al., 2020a). Another study in the U.S. by Cortes and Forsythe (2020), using the data from Current Population Survey (CPS), the primary source of labor force statistics for the United States, noted that with a 10.3 percentage point increase in the unemployment rate, the job losses were greater for lower-wage occupations and the severely affected industries are food services, recreation, and accommodation in terms of employment losses. Kurmann, Lale, and Ta (2020) documented that Leisure and Hospitality and Retail Trade are the most affected sector in the USA. The findings of Kurmann, Lale, and Ta (2020) are almost in line with the findings of Cortes and Forsythe (2020). However, Kurmann, Lale, and Ta (2020) reported that these two sectors contracted by an estimated 19.8 million between mid-February and the end of April and

average weekly hours of workers still employed declined by about 10%. A study of Borjas and Cassidy (2020), about the adverse effect of the COVID-19 immigrant employment, pointed that the immigrant men had lower employment rates than native men due to the COVID-19 though historically immigrant men were more likely to be employed than native men where the rate of employment of immigrant men stood 67.1 percent by April 2020, more than 2 percentage points below the 69.5 percent employment rate of natives American. Forsythe et al. (2020) noted that Unemployment Insurance (UI) claims in the USA have received substantial attention with processing 27.9 million initial UI claims from March 21st through May 1st.

Considering another developed country, Canada, as the study area, a study by Lemieux et al. (2020), using the Labor Force Survey data, a monthly survey administered by Statistics Canada, reported that COVID-19 caused 32 percent decrease in aggregate weekly work hours among workers aged 20–64 years as well as a 15 percent decline in employment. According to Lemieux et al. (2020) most affected are younger workers, paid hourly, and non-union in the accommodation and food services sectors. Another study in Canada by Beland, Fakorede, and Mikola (2020) finds that a substantial decrease in aggregate work hours for women, immigrants, and less educated people over the period of February 2020 and May 2020.

Table-1: Distribution of Lost Jobs in the Lower Quartiles, by Employment Sector in Canada

Losses in	Distribution, %
Bottom quartile	
Retail trade	20.0
Educational services	10.2
Health care and social assistance	8.8
Information, culture, and recreation	6.0
Accommodation and food services	28.5
All other sectors	26.6
Second quartile	
Construction	8.8
Manufacturing, durable goods	10.9
Retail trade	13.2
Health care and social assistance	16.0
Accommodation and food services	9.5
All other sectors	41.7

Source: Lemieux et al. (2020)

A study in Ireland by Byrne et al. (2020) documented that severely affected sectors are Accommodation & Food Services and retail sectors, and the hardest hit workers are younger workers and those in the lower quintiles of the income distribution in terms of greatest number of job losses. As noted by Byrne et al. (2020) Approximately 620,000 people have been displaced from work as of April 28th. Tables 1 and 2 show the lost jobs by employment sector in Canada and Ireland. From Tables 1 and 2, we can conclude that accommodation and food service industries are mostly affected.

Table-2: Job Losses by Sector in Ireland

Losses in	Number of Employees
Public Administration and Defense	14,200
Administrative and support service activities	45, 400
Professional, scientific and technical activities	24,500
Human Health and Social Work Activities	22,200
Education	21,900
Accommodation and food services	127,000
Arts, Entertainment and Recreation	14000
Transportation and Storage	17,800
Construction	78,500
Manufacturing	36,900
Wholesale and Retail trade; Repair of Motor Vehicles and Motorcycles	89300
Other sectors	38,900

Source: Byrne et al. (2020)

A study in Germany by Bauer and Weber (2020) revealed that shutdown measures caused 60 percent of the considerably increased inflow into unemployment in April 2020 in Germany, and it caused unemployment in the short run by 117,000 people.

From March to April, 9.5 percent hours worked fell in just one month in Australia (Borland & Charlton, 2020). Borland and Charlton (2020) argued that the Australian labor market has experienced the most dramatic four months in the history From March to June 2020. In this period there was a large decrease in aggregate labor demand, evident in both monthly hours worked, and persons employed where the female workforce adversely affected than male (Borland & Charlton, 2020). As Borland and Charlton (2020) reported monthly hours worked decreased from March to May by 11.8 per cent for females compared to 9.5 per cent for males in Australia.

The study of Hassink, Kalb, and Meekes (2020) about COVID-19 effect in Netherland's labor market, using weekly administrative panel microdata, reported that COVID-19

outbreak had reduced employment by 2 percentage points, working hours by 1.5 percent and hourly wages by 0.3 percent, by the last week of March 2020.

Some studies were carried out in more than one developed country. For example, Bell and Blanchflower (2020) reported that the unemployment rate in the US was around 20 percent in April and a third of workers in Canada and the US have lost at least half of their income due to the COVID-19 crisis. Bell and Blanchflower (2020) also argued that COVID-19 caused a dramatic rise in unemployment insurance claims. Their findings also suggest that the severest hit groups are those at the margins of the labor market, the young, the least educated, the foreign born and minorities (Bell & Blanchflower, 2020). Another study was carried out by Fana, Pérez, and Fernández-Macías (2020) considering three developed countries: Germany, Spain, and Italy. They noted that Spain and Italy are the countries more likely to experience the worst employment implications of the confinement.

3.2 Developing Countries

The labor markets in developing countries have also witnessed a severe impact of COVID-19 in terms of unemployment, work sharing, furloughs, or reduced working hours. Though the body of literature on COVID-19's impact on labor market is growing in the context of developed countries, it is still scant in the developing country perspective (Jain et al., 2020). However, following are the few studies that considered developing countries as subject areas.

Unemployment rates in India, according to the Centre for Monitoring the Indian Economy (CMIE), stood at over 23 percent in the months of April and May, a three-times higher than the rate (7 percent) of the same time last year (Kapoor, 2020). Kapoor (2020) further noted that the mostly affected areas are agriculture, manufacturing, construction, trade, hotels & restaurants, and the workforce with secondary education and below have been the most vulnerable. Even the researcher forecasted that the GDP growth will turn negative in 2020-2021 though it be halved from 8.3% to 4.2% from the financial year 2016-17 to 2019-20.

A study by Inayah and Surisman (2020) on another developing country Indonesia, reported that 2,084,593 workers were sent back home on unpaid leave or whose jobs were terminated before April 20th, 2020. From them 1,304,777 were from formal sectors' 43,690 companies and 538,385 were from informal sectors' 31.444 companies.

Shabbir and Baig (2020) conducted a research in Pakistan. It was estimated that might lose a total of 1 million, 12 million, and 18 million jobs in phase-I, phase II, and Phase III, respectively due to lockdown measures (Shabbir & Baig, 2020). They estimated the following sectoral impact of COVID-19 as shown in Table 3.

Table-3: Sector-Wise Layoffs in Pakistan

Sectors	Lay Offs (in millions)	Sectors	Lay Offs (in millions)
Agriculture	5.6	Workers	12.16
Manufacturing	2	Paid workers	5.6
Wholesale	6	Street vendors	5.6
Transport and communication	1.95	Family Apprentices	0.3
Daily Wagers	20.27		

Jain et al. (2020) conducted a research on South Africa, and revealed that a 40% decline in active employment, from whom 50% comprises job terminations, and 20-33% of job losers fall into poverty, which translates to between 1 and 1.7 million job-losers. Further, considering the dependents, they accounted that between 3 and 5.5 million individuals fell into poverty as a result of this job-loss (Jain et al., 2020). Severely affected workforce are women, workers with lower levels of education, people in manual occupations, informal workers, and the poor (Jain et al., 2020).

A survey on Bangladesh by Genoni et al. (2020), using household data collected before the crisis and phone monitoring data collected after the start of the crisis, noted that job losses and temporary absence are widely reported in all three areas: Dhaka, Chattogram, and Cox's Bazar. Genoni et al. (2020) predicted that reduce of income, due to COVID-19, would push a large share of the population into poverty since 8 in 10 Bangladeshis were poor or vulnerable to falling into poverty. Genoni et al. (2020) documented 59% respondents lost their jobs from the surveyed 1,483 adults and job losses were higher in Dhaka (76 percent) than Chattogram (59 percent). Further, 80 percent of wage workers reported to loss their income Genoni et al. (2020).

Another study by Biswas et al. (2020) for Palli Karma-Sahayak Foundation (PKSF) was carried out in Bangladesh considering two unions as their subject area, one from Khetlal Upazila (with ENRICH program) and another from Sadar Upazila (Non-ENRICH program), both from Joypurhat district in Bangladesh, noted that the unemployment rate in ENRICH union was 45 percent during the COVID-19 pandemic (June 2020) and it was 75 percent in the Non-ENRICH union. Further, it was reported in the survey that about 95 percent households in ENRICH union and 100 percent households in Non-ENRICH union loss their income compared to last year income. The survey also documented that, the poverty rate and extreme poverty rate in ENRICH union were 2.5 percent and 0.75 percent respectively, one year before, and it was 10 percent and 7 percent respectively in Non-ENRICH union. Due to COVID-19 the poverty and extreme poverty spiked at

35.75 percent and 25.5 percent respectively in ENRICH union and 69 percent and 61 percent in Non-ENRICH union. However, the limitation of this study is it was conducted only in two unions of Bangladesh.

Another study in Bangladesh by Paul et al. (2020) revealed that livelihood of 94.1 percent respondents has been affected by the COVID-19 outbreak. Paul et al. (2020) also reported that in unemployed respondents, daily workers have been hardly affected by the COVID-19 outbreak.

A study conducted by Kabir, Maple & Usher (2020), using secondary data on lockdown period, described that COVID-19 has already impacted RMG workers' physical and mental and wellbeing in Bangladesh. They argued that this pandemic will have deep-rooted effects on these workers, particularly related to their health issues, unemployment and livelihoods.

Another study on impending economic distress in Bangladesh due to COVID-19 by Lalon (2020) also predicted high unemployment rate as a consequence of the pandemic. He pointed out that among many workers in semi-formal and informal job sectors like transport service, RMG and sole proprietorship, day labor *are the most deleteriously affected stakeholders of COVID-19 crowding out from their job.*

Other studies (Islam et al. 2020, Bhattacharjee 2020, Sultan, at el., 2020) also found the same phenomenon in RMG sectors in Bangladesh due to COVID-19. They portrayed that many garments workers are likely to get affected due to coronavirus pandemic that ranges from salary cut to job loss which ultimately will impact the socioeconomic condition of the country.

In his report on Bangladesh, Paton (2020) stated that large western buyers cancelled about $ 2.8 billion orders made to Bangladeshi Garments due to Corona. Situation got worsen when about 70% of the workers in the industry was sent home without a pay in the face a nationwide lockdown to fight the COVID-19 pandemic. Ensuring financial certainty and the purchasing power of workers became crucial for life and livelihoods of the for low-income people.

In a perception-based study on Bangladeshi citizens, Doza et al. (2020) found that community transmission was increased due to the partial lockdown in Bangladesh because of COVID-19. Due to the loss of lives and livelihoods, COVID-19 has created psychosocial and socio-economic insecurity among the people in society. Moreover, on one hand, it increased the healthcare crisis, on the other hand, it amplified economic burden and loss of GDP even after the resuming of industrial operations.

A study by Shammi et al. (2020) also revealed that there is an association between loss of life and livelihoods and unemployment due to business shutdown in Bangladesh. This study suggested for a long-term strategic plan for coordination among unemployment, job loss, shortfall of RMG export and incoming remittances, the socio-economic and development impacts along with the food insecurity as well as rising poverty due to COVID-19 at the community level.

In a study conducted on restaurant business in Rajshahi, Kuddus (2020) revealed that this sector is suffering a serious financial crisis in COVID situation; reasons are twofold: during lockdown the government ordered for shutting down the non-essential organization to fight against the spreading the corona virus and after lockdown, government also imposes stay order on various special programs like wedding, birthday, and other parties which is directly related to restaurant business. Besides owners, the workers of the restaurants are also in severe financial crisis due to sudden job loss which continued for almost four to five months.

Similar scenario of employment cuts and economic losses were observed in travel and tourism industry in Bangladesh. Deb and Nafi (2020) found in their study that Bangladesh has experienced an adverse impact on inbound and outbound tourism. Due to travel restrictions imposed by Govts international and domestic tourists have cancelled their bookings in Bangladesh, and outbound tourism activities have also been banned. Airlines have cancelled flights, while hotels are almost completely vacant which has an ultimate impact on supporting tourism agencies.

However, the overall literature supports that women, low-income workers, self-employed, immigrant, racial and ethnic minorities, less educated people, and workers working variable hours were severely affected by COVID-19 (Barrero, Bloom, & Davis, 2020; Bartik et al., 2020; B´eland, Brodeur & Wright, 2020; Borjas & Cassidy et al. 2020; Chetty et al., 2020; and Cortes et al., 2020). In sector-wise consideration, the accommodation and food service industries, leisure and hospitality and retail trade, Transport are mostly affected sectors (Byrne et al., 2020; Kurmann et al., 2020; Lemieux et al., 2020). Moreover, this review has identified the lack of research on the impact of COVID-19 on employment in a comprehensive way in industrial sectors in Bangladesh.

4. Research Methods and Data

4.1 Data Collection and Sample

Three sets of data have been generated for the purpose of the study. These are (i) aggregate level data; (ii) firm level data; and (iii) individual/household level data. All data have been collected, to the best effort, at four points – March 2019, March 2020, Lockdown period, and August 2020. This has enabled us to capture a comparable state of outcome variables.

4.1.1. *Aggregate Data*

Aggregate data on the structure of employment and livelihood as well as risk minimizing strategies have been collected on the required sectors for the pre-COVID-19 and post-lock down period from the secondary sources, firms, and different bodies, and also using a structured questionnaire.

4.1.2. *Firm Level Data*

Given the small budget and challenges access to, we have collected data from 40 firms representing six sectors subject to mutual agreement. The firms have been selected purposively rationalized by firm size (small, medium, and large). This enabled us to make a comprehensive analysis of the impact of COVID-19 on firm level outcomes.

4.1.3. *Individual Level Data*:

We have interviewed some 300 individuals (50 from each sector) comprising employed, partially employed and unemployed. In selecting these individuals, we strove to balance between different forms of employment – regular salaried employment, contractual regular employment and daily wage-based employment to apply sound statistical techniques.

4.2 Data Sources

The study employed both qualitative and quantitative methods in collecting data from the respondents. In particular, we conducted 3 Focus Group Discussions (FGDs)[2] and survey of firms and workers of the selected industries. These methods all together provided us with valuable baseline data on the existing (COVID-19) and previous (Pre-COVID) labor market conditions of the industries. This data collection methods, employing multiple strategies, ensured cross-validation of the data and enhanced understating of the labor market effects of COVID-19 in the various sectors.

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In our research, we conducted three Focus Group Discussions (FGDs) in two phases. In the first phase, we conducted two FGDs consisting of worker representatives from the selected sectors. The third FGD involved persons owning firms and holding managerial positions in different sectors but possess similar backgrounds and representatives of government officials, NGOs, CSOs, and TUs based in Chattogram. The details of the discussions have been reported in section 6. Also, we have collected data from 40 firms of the selected sectors (except public sector industries) using a structured questionnaire. Proportionately, higher emphasis has been given to the RMG sector. For the firm level data, personnel from top level management (managers or owners) have been interviewed by the members of research team and the trained investigators.

Finally, we interviewed a total of 300 respondents from among those currently working and those lost jobs due to pandemic situation, using a structured questionnaire.

4.2.1. Study Area and Sampling

The survey was conducted in three large areas of Chattogram city, with Bandar upazilla (sub-district) being the first. The reasons behind choosing this area include a high concentration of RMG workers and the location of the largest port of the country. Most RMG factories of the city are located in the CEPZ of Bandar upazilla. The other sectors are equally present in this thana[3]. Next, we also collected data from the adjacent areas of the Chattogram railway station. This also allowed us to interact with concentrated restaurants, and transport. Finally, we conducted survey in the Chittagong Medical College area to collect information from respondents working in the health and diagnosis sector. These three study areas provided us with a good opportunity to interview respondents from the other three targeted sectors of transport, restaurant, and construction as well. We followed a purposive sampling method to choose the survey participants.

4.2.2. Survey Questionnaire and Field Investigators

The investigators' team developed a structured questionnaire, incorporating both close-end and open-end questions. The instrument was designed in a way so a complete analysis of the pre and post-lockdown labor market situation in the six specified industries in the city of Chattogram becomes possible. The first section of the instrument included questions on socioeconomic and demographic characteristics. The next section asked questions relating to the key variables of the analysis, including employment status, wages or salary, work hours, profession shift and so on. A detailed

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set of questions on workplace safety was asked in the final section of the instrument, especially focusing on measures taken to prevent oneself from coronavirus infection.

Twelve experienced field investigators, six males and six females, from the Social Science and Business faculties of the University of Chittagong were recruited to work as interviewers. A day-long training was provided to the field investigators on various aspects of data collection, including a sound understanding of the instrument, recording responses, and minimizing errors. A graduate student experienced in performing data entry and associated tasks was hired as a Research Assistant.

4.3 Analyzing Data

We performed descriptive statistical analysis, expressing categorical variables as numbers and proportions, normally distributed numerical variables as means and standard deviations.

We collected data at four different points to track the changes in the various labor market outcomes. We focused our attention on March 2019, March 2020, Lockdown period, and August 2020. While the data for March 2019 helped us check their consistencies with that for March 2020, the final analysis relied on the three periods starting from March 2020. We view the entire period of April through June as the affected period, as this included state-imposed lockdown and post-lockdown vulnerable time for many sectors. We considered March 2020 and August 2020 as the pre-lockdown and post-lockdown normal periods, respectively. Working status, fulltime, part-time, or unemployed, and working hours, measured in weekly aggregates, are the two indicators of labor supply that we focused on. The whole analysis was performed dividing the sample into two groups, one comprising the affected individuals and the other unaffected employed in different sectors of the city of Chattogram. To make the definition of 'affected' operationalized we used three employment related variables. We identified a worker as affected if at least one of the following three conditions was met: 1) his or her income in lockdown period went below the income level of March 2020, 2) became part-time or unemployed during lockdown given he/she was fulltime in March 2020, 3) working hours dropped during lockdown compared with March 2020. Given this, we consider that the impact of COVID-19 is the difference-in-differences estimate measured as follows:

$$Impact\ of\ COVID-19 = \left(Y^{A}_{Lockdown} - Y^{A}_{March\ 2020}\right)/Y^{A}_{March\ 2020} - \left(Y^{NA}_{Lockdown} - Y^{NA}_{March\ 2020}\right)/Y^{NA}_{March\ 2020}$$

Where, $Y^{A}_{Lockdown}$= Mean value of the outcome variable of interest during lockdown for the affected group of workers.

$Y^{A}_{March\ 2020}$= Mean value of the outcome variable of interest in March 2020 for the affected group of workers.

$Y^{NA}_{Lockdown}$ = Mean value of the outcome variable of interest during lockdown for the unaffected group of workers.

$Y^{NA}_{March\ 2020}$= Mean value of the outcome variable of interest in March 2020 for the unaffected group of workers.

We used a number of econometric techniques to analyze the survey data. First, a binary logit model was estimated to model the probability of being affected. In this case, the dependent variable 'being affected' assumes a value of 1 if the individual belongs to the affected group and 0 otherwise. Second, we estimated three binary logit models to investigate the predictors of the coping strategies of the workers during lockdown. In this set of regressions, the first outcome measure 'selling property' takes a value of 1 if the worker sold property to finance the necessary expenditures and 0 otherwise. The second outcome measure 'dissaving' assumes a value of 1 if the respondent used savings to finance expenditure and 0 otherwise. The third coping measure of borrowing assumes 1 if the respondent borrowed from formal or informal sources to finance lockdown expenditure and 0 otherwise. Next, the consumption rationing was estimated based on two variables of half meal and occasional meal skipping. Half meal assumes a value of 1 if the respondent spent days taking half meal and 0 otherwise while the variable occasional meal skipping takes on 1 if the respondent skipped a full meal and 0 otherwise. Two more coping strategies of change in working status and accepting reduced salary were modeled using the ordered logit and binary logit models, respectively. The three levels of working status are fulltime, part-time, and unemployed and they assume 1, 2, and 3 respectively, creating a clear order. The variable accepting reduced salary assumes a value of 1 if salary got reduced by the employer and 0 otherwise. Finally, we modeled labor market outcomes of working hours and wage. We used left-censored Tobit models, as for many workers in the six sectors, the length of working hours and wage decreased to a level of zero. To test the robustness of the

estimates of Tobit coefficients, we used a zero-inflated model namely negative binomial. All models were controlled for demographics, including age, gender, education, total work experience, experience at the current factory, wage in March 2020, number of workers in the firm, and sector fixed effects. All statistical analyses were performed using Stata/MP 13.

4.4 Ethics and limitations

The interviewer first informed the respondents of the very purpose of the study and explicitly asked for their consent before starting the interview. The respondents were informed that the data will not be used for purposes other than the study and they can refrain themselves form answering questions anytime during the interview. The respondents' anonymity and confidentiality were assured. One limitation of the study is the dependence on self-reported information, which might have caused recall bias. However, a short recall period of approximately six months in our case helped mitigate such bias. In addition, the survey instrument included many questions that made the respondents recall from the past easily, e.g., wage cut in the last six months.

In the following, we have discussed the first phase of the field study which has been conducted in this research.

5. Quantitative Analysis and Interpretation: Questionnaire Survey (QS)

5.1 Extent of Affected Workers in Covid-19 and the Characteristics

Workers are affected by COVID-19. The question is to what extent? For a better understanding of the impact, we need to understand the characteristics of the affected workers. This characterization of workers for affected and unaffected groups can be examined from two different aspects as follows:

5.1.1 Aggregate Level

In the definition of affected workers, we have found 70% of the workers were affected at the aggregate level (Table 4). This rate of affected workers varies among the sectors. Three sectors- construction, restaurant, and transport have been found above the mean affected rate and the rest three sectors are below to the average. Restaurant is the highest affected sector due to the COVID-19 with 98% affected rate, followed by transport and construction with the same rate of 90% whereas the Health sector is the least affected with 31% affected rate. However, the intensity of affected workers was modest (below sixty percent) in both Garment and Port sectors.

Table-4: Percentage of workers affected by COVID-19 by sector

	Total (N)	Affected	Unaffected
Garment	52	56%	44%
Port	49	59%	41%
Construction	49	90%	10%
Restaurant	45	98%	2%
Health	51	31%	69%
Transportation	50	90%	10%
Total	**296**	**70%**	**30%**

Considering this identification and degree of both affected and unaffected workers aggregately, it requires to characterize dichotomous groups of workers (affected and unaffected) in terms of two dimensions- demographic and economic. In this group characterization, *six variables- age, gender, education, marital status, family size, and other earning members in the family* have been considered as demographic dimension and *six variables-work status, work experience, work hours, income, expenditure, and savings* have been considered as economic dimension.

In aggregate analysis (Table 5) for demographic dimension, there is no meaningful difference between affected and unaffected groups of workers in two variables including age and family size. They are same in numbers (age- 32 years and family size- 5 members) with the aggregate figures (age- 33 years and family size- 5 members). However, they (affected and unaffected groups) differ each other in three other variables including gender, education, and marital status. Gender of affected group (male 91%, female 9%) differs from unaffected group's (male 57%, female 43%) with the aggregate percentage (male 81%, female 19%) where higher percentage of male has been found in affected group[4]. This is true for marital status with the percentage of affected group (married 70%, unmarried 30%) and unaffected group (married 64%, unmarried 36%) given the aggregate value of married 68% and unmarried 32% where more married workers belong to affected group.

4 Since restaurant, construction and transport sectors were found as the most affected sectors, and no female workers were found in those sectors, this can be considered as the reason behind this large percentage of affected male respondents. On the other hand, 57% of the unaffected respondents were male and 43% were female.

In the analysis of economic dimension of characterization of affected and unaffected worker groups, affected group differs in all variables: income from main work or principal source (Tk.3,772 versus Tk.12,809) from unaffected group. The workers of affected group have more average experience (13 years compared to 10 years of unaffected group), less fulltime status (25% versus 83%), significant number of less work hours (15 hours versus 45 hours), insignificant amount of more income from secondary source (average Tk. 4,511 versus Tk. 3,280); less other family members income (Tk. 7,729 versus Tk. 13,838), and significant amount of less savings (Tk. 5,902 versus Tk. 30,608). It has been clearly found that affected group of workers has less economic power in terms of most of the variables under consideration.

Table-5 : Descriptive statistics of the respondents by 'affected' status (N=296)

	Total (N=296)	Affected (N=207)	Unaffected (N=89)
	N (%)	N (%)	N (%)
Socio-demographics			
Age (years), $\bar{X}$ (SD)	32.9 (11.3)	33.3 (11.4)	31.9 (11.1)
Gender			
Male	240 (81)	189 (91.3)	51 (57.3)
Female	56 (19)	18 (8.7)	38 (42.7)
Education			
Nil	37 (13)	30 (14.5)	7 (7.8)
Till class V	75 (25)	62 (30)	13 (14.6)
Class VI to SSC	124 (42)	83 (40.1)	41 (46.1)
HSC and Diploma	44 (15)	23 (11.1)	21 (23.6)
Bachelor and above	16 (5)	9 (4.4)	7 (7.8)
Marital status			
Married	201 (68)	144 (70)	57 (64)
Unmarried	95 (32)	63 (30)	32 (36)
Family size, $\bar{X}$ (SD)	5 (1.82)	5.05 (1.90)	4.85 (1.63)
No. of other earner, $\bar{X}$ (SD)	1 (0.89)	0.98 (0.92)	1.04 (0.82)
Work, income, and savings			
Experience (years), $\bar{X}$ (SD)	12.3 (10.4)	13.1 (10.5)	10.23 (9.8)
Working status			
Fulltime	126 (42.7)	52 (25.2)	74 (83.2)
Part-time	41 (13.9)	41 (19.9)	0
Unemployed	128 (43.4)	113 (54.9)	15 (16.9)
Working hours/week, $\bar{X}$ (SD)	23.5 (27.1)	14.5 (22.6)	44.7 (25.0)
Wage/month, $\bar{X}$ (SD)	6,468 (7,921)	3,772 (5,840)	12,809 (8,562)
Secondary work	45 (15.2)	34 (16.4)	11 (12.4)
Income from secondary work/month, $\bar{X}$ (SD)	4,122 (6,693)	4,511 (6,887)	3,280 (6,305)
Other income/month, $\bar{X}$ (SD)	2,120 (9,383)	1,660 (5,955)	3,190 (14,507)
Income by other earner/month, $\bar{X}$ (SD)	9,551 (15,128)	7,729 (10,011)	13,838 (22,574)
Savings, $\bar{X}$ (SD)	126,78 (67,635)	5,902 (30,476)	30,608 (118,054)

Note: All monetary figures are in Bangladesh Taka. SD = Standard deviation

5.1.2. Sectoral Level Analysis of the Characteristics

Both demographic and economic dimensions of affected and unaffected groups can be studied by sector. The demographic and economic characteristics vary by sector. Sector-wise age of the participants in Figure 1 demonstrates the average age of the respondents. Relatively, the samples in port have higher age; it probably reflects experience. The average age of the port users' workers was estimated at 39 years. It is followed by transport sector (37 years). The garment sector has relatively younger workers with a mean age of 27 years, followed by construction sector (30 years). Here, the highest two groups- port and transport sectors are above the mean age of aggregate workers and the lowest two groups- garments and construction sectors are below the aggregate mean.

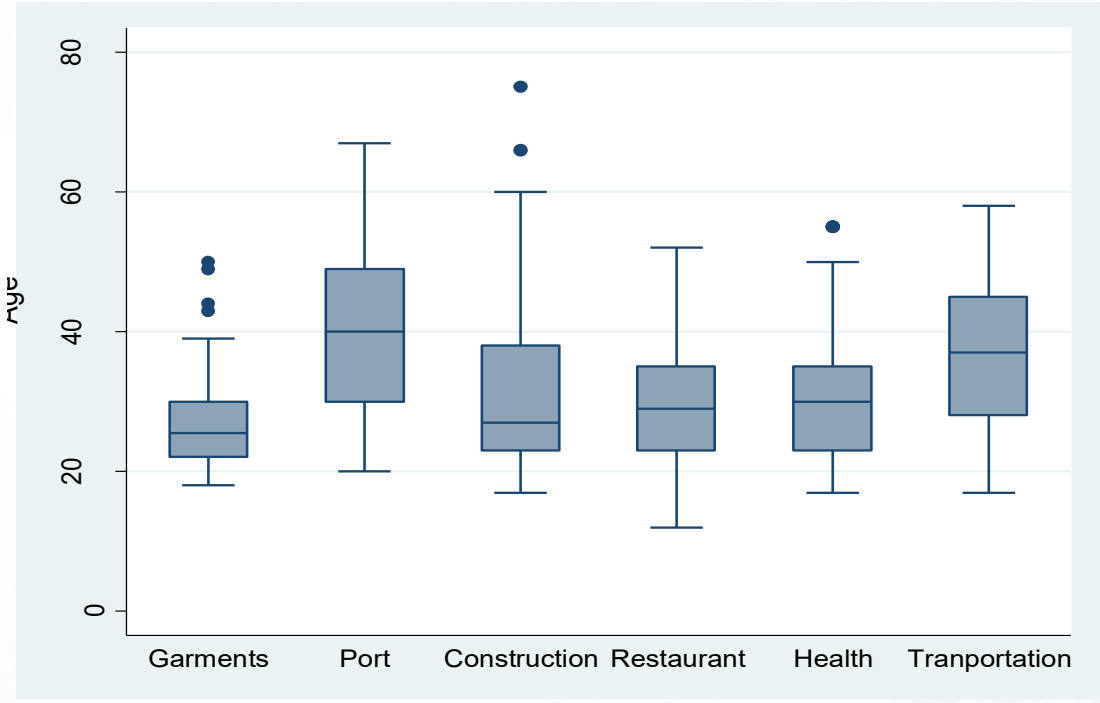


Figure 1: Age of the respondents across the sectors

The gender distribution of the respondents is 81.08% male and 18.92% female. Figure 2 portrays the sector-wise gender distribution of the participants. In three sectors, namely -Transport, Construction, and Restaurant, no female participants were found. The highest participation of female (67 percent) has been observed in the Health sector. In Garment sector, there were 41% female participants, and in Port 2% female was found.

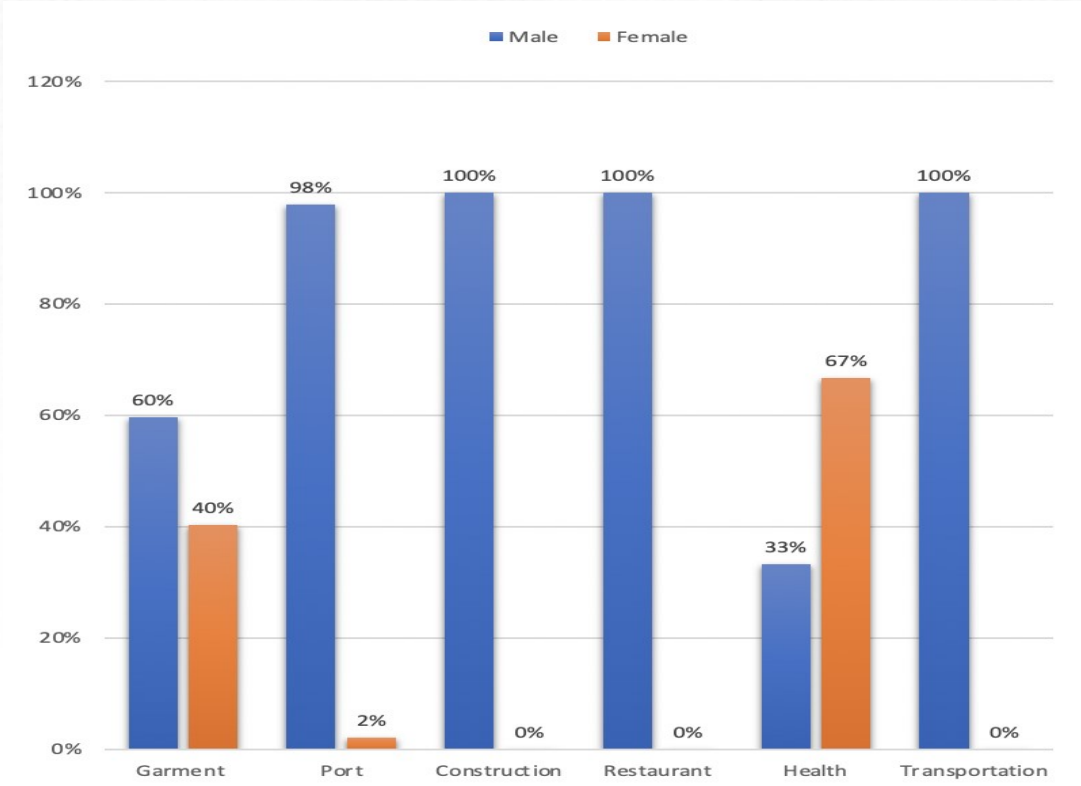


Figure 2 : Gender distribution of the respondents by sector

Unlike age distribution, educational qualifications of the samples vary significantly (Figure-3). As expected, the higher percentage of the respondents, relatively, in the Health sector have highest level of education, where 11.76% of the respondents holds Bachelor or Master's degree and 47.05% holds the Higher Secondary Certificate (HSC) or Diploma certificate (maximum in both category in all the sectors). On the other, the garment sector, 61.54 percent have education between Class Six and Secondary School Certificate (SSC). The respondents of the restaurant sector have relatively lower education. For instance, 48.89% of the respondents went only to primary school (class one to class five) with none being illiterate, while 7.84 percent of the samples in the health and around 25 percent for the construction sector. However, highest percentage of the respondents remain illiterate compared to the other sectors – around 22.50 percent.

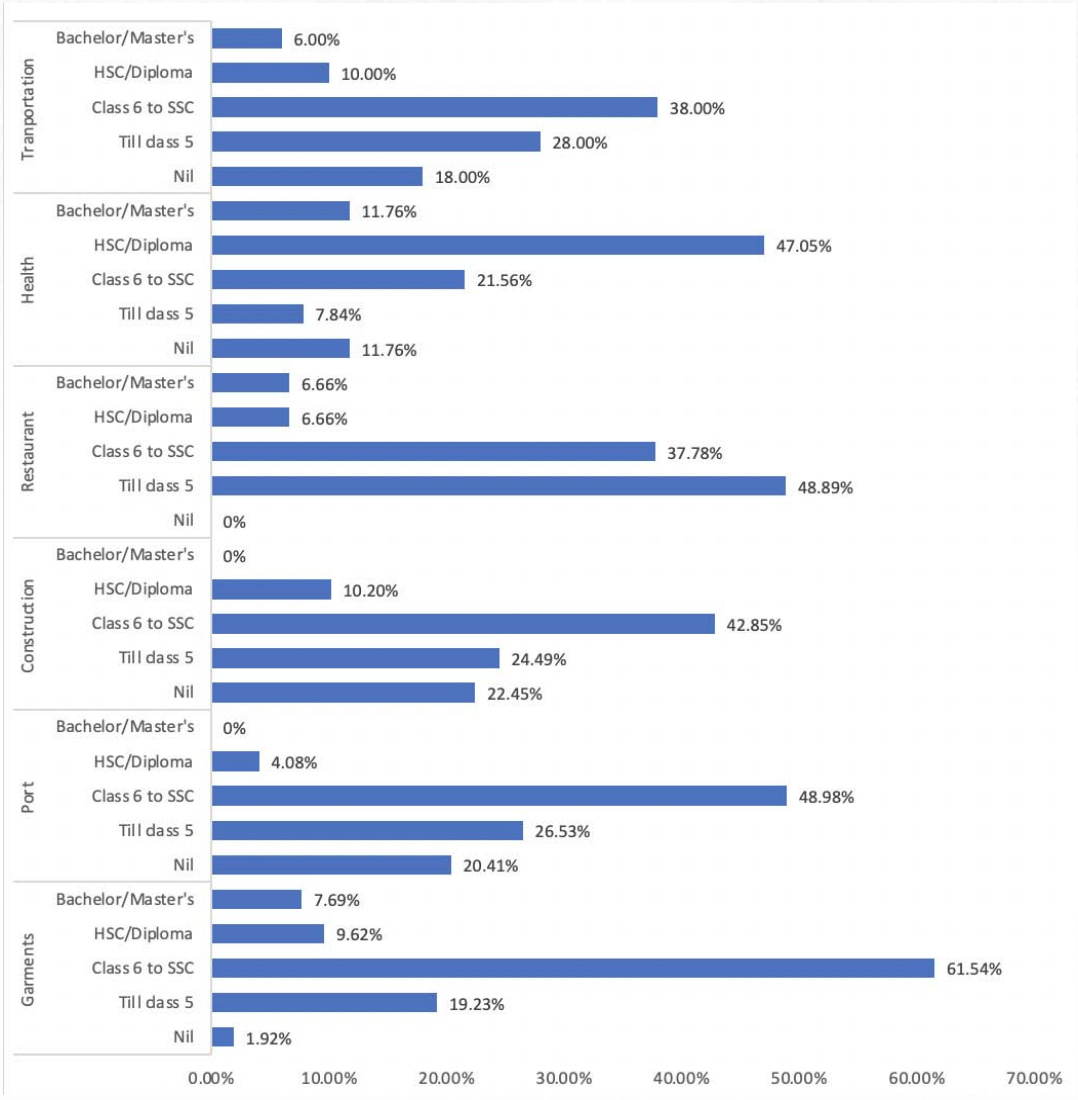


Figure 3 : Education of the respondents across the sectors

Beside the demographic characteristics of sectoral workers as described above, their economic characteristics, defined in terms of income, expenditure and savings, by sector are represented in Figure 4. There are sectoral differences in economic characteristics. First, average income of the samples in transport and construction sectors have average income above the aggregate mean of Tk.14,452, and the samples in the garment and restaurant sectors have relatively lower income, lower than the aggregate mean. Second, the respondents on an average gave secondary income (income by other family members). Although sectoral mean income varies to some

extent, they are close to the aggregate mean. However, their other family members' income varies with the aggregate mean income (Tk.14,296) where mean income of garments and health sectors are higher than aggregate mean and income of construction sector is below the aggregate average. Third, with the combined income from individual and other family members the health sector spends comparatively more which is above the aggregate mean of family expenditures, but construction sector spends less than the average. Fourth, people do save. It seems from Figure-4 that marginal propensity to save is higher for the respondents in construction and the garments. They have relatively higher amount of savings.

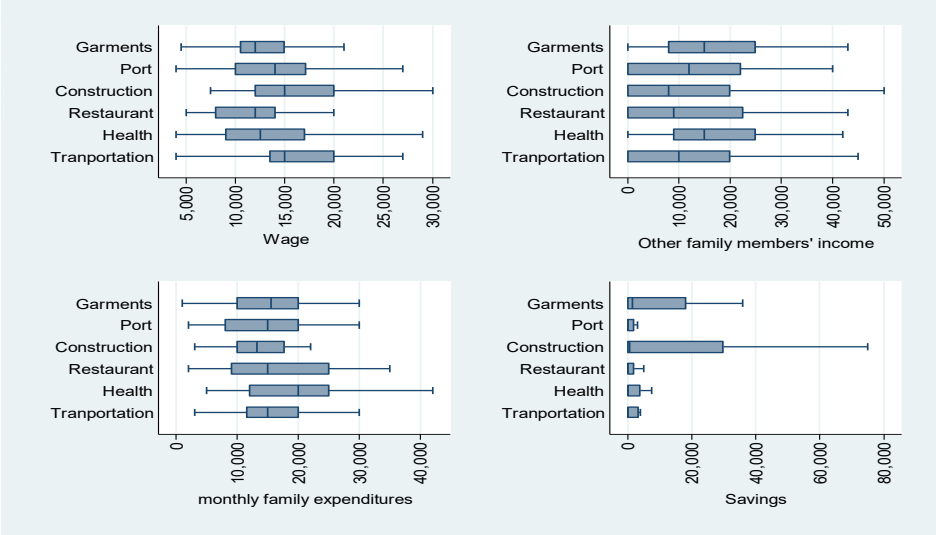


Figure 4: Economic characteristics of the respondents- wage, other family members' income, monthly family expenditure and savings across the sectors

5.2 To What Extent Have the Workers Been Affected?

As presented in Table-4, 70 percent of the respondents were affected by COVID-19. It is well reflected in Table-5 that total income and savings are lower for the affected workers than those of the unaffected workers. In this section, we demonstrate the extent to which COVID-19 affected the workers during the lockdown period. Table-6 shows that workers, as expected, were badly affected by lockdown that was imposed to restrict the spread of COVID-19. Several findings can be derived from the table. First, an overwhelming percentage of workers was laid off during the lockdown period. Only around 42 percent had full time jobs, compared to 96 percent in the pre-lockdown period. Second, some 43 percent of the workers remained unemployed that put them in distress.

Only a small percentage of workers could get engaged in secondary occupations. Some 15 percent of the workers could engage themselves in secondary occupation during the lockdown period. Third, because of the fact that only 43 percentage of the workers had full-time jobs and fewer percentage of part-time employment, per-capita average hours of work per week declined to around 24 hours compared to 58 hours in pre-lockdown period. Fourth, a little over 50 percent had received salary during the lockdown period.

Table-6: Aggregate Level Impact of COVID-19 (Lockdown)

Work type	March 2020	Lockdown Period
Fulltime, N (%)	285 (96.3)	126 (42.7)
Part-time, N (%)	1 (0.3)	41 (13.9)
Unemployed, N (%)	1(3.4)	128 (43.4)
Secondary work, N (%)	41 (13.8)	45 (15.2)
Hours worked per week, $Mean\ (Std\ Dev)$	58.0 (20.33)	23.5 (27.11)
Mean days factory remained closed, Mean (Std Dev)	0.27 (0.90)	46.9 (47.57)
Salary received, N (%)	296 (100)	151 (51.01)

5.2.1 Employment During Lockdown Varies by Sector

Aggregate effects are not uniform across the six sectors. We will find that impact of COVID-19 or lockdown had heterogeneous effects across the sectors. Statistics are reported in Table-7.

The restaurant sector is one of the worst hit sectors. Ninety eight percent of the workers in this sector were employed in pre-lockdown period. In lockdown period of three months, 80% of the respondents became unemployed, 13% were engaged in part-time job and only 7% of them were fully employed (Table-7**)**. In addition, only 18 percent of the workers received some salary during the period.

Only 4% of the total respondents were engaged in other job in addition to their basic job in restaurant in pre-lockdown period, and this number increased (24%) during lockdown. It has also been found that the respondents worked for almost 64 hours per week in pre-lockdown time, and this reduced to only 3.33 hours per week during the lockdown. It was also due to the fact that the restaurants were closed for 90 days on an average during lockdown compared to the pre-lockdown situation. Consequentially, a lower percentage (18%) of the respondents received salary during lockdown, compared to the 100% in pre-lockdown period. Considering all the work-related issues, it can safely be concluded that the nature of impact of COVID-19 was very severe in case of the workers of the restaurants. Since the percentage of unemployment increased from

only 2% to 80% in lockdown and 82% employees did not receive any salary during lockdown, this is very obvious that this unemployed people experienced severe financial distress.

Table-7: Work-related information over time

Area		Work type			Secondary work N (%)	Hours worked per week, mean	Mean days of factory remained closed, mean	Salary received N (%)
		Fulltime N (%)	Part-time N (%)	Unemployed N (%)				
Restaurant (N=45)	Mar-2020	44 (98)	0	1 (2)	2 (4)	64.93	0.06	45 (100)
	Lockdown Period	3 (7)	6 (13)	36 (80)	11 (24)	3.33	90.13	8 (18)
Construction (N=49)	Mar-2020	47 (96)	1 (2)	1 (2)	11 (22)	56.55	0	49 (100)
	Lockdown Period	8 (17)	9 (19)	31 (64)	9 (18)	11.98	75.59	10 (20)
Transport (N=50)	Mar-2020	49 (98)	1 (2)	0	5 (10)	67.16	0	50 (100)
	Lockdown Period	13 (26)	9 (18)	28 (56)	9 (18)	14.6	61.14	13 (26)
Port (N=49)	Mar-2020	49 (100)	0	0	7 (14)	58.18	0	49 (100)
	Lockdown Period	26 (53)	8 (16)	15 (31)	3 (6)	34.96	24.33	28 (57)
Garment (N = 52)	Mar-2020	49 (94)	0	3 (6)	4 (8)	51.65	1.16	52 (100)
	Lockdown Period	32 (62)	8 (15)	12 (23)	4 (8)	27.63	31.19	46 (88)
Health (N = 51)	Mar-2020	47 (92)	0	4 (8)	12 (24)	50.55	0	51 (100)
	Lockdown Period	44 (86)	1 (2)	6 (12)	9 (18)	45.88	4.71	46 (90)

As revealed from Table-7, the second most affected sectors are construction and transport consisting of 90% affected workers each. Like the restaurant sector, workers in the construction sector were also badly affected. As reported in Table-7, 96 percent of the samples in the construction sector were employed full time in pre-lockdown period. In the lockdown period, this came down to 17 percent. This perhaps led to an increase in part-time employment. Some 19 percent were employed on part-time basis in the lockdown period. However, during the lockdown, some 64 percent of the samples in the construction sector became unemployed. Concurrently, their income from secondary sources also decreased. It is also found that weekly work hours reduced from 56.55 hours to 11.98 hours in the lockdown. Work was closed for 75.59 days on an average

during the lockdown. Furthermore, the table shows that only 20% of the participants of construction sector received their salary during the lockdown period. All the parameters related to employment showed that the construction sector was severely affected since 80% of them did not receive any salary form their principal job. As a result, it had adverse financial impact.

We found in Table-4 that port and garments are moderately affected sector with 59% and 56%, respectively. It is also reflected in Table-7. In terms of intensity, it has been found that the percentage of full-time employment in port had reduced to 53% and the rest has been shifted to part-time (16%) and jobless (31%). Because of the lockdown, not only the primary job working hours reduced, but it also shrunk secondary work - from 14% to 6%. Consequently, the mean working hours per week declined to 35 hours from the pre-lockdown mean of 58 hours. Considering all the work-related issues, it can be concluded that the nature of impact of COVID-19 was moderately severe in case of the workers of the port.

The RMG sector was one of the least affected by COVID-19 probably because of the government stimulus. Of the samples, 62 percent could maintain full time working status during the lockdown period of COVID-19. 23 percent of the samples were fully unemployed, and 15 percent were engaged in part-time employment. However, on an average, factories remained closed for about a month – average of 31.19 days.

As expected, the health and diagnostic sector had to remain engaged even during the lockdown period. Consequently, there was little impact on work status or employment in the health sector in the lockdown period. Unlike other sectors, the unemployment rate was only 12 percent (Table-7). There was marginal decrease in engagement in secondary work. Compared to 92 percent workers in full-time, 86 percent were engaged in full time employment during the lockdown period.

5.2.2 Predictors of working status and working hours during lockdown.

The estimated results from ordered logit model, investigating the causal impact of covariates on the three levels of working status namely fully employed, partially employed, and unemployed, are presented in Table-8. As the first column shows, being engaged in the construction, restaurant, and transport sectors, in comparison with the garments sector, was predicted to increase the log odds of being in a higher level of working status by 2.17, 2.86, and 1.63, respectively. On the other hand, working in the construction and restaurant sector significantly affected the probability of salary reduction compared with the RMG sector.

Table-8 : Changes in work status and reduction in salary

	Ordered logit	Logit
	Work status	Reduced salary
Age	-.01491	.99989
Gender		
Male (ref.)		
Female	-.59238	.2761**
Education		
No education (ref.)		
Till class V	-.78102	.72859
Class VI-class X	-.5131	.34264
SSC	-1.35876*	.18928**
HSC	-.18107	.49777
Diploma	-1.19269	.76338
Bachelor	-.36377	.46242
Master's	-17.29386	.0481
Total Experience	-.0057	1.02441
Experience at the current factory	-.31852*	.702445
Wage	-.00003	.99998
No. of workers	.00003	1.00011
Sector		
RMG (ref.)		
Port	.28151	.33427*
Construction	2.17445***	5.56195**
Restaurant	2.85756***	16.50402**
Health	-.58732	.51578
Transportation	1.63059***	2.19795
Constant		9.36192*
Cut point 1	-1.5345	
Cut point 2	-.77249	
No. of observations	232	232
Pseudo R^2	0.2243	.256

**** p<.01, ** p<.05, * p<.1*

The working hours were modeled using a Tobit model controlling for demographic and firm-specific characteristics. As the first column of Table-9 shows, construction workers worked 38.25 hours less during lockdown than an RMG-sector worker, holding all other factors constant. Those working in the restaurant sector were the worst in terms of hours worked. In comparison with the RMG worker, a restaurant worker worked 61.35 hours less. And the transport workers were predicted to work approximately 21 hours less during lockdown than RMG workers. A negative binomial model, estimated for the

same outcome variable, shows that signs of the coefficients are consistent with those found from the Tobit model, indicating the robustness of the estimates.

Table- 9 : Changes in hours worked per week during lockdown

	Tobit	Negative Binomial
	Hour worked	Hour worked
Age	.389	.002
Gender		
Male (ref.)		
Female	16.315*	.328
Education		
No education (ref.)		
Till class V	14.324	1.052
Class VI-class X	20.109*	.814
SSC	31.933**	1.264*
HSC	17.392	.691
Diploma	22.074	.865
Bachelor	12.531	1.044
Master's	25.643	.484
Total Experience	-.142	.043
Experience at the factory	3.985	.196
Wage	.001	.00002
No. of workers	-.002*	-.00009
Sector		
RMG (ref.)		
Port	13.718	-.174
Construction	-38.254***	-1.119*
Restaurant	-61.348***	-3.195***
Health	13.923	.191
Transportation	-20.799**	-.937
Constant	-29.695	1.584
No. of observations	235	235
Pseudo R^2	.079	.022

**** p<.01, ** p<.05, * p<.1*

Finally, Table-10 contains the estimated coefficients for the wage equation in Tobit and negative binomial models' framework. Holding all other variables fixed the construction workers were predicted to earn approximately Tk.14,916 less during lockdown compared with workers employed in the RMG sector. Those in the restaurant sector, compared with workers employed in the RMG sector, made Tk.13,566 less during the shutdown period. Similarly, individuals working in the transport sector were estimated to earn approximately Tk. 8570 less compared with the based sector of RMG. The estimated results found from negative binomial model were found to be fully consistent

with the results obtained from the estimated Tobit model. All estimates are statistically significant at the 1% level.

Table-10 : Changes in wages per month during lockdown

	Tobit	Negative binomial
	Wage	Wage
Age	-68.871	-.019
Gender		
Male (ref.)		
Female	3678.931*	.411
Education		
No education (ref.)		
Till class V	2818.323	.257
Class VI-class X	5666.567**	.582
SSC	8145.663***	1.098
HSC	4027.458	.471
Diploma	7471.613**	1.002
Bachelor	2911.347	.394
Master's	21748.2***	1.363
Total Experience	115.501	.028
Experience at the factory	332.705	.145
Wage	.651***	.0000044
No. of workers	-.007	.0000046
Sector		
RMG (ref.)		
Port	2334.678	.11
Construction	-14916.62***	-1.837**
Restaurant	-13566.18***	-1.899**
Health	1558.374	-.129
Transportation	-8569.757***	-.857
Constant	-6472.779	7.788***
No. of observations	236	236
Pseudo R^2	.049	.006

**** p<.01, ** p<.05, * p<.1*

5.3 Impacts on the Welfare Outcomes During Lockdown Period

We have found that COVID-19 and subsequent lockdown have contributed to short term unemployment, changes in work status and working hours. Consequently, it can be deduced that such impact would have larger impact on different welfare outcomes. Therefore, the question is, what are the impacts of COVID-19 or lockdown period on short run welfare outcomes. Welfare outcomes include income, consumption expenditures and savings.

Table-11 presents impact of lockdown on short run welfare outcomes. First column of the table shows percentage change in welfare outcomes between pre-lockdown and lockdown period. We find that it has contributed to decrease in total income by 55 percent. Such decrease in income has contributed to decrease in savings by over 48 percent. Welfare outcomes are heterogeneous across sectors. Table-12 shows the changes in welfare outcomes between pre-lockdown and lockdown period by sector.

Table-11: Workers' mean income, expenditures, and savings over time (N=296)

	% change between March 2020 and Lockdown	% change between Lockdown and August 2020	% change between March 2020 and August 2020
Average income (including overtime)	-55	111.15	-5.50
Income from secondary work	31	-20.33	4.42
Income earned by family members	-33	41.88	-5.21
Average household expenditure	-9	6.97	-2.46
Savings	-48	15.45	-40.04

Note: Incomes and expenditures are monthly figures. All monetary figures are reported in Bangladesh Taka.

The survey results show that the average income of samples of the affected group of the restaurant sector reduced by 85.37% between March 2020 and lockdown period. Because of the closure of the economy during the lockdown period, the income of the other family members also reduced by 54% during the same period, which in turn, led to reduce their expenditure (4%). Consequently, there was an adverse impact on the amount of savings. It reduced by 98% at that time. This reduction in income, expenditures and savings pattern confirmed the high intensity of being affected by COVID in case of restaurant workers.

Average income of the construction workers declined by around 86 percent. It was 89 percent for the affected workers. How could these households cope with it? They coped with it in two ways: one through exploring alternate income opportunities, and the other through cutting expenditure. Reducing expenditure becomes a last resort when secondary income (from alternate sources) and savings are not sufficient. Total expenditures were reduced by some 22 percent. As argued, such marginal reduction in expenditures was due to use of savings.

We found that 56 percent of the transport employees became unemployed in the lockdown period due to COVID-19 that means unemployment rate increased from 0% to 56 percent. Such state contributed to a decrease in average income of the transport

workers from pre-lockdown to lockdown period. The rate of decline was around 78 percent (Table-12). In addition to personal income, other family members' income also reduced by 49.55%for the affected workers (Table-12). Consumption expenditures were financed by savings and secondary income. However, the transport workers were better-off than the construction and restaurant workers in terms of full employment, secondary income and use savings in lockdown period.

The percentage changes in income, expenditure and savings of the port users' workers are also reported in Table-12. Average income reduced by 71 percent. In addition to personal income, other family members' income also reduced. The port users' workers had to rely on savings for financing consumptions considering the decline in income. As a result, savings of port users' workers declined by 73 percent. Relative to other three groups – construction, transport and restaurant sectors, workers in the port sector seemed to be moderately affected in terms of both dimensions-employment and economic.

Table-12: Percentage changes in income, expenditure, and savings

	Percentage Change Between											
	March 2020 and lockdown period	March 2020 and lockdown period (affected)	March 2020 and lockdown period	March 2020 and lockdown period (affected)	March 2020 and lockdown period	March 2020 and lockdown period (affected)	March 2020 and lockdown period	March 2020 and lockdown period (affected)	March 2020 and lockdown period	March 2020 and lockdown period (affected)	March 2020 and lockdown period	March 2020 and lockdown period (affected)
	Restaurant (N = 45)		**Construction (N=49)**		**Transport (N=50)**		**Port (N = 49)**		**Garment (N = 52)**		**Health (N = 51)**	
Average income (including overtime)	-85.37	-85.37	-86.17	-89.45	-77.20	-84.51	-33.04	-70.99	-35.08	-34.33	-12.39	-38.48
Income from secondary work	220.06	220.06	189.65	186.45	-3.93	-3.93	-39.75	-32.19	32.31	48.17	-10.25	-62.50
Other family earner Income	-54.11	-53.57	-54.61	-52.91	-48.97	-49.55	-12.41	-51.08	-30.65	-25.36	-12.86	-19.34
Average household expenditure	-3.90	-3.74	-21.40	-22.13	-13.15	-13.41	-3.25	-8.27	-13.28	-17.89	-4.29	-10.01
Savings	-98.52	-98.51	-28.83	-39.78	-79.66	-86.52	-73.09	-80.04	-33.36	-60.81	-40.62	-80.00

In case of RMG sector, relatively impacts on household welfare (income, expenditure and savings) were less. Income, on an average, reduced by 34% between March 2020 and lockdown. However, income from secondary work, job other than the main profession, significantly increased (48%) between March 2020 and lockdown. As a result, savings only declined by 33 percent. This is an indication that workers in the RMG sector had slight cut in total consumption expenditure. Consumption expenditures decreased by a little over 13 percent (Table-12).

Perhaps because of the medical services and the pressing demand of the COVID-19 patients, health workers were least affected. Welfare outcomes were relatively higher (Table-12). As revealed from the Table, average income reduced by12.39 percent in the lockdown period compare to the pre-lockdown period. However, it reduced by 38.48% for the affected people. This also led to decrease in income from secondary work for the affected workers; it declined substantially by 62.50 during the lockdown period. Because of such reduction in total income including secondary income, both average household expenditure and savings declined (Table-12).

In brief, Table-12 provides information on relative impacts of COVID-19 or lockdown on the welfare outcomes. The results reveal that the worst affected sectors were three – restaurants, transport and construction. More than 90 percent of these workers were affected, and they became unemployed during the lockdown period. This had worst effects on income, expenditure, and savings. In most cases, most part of the savings for many workers was dissaved. In many cases, there was cut in total expenditures. The least affected was the health sector, followed by RMG sector. There are two issues associated with it. Who are affected? How did the affected households cope with the adverse shock of COVID-19 or lockdown? These questions are addressed in the following part of this section.

5.4 Determinants of Probability of Being Affected

The detailed estimated results from logit regression, modeling the probability of being affected by lockdown measures, are presented in Table-13. The results indicate a one-year increase in age increases the log odds of being affected by 0.943. Compared with male respondents, females show a higher probability of being affected. For every year of increase in total experience and in the number of workers at the employing firm, the log odds of being affected increases by 1.084 and 0.913, respectively.

Table-13 : Determinants of probability of being affected (N=191)

	Odds ratio	St. error	P-value	95% CI	
Age	.943	.029	.052	.888	1
Gender					
Male (ref.)					
Female	.212	.115	.004	.073	.611
Education					
No education (ref.)					
Till class-V	.535	.45	.457	.103	2.779
Class VI-class X	.277	.213	.095	.062	1.247
SSC	.192	.167	.058	.035	1.058
HSC	.479	.452	.435	.075	3.044
Diploma	1.139	1.185	.901	.148	8.747
Bachelor	.247	.268	.197	.029	2.07
Master's	1	.	.	.	.
Total work experience	1.084	.041	.033	1.006	1.168
Experience at the current firm	.913	.233	.722	.553	1.507
Wage	1	.0000369	.111	1	1
Number of workers	1	.0001425	.078	1	1.001
Sector					
RMG (ref.)		.	.	.	.
Port	.542	.311	.286	.176	1.668
Construction	5.498	4.287	.029	1.192	25.346
Restaurant	1	.	.	.	.
Health	.612	.393	.445	.174	2.157
Transport	15.267	14.245	.003	2.452	95.052
Constant	32.687	46.797	.015	1.976	540.744

CI=Confidence interval, Pseudo $R^2 = 0.264$

The construction sector was found to increase the log odds of being affected than workers employed in the RMG sector, showing a significance level of 2.9%. On the other hand, compared with those working in the RMG sector, workers in the transport sector were predicted to increase the log odds of being affected during the lockdown period by 15.27, which is highly statistically significant at a level of 0.3%.

5.5 Coping Mechanism of Affected Workers

There is diminutive doubt that the affected rates shown in Table-4 above pushed the affected to take some coping strategies. There are different ways of defining coping strategies. Davies (1996) defined coping strategies as the short-term or temporary mechanism undertaken by actor to avoid adverse consequence. World Health Organization (1998) outlined that coping mechanism are remedial actions adopted by affected people whose survival and livelihood are compromised or endangered. The above definitions support us to conclude that the coping strategies are adopted to

mitigate the adverse effects as well as the reactions triggered by shocks. On the other, actual or potential affected people of a disaster are found to adopt ex-ante (measures that are adopted before any disaster appears) and ex-post measures (measures that are adopted after the disaster to alleviate the consequences) to cope up with economic shocks (Skoufias,2003). Further, after falling in the economic distress, affected workers adopted some strategies that can be divided into two categories, such as erosive and non-erosive coping strategies. Erosive strategies can be defined as the strategies that have a long-term negative effect whereas non-erosive is the reverse (Chowdhury & Mohona, 2017). Taking erosive strategies can push the affected in struggles recouping the damage that can consequence in chronic poverty (Chowdhury & Mohona, 2017). Opondo (2013) documented that the sale of assets, stopping child education, engaging child in labor, reduction of consumption expenditure, migration, etc. as the erosive coping strategies because they have long-term adverse effect such as illiterate population, capital shortage, fragile health condition, etc. On the other, use of savings, unemployment insurance facilities, having access to formal or informal credits facilities are considered as the non-erosive coping strategies (Chowdhury & Mohona, 2017; Opondo, 2013). However, the choice of coping strategies depends on several factors such as the severity of damage, kinds of disaster, household capabilities (possession of productive and unproductive resources and wealth), talent to recoup, experience of facing disaster, knowledge and information about the prevailing opportunities in the time of disaster, government policies, etc. (Chowdhury & Mohona, 2017). Disaster is unpredictable and natural like the ongoing pandemic. Literature suggests that the incidence of disaster or shocks produces unpredicted adverse effects on the livelihood of people (Mclean & Moore, 2005; Sawada & Takasaki, 2017; Skoufas and Quisumbing, 2005; Winsemius et al., 2015). As a vulnerable group of a nation, poorer people are prone to undertake erosive coping strategies to convalesce any income shock Chowdhury & Mohona,2017). On the other, well-off households are less vulnerable and they usually adopt non-erosive coping measures as discussed above.

Table-14 shows that the affected workers simultaneously adopted erosive and non-erosive strategies, with the majority adopting the non-erosive coping strategies in all six sectors. For instance, at the aggregate level, about 70% and 53% of the affected workers survived on savings and credit, respectively, whereas 29% took half meal and 10% skipped meal occasionally, following non-erosive strategies during lockdown. Further, 7% of the affected workers sold their properties, following an erosive strategy. Table-6 also shows that 83% of port workers, and 73% of each of the restaurant and transport

sector workers used savings to cope with the hard times. We also found that the workers went for consumption rationing, following non-erosive coping strategies. Many in the sectors under consideration except health reported having half meal to cope with the situation.

Table-14: Erosive and Non-erosive Coping Strategies of the affected workers by sector

	RMG	Port	Construction	Restaurant	Health	Transport	Total
	(%)	(%)	(%)	(%)	(%)	(%)	(%)
Dissaving	66	83	67	73	50	73	70
Borrowing	31	72	45	59	38	62	53
Selling property	12	7	5	8	0	4	7
Consumption rationing:							
Half meal	31	34	27	34	6	31	29
Occasional meal skipping	10	10	16	9	0	7	10
Temporary employment	14	7	7	5	0	2	6
Total (N)	**29**	**29**	**44**	**44**	**16**	**45**	**207**

Five different coping strategies during lockdown, including consumption rationing, were modeled in the binary logit model framework (Table-15). Individuals employed in port, restaurant, and transport sectors, compared with those in the RMG sector, were found to increase the log odds of using savings to finance expenditures by 6.75, 3.18, and 4.24, respectively. Being engaged in the restaurant and transport sectors, compared with the base sector of RMG, increased the log odds of borrowing during the lockdown by 3.07 and 3.43. Being employed in the construction sector decreased the log odds of selling property by 0.095, with a relatively low significance level of 10%. Among other covariates, total experience, experience at the current plant or firm, and wage were found to be correlated with the probability of selling property, dissaving, and borrowing, respectively. On the other hand, in the case of consumption rationing during lockdown, multiple factors were found to be correlated with the probability of 'eating half meal' and 'occasional meal skipping'. Being in the health sector, compared with those employed in the RMG sector, is predicted to decrease the log odds of eating half meal by 2.32. Wage during the pre-lockdown period was found to be significantly correlated with both eating half meal and skipping meals occasionally.

Table- 15 : Odds ratios for coping of the workers during lockdown period

	Selling property	Using savings	Borrowing	half meal	Meal skipping
Age	0.987	0.997	1.027	1.006	1.046
Gender					
Male (ref.)					
Female	0.295	1.308	0.476	1.001	0.353
Education					
No education (ref.)					
Till class V	0.185	0.698	0.694	0.555	1.218
Class VI-class X	0.282	0.679	1.126	0.664	2.676
SSC	1.185	0.920	0.436	0.569	1.899
HSC	0.273	0.888	1.317	0.762	8.118
Diploma	1.000	0.549	0.211	5.096	1.000
Bachelor	0.381	0.354	0.694	0.344	1.000
Master's	1.000	1.000	1.000	1.000	1.000
Total Experience	.896*	1.037	1.035	1.064**	1.021
Experience at the current factory	1.132	.579**	0.775	0.980	1.047
Wage	1.000	1.000	.999***	.999***	.999**
No. of workers	1.000	1.000	1.000	1.000	1.000
Sector					
RMG (ref.)					
Port	0.931	6.752***	1.497	.282*	0.325
Construction	.095 *	2.560	2.062	0.407	0.554
Restaurant	0.568	3.178**	3.068*	0.709	0.379
Health	1.000	1.705	1.429	.077 ***	1.000
Transportation	1.003	4.244**	3.428 **	. .875	0.216
Constant	3.981	3.091	0.813	2.386	0.138
No. Of observations	160	230	230	230	182
Pseudo R^2	0.180	0.091	0.150	0.149	0.127

*** p<.01, ** p<.05, * p<.1

5.6 How Have the Workers Recovered in Post-Lockdown?

In this section, we discuss about the recovery process of the workers. Have they recovered? To what extent they have recovered? These two questions are addressed here. Recovery has been defined as the income restoration in post-lockdown (income in August 2020) as a percentage of pre-lockdown income (March 2020). We identify a person to have fully recovered if his/her post-lockdown income as a percentage of pre-lockdown income is at least 100 percent. Distribution of the estimates is reported in Table-16.

Generally, the income recovery has been pretty fast in two months. This is because of the opening of the economy. In the progress of recovery, we revealed that the workers from all sectors recovered at least 50% of their earnings in the month of August except

the transport sector (Table-16). Around 78 percent of the workers fully reached their pre-lockdown income level. In the 100% recovery group, Restaurant and Health sectors recovered most. The reason behind the recovery of restaurant workers might be an increase in the number of customers of restaurant in the post-lockdown period. This market is characterized by a huge number of floating customers. In addition, the government restrictions on restaurant operation were removed in the post-lockdown period although family outing was not remarkable at that time. However, the situation was different in the health sector.

Table-16: Income recovery of workers by sector

Percent	Garment	Port	Construction	Restaurant	Health	Transport	Total
	(%)	(%)	(%)	(%)	(%)	(%)	(%)
<25	0	0	0	0	0	0	0
25 - 50	0	0	0	0	0	10.20	1.79
50 - 75	4.44	6.12	10.42	4.65	2.17	20.41	8.21
75 - 100	8.89	14.29	18.75	4.65	8.70	16.33	12.14
100	86.67	79.59	70.83	90.70	89.13	53.06	77.86
Total	100	100	100	100	100	100	100.00
N	45	49	48	43	46	49	280
Mean wage (taka)	12,887	13,632	15,804	11,958	13,559	13,946	13,657

Many workers were afraid of COVID-19. They were reluctant to join their work. On the other, the number of patients was increasing day after day. Some organizations took initiatives to bring the workers back. For example, hospitals and diagnostic centers reported in the FGDs and personal interview that they paid higher salary than usual to health workers as they were taking high risk of being infected by COVID. On the other hand, workers of transport and construction sectors are lagging behind in the recovery of pre-lockdown income, with the percentages of workers making 100% recovery are 53.06% and 70.83%, respectively. In the transport sector, a good number of workers (20.41%) recovered only 50% to 75% of their pre-lockdown income. The transport sector could not earn their regular revenue in the post-lockdown period as the government-imposed restrictions made them carry less passengers than usual. On the contrary, the construction organizations could not operate efficiently because of capital shortage. Many of the existing buyers of apartment stopped paying installments since their own income also reduced. As a result, the workers of construction sector suffered and failed to reach their regular income level.

Some interesting findings emerged when we examined the income recovery by the characteristics of workers (Table-17). First, higher the age of the respondent, lower is the income recovery rate. Secondly, like age-income recovery relationship, we also found that lower-income households have more full income recovery. These findings suggest that the households with lower income level have the highest pace of recovery for obvious reasons. Third, the life cycle hypothesis would suggest that people save in early ages and dissave more in older age. The evidence is present in this case. Pre-lockdown savings were more for the younger people. Such savings have been used to recover from the shock. Fourth, the post-lockdown income has a positive impact on recovery rate. This is equally true for post-lockdown savings; it shows an increasing trend by recovery rate. That is why we have found a positive relationship between savings and income recovery rate. Fifth, job experience has negative relationship with recovery rate. These findings are also relevant for the workers in all sectors.

Table-17: Post-lockdown income recovery by economic characteristics

Percent	Age (years)	Pre-lockdown income	Pre-lockdown savings	Pre-lockdown employment	Post-lockdown income	Post-lockdown savings	Years of job experience
	$\bar{X}$(SD)	$\bar{X}$(SD)	$\bar{X}$(SD)	N (%)	$\bar{X}$(SD)	$\bar{X}$(SD)	$\bar{X}$(SD)
25 - 50	37	22,900	21,250	5	8,500	625	20
	(6)	(11,160)	(36,142)	(100)	(3,202)	(1,250)	(8)
50 - 75	37	17,628	15,235	23	10,430	5,250	14
	(12)	(6,593)	(30,107)	(100)	(3,886)	(13,503)	(8)
75 -100	34	16,328	6,932	34	13,970	1,400	11
	(11)	(6,831)	(16,431)	(100)	(5,612)	(4,465)	(9)
100	33	13,617	23,629	217	14,136	13,155	12
	(11)	(5,607)	(95,469)	(100)	(5,862)	(50,531)	(11)
Mean	33	14,452	24,411	(96)	13,657	14,637	12

All garment workers recovered at least 50% in the post-lockdown period (Table-18). In this sector, 87% workers recovered fully leaving only 13% partially recovered. The noteworthy reason behind this good recovery is the government policy that inspired the garments authority to continue their operation although the sector was closed for almost a month. However, the mean age of the workers who recovered well (more than 75%) is 27 is very close to the mean age (25 years) of the workers who could not. Table-18 shows post-lockdown income contributed to higher recovery of pre-lockdown income. Those garments workers who could not recover yet, their pre-lock down income is much higher (Tk.16,500) than the average income of the sample workers (Tk.12,982) and they could not reach that level of income after-lock down period (Tk.11,674).

Table-18 : Income Recovery of RMG Workers by Economic Characteristics

Percent	Age (years)	Pre-lockdown income	Pre-lockdown savings	Pre-lockdown employment	Post-lockdown income	Post-lockdown savings	Years of job experience
	$\bar{X}$(SD)	$\bar{X}$(SD)	$\bar{X}$(SD)	N (%)	$\bar{X}$(SD)	$\bar{X}$(SD)	$\bar{X}$(SD)
25-50							
50-75	25	16,500	5,000	2	11,674	5,000	7
	(2)	(2,121)	(7,071)	(100)	(1,875)	(7,071)	(4)
75-100	25	14,560	7,000	4	13,621	2,000	4
	(4)	(2,721)	(7,071)	(100)	(2,733)	(1,414)	(3)
100	27	12,351	25,465	39	12,870	16,496	7
	(8)	(4,043)	(78,364)	(100)	(3,662)	(47,340)	(6)
Mean	27	12,982	42,679	45	12,887	35,674	7

The workers of Port recovered at least 50% of their regular income in the post-lockdown period (Table-19). As shown in Table-19, 80% of the workers had full income recovery. The mean age of the workers who recovered fully (100%) is 39, comparatively lower than the mean age (44 years) who could not recover well (less than 75%). The post lockdown income increased to the level of pre-lockdown income. As noted above some 20 percent could not do it.

Table-19 : Income Recovery of Port Users' Workers by Economic Characteristics

Percent	Age (years)	Pre-lockdown income	Pre-lockdown savings	Pre-lockdown employment	Post-lockdown income	Post-lockdown savings	Years of job experience
	$\bar{X}$(SD)	$\bar{X}$(SD)	$\bar{X}$(SD)	N (%)	$\bar{X}$(SD)	$\bar{X}$(SD)	$\bar{X}$(SD)
25-50							
50-75	44	16,333	50,000	3	8,333	0	18
	(9)	(7,095)	(70,711)	(100)	(3,512)		(7)
75-100	41	14,600	12,700	7	12,357	3,143	16
	(9)	(4,675)	(28,095)	(100)	(3,966)	(7,471)	(11)
100	39	14,141	7,569	39	14,269	8,736	17
	(12)	(5,208)	(18,774)	(100)	(5,350)	(24,314)	(10)
Mean	39	14,340	10,198	49	13,632	7,648	17

In the construction sector (Table-20), full recovery rate of the construction workers is 71 percent. In revealing the characteristics of construction workers regarding recovery progress, we identified that the mean age of the workers who recovered 100% successfully is 32 years, less than the mean age of who recovered less than 75% (36 years). Also, the mean working experience (16 years) is comparatively more than the same for the workers who recovered successfully (13 years). There is little difference in pre-lockdown income, although there is a little increasing trend by recovery rate. But positive relationship exists between recovery rate and post-lockdown income. However, low income and lower savings characterize the respondents with lower recovery rate.

Table-20 : Recovery Rate of the Construction Workers by Economic Characteristics

Percent	**Age (years)**	**Pre-lockdown income**	**Pre-lockdown savings**	**Pre-lockdown employment**	**Post-lockdown income**	**Post-lockdown savings**	**Years of job experience**
	$\bar{X}$(SD)	$\bar{X}$(SD)	$\bar{X}$(SD)	N (%)	$\bar{X}$(SD)	$\bar{X}$(SD)	$\bar{X}$(SD)
25-50							
50-75	35	15,310	18,750	6	9,605	12,500	9
	(16)	(2,355)	(37,500)	(100)	(2,488)	(25,000)	(4)
75-100	36	16,056	5,417	9	13,167	0	16
	(12)	(7,393)	(9,810)	(100)	(6,418)		(12)
100	32	16,224	37,754	33	17,290	32,400	13
	(15)	(5,726)	(85,365)	(100)	(6,678)	(99,551)	(14)
Mean	33	16,097	29,812	48	15,804	24,341	13

In the restaurant sector (Table-16), the recovery rate is good (90%), although they were subject to extreme condition during the lockdown period. Only 10% workers are lagging behind in recovery. The mean age of the people who could not recover well (less than 75%) is comparatively very high (45 years) than who recovered more than 75% (mean age 30) (Table-21). Besides, who did not recover well (less than 75%) were earning higher in the pre-lockdown time than the workers who recovered well (more than 75%). Few common characteristics of the workers in the recovery process are that they are aged workers, had higher pre-lock down income than their sectoral average income, spent their savings, and have more experience than the mean value.

Table-21 : Recovery Rate of Restaurant Workers by Economic Characteristics

Percent	Age (years)	Pre-lockdown income	Pre-lockdown savings	Pre-lockdown employment	Post-lockdown income	Post-lockdown savings	Years of job experience
	$\bar{X}$(SD)	$\bar{X}$(SD)	$\bar{X}$(SD)	N (%)	$\bar{X}$(SD)	$\bar{X}$(SD)	$\bar{X}$(SD)
25%-50%							
50%-75%	45	18,500	2,000	2	10,250	0	12
	(7)	(10,607)		(100)			(5)
75%-100%	36	16,056	5,417	2	13,167	0	16
	(12)	(7,393)	(9,810)	(100)	(6,418)		(12)
100%	31	11,221	1,672	39	11,477	1,155	13
	(9)	(4,363)	(4,355)	(100)	(4,213)	(3,108)	(10)
Mean	30	11,909	1,691		11,958	985	12

In the health sector, some 90 percent of the workers could fully recover in two months of the opening of the economy (Table-16). This sector represents a different scenario (Table-22). For instance, the mean age (32 years) of the workers who recovered more than 75% is higher than the people who recovered less than 75% (mean age 23). Further, their mean work experience (11 years) is also higher than the who did not recover well. That means, those who recovered fully are relatively older. They have more experience than those of the workers who could not recover yet. However, the pre-lock down income of the workers in the recovery process is much higher than the same of successful workers and this is same as found in other sectors. Therefore, other than the income issue, other factors like age, experience, post-lock down borrowing are quite different from the sectors like garments, port, construction, and restaurant.

Table-22 : Recovery of the Health Workers by Economic Characteristics

Percent	Age (years)	Pre-lockdown income	Pre-lockdown savings	Pre-lockdown employment	Post-lockdown income	Post-lockdown savings	Years of job experience
	$\bar{X}$(SD)	$\bar{X}$(SD)	$\bar{X}$(SD)	N (%)	$\bar{X}$(SD)	$\bar{X}$(SD)	$\bar{X}$(SD)
25-50							
50-75	23	17,000	0	1	10,625	0	4
75-100%	30	11,925	2,000	4	10,750	2,000	5
	(12)	(3,330)		(100)	(2,986)		(5)
100	33	13,948	30,958	41	14,658	19,389	11
	(10)	(6,730)	(81,280)	(100)	(7,048)	(56,572)	(9)
Mean	31	13,799	28,628	46	13,559	17,985	9

In the transport sector, the full recovery rate is very poor (53%) compare to other five sectors (Table-16). The mean age of the workers of transport sector (Table-23) is 35 who recovered 100%., a little lower than who did not recover well (less than 75%). The mean work experience (15 years) of the successfully recovered (100%) group is lower than the mean work experience (20 years) of who could not recover well (75%). Further, the transport workers who did not recover well (less than 50%) were earning higher (mean income BDT 22,900) in the pre-lockdown period whereas the mean income of successfully recovered (100%) group was BDT 14,399. The workers in transport sector are more aged than those in other sectors with an exception in port. Also, they have more experience as aged workers. Like other sectors' workers in the recovery trap, they have also higher pre-lock down income than the sectoral mean value. The post-lockdown income is lower for the workers with low recovery.

Table-23 : Recovery of Transport Workers by Economic Characteristics

Percent	Age (years)	Pre-lockdown income	Pre-lockdown savings	Pre-lockdown employment	Post-lockdown income	Post-lockdown savings	Years of job experience
	$\bar{X}$(SD)	$\bar{X}$(SD)	$\bar{X}$(SD)	N (%)	$\bar{X}$(SD)	$\bar{X}$(SD)	$\bar{X}$(SD)
25-50	37	22,900	21,250	5	8,500	625	20
	(6)	(11,160)	(36,142)	(100)	(3,202)	(1,250)	(8)
50-75	38	19,290	9,000	10	11,240	3,000	17
	(11)	(8,514)	(17,205)		(4,999)	(8,485)	(9)
75-100	36	20,625	0	8	17,188	0	10
	(10)	(9,591)		(100)	(7,483)		(6)
100	35	14,399	50,500	26	14,880	190	15
	(11)	(6,342)	(217,725)	(100)	(6,397)	(661)	(15)
Mean	37	17,281	36,319	49	13,946	3,319	16

5.7 Predictability of Post-lockdown Recovery

We have provided the descriptive analysis of the pre-lockdown income recovery that varies by economic characteristics. The question, what explains the differences in recovery rate? In other words, what predicts different behavior? We have addressed this question using econometric technique.

Table-24 : Ordered logit estimates for recovery of income during post-lockdown period (N=227)

	Recovery	Standard error	t-value	p-value	95% CI	
Age	-.073**	.028	-2.58	.01	-.129	-.017
Gender						
Male (ref.)						
Female	-.417	.816	-0.51	.609	-2.017	1.182
Education		.	.	.	.	.
No education (ref.)						
Till class V	-.507	.635	-0.80	.424	-1.752	.737
Class VI-class X	.417	.633	0.66	.509	-.823	1.657
SSC	1.662	1.188	1.40	.162	-.667	3.991
HSC	.63	.793	0.79	.427	-.924	2.185
Diploma	2.187*	1.301	1.68	.093	-.364	4.738
Bachelor	-.572	.889	-0.64	.52	-2.314	1.17
Master's	12.131	597.196	0.02	.984	-1158.352	1182.613
Total experience	.063**	.03	2.10	.036	.004	.122
Experience at the firm	.257	.25	1.03	.303	-.232	.747
Wage	0***	0	-2.88	.004	0	0
No. of workers	0	0	-1.39	.166	0	0
Sector	0	.	.	.	.	.
RMG (ref.)						
Port	.293	.89	0.33	.742	-1.45	2.037
Construction	-.801	.849	-0.94	.346	-2.466	.864
Restaurant	.024	.912	0.03	.979	-1.762	1.811
Health	-.263	.871	-0.30	.763	-1.969	1.444
Transportation	-1.613**	.796	-2.03	.043	-3.173	-.053
Cut1: Constant	-7.624	1.371			-10.311	-4.936
Cut1: Constant	-5.79	1.282			-8.302	-3.278
Cut1: Constant	-4.538	1.238			-6.965	-2.112
Pseudo R^2	0.181					

AIC= Akaike Information Criterion, BIC=Bayesian Information Criterion

Table-24 contains the detailed estimated results from the ordered logit regression for the four-level recovery variable. The four levels of the outcome variable include full recovery, large recovery, moderate recovery, mild and poor recovery, indicating 100%, 75% to 99%, 50% to 74%, and 0% to 49% income recovery, respectively, during post-lockdown period compared with the pre-lockdown period. A one-year increase in age is predicted to decrease the log odds of being in a higher level of recovery by 0.073. The length of work experience was found to significantly cause income recovery, with one unit of change in total experience predicting the log odds of being in a higher level of

recovery by 0.063. The income during pre-lockdown period was found to be associated with the predicted change in income recovery. Of the six sectors under consideration, employment in the transport sector was predicted to decrease the log odds of being in a higher level of income recovery by 1.613 compared with those employed in the RMG sector.

In addition to the above approach, we also estimated the determining factors that explain differences in recovery rate using a simpler model. The model contains factors like pre-lockdown income, savings, nature of employment in lockdown period and the sectors dummies. Two techniques were used. Since recovery rate is continuous, we used OLS technique. We also used ordered logit by ordering the dependent variable in four levels. The results are reported in Table-25.

The OLS estimates are reported in column one. The results show that the households with higher income have lower recovery rate. A one percent increase in pre-lockdown income decreases recovery rate by some 13.16 percent. Indeed, the workers who had full-time employment during lockdown period had high income recovery in post-lockdown period. Recovery rate was higher by around six percent for these workers. Here again, it is proved that recovery rate of transport workers in relation to RMG was 11 percent lower. This result was statistically significant.

The ordered logit estimates corroborate the findings derived from using the OLS technique. Since the coefficients represent probabilities in Logit estimates, it is easy to understand the results.

The corroborated findings are: first, the probability of recovery rate is 0.43 for the workers with lower pre-lockdown income; second, the probability of recovery for the workers with full time work status during the lockdown period is 0.894 implying that the full-time work status during lockdown contributed to the higher recovery of pre-lockdown income level. As revealed in the OLD estimates, workers in the transport sector have lowest probability of recovery.

Table-25 : Effects of pre-lockdown income on income recovery during post- lockdown period

	OLS	Ordered Logit
Log of pre-lockdown income	-13.169***	-1.431**
	(3.498)	(.563)
Log of savings	.166	-.014
	(.131)	(.019)
Fulltime during lockdown		
No		
Yes	5.927*	.894*
	(3.182)	(.462)
Sectors		
RMG (ref.)		
Port	-3.731	-.242
	(4.528)	(.678)
Construction	1.482	-.431
	(5.018)	(.692)
Restaurant	3.384	.652
	(5.085)	(.836)
Health	.328	1.462
	(4.785)	(1.177)
Transportation	-11.841**	-1.424**
	(4.925)	(.673)
Constant	223.056***	
	(32.939)	
Cut1: constant		-17.847
		(5.42)
Cut2: constant		-15.916
		(5.359)
Cut3: constant		-15.062
		(5.344)
No. of observations	211	211
R2/ Pseudo R2	0.1607	0.132

*** p<.01, ** p<.05, * p<.1, Standard errors are in parentheses

The results of the field survey indicated that the employment and livelihoods of the respondents of all sectors have been affected with different intensities due to COVID-19. In order to take precise decision on policy recommendations more comprehensive data towards our objective was required. Hence, we conducted three focus group discussions, two with workers and one with employers, which have been discussed below.

6. Qualitative Analysis – Focus Group Discussions (FGDs)

The findings of the FGDs have been discussed from two perspectives: Workers and Employers.

6.1 The Perspectives of Workers

As mentioned earlier, we organized and moderated two FGDs among the labors and trade union leaders of the selected sectors in November 2020 intending to assess the impact of COVID-19 on labours' livelihood and employment. The FGDs were conducted by adopting the methodology proposed by Kitzinger (1995) and Krueger (2008) since this method is extremely helpful to gain an in-depth understanding of social issues. Usually, a focus group is a moderated discussion involving a relatively small group of participants (from six to twelve) who discuss freely on a specific issue/topic; in our case, 21 people were participated to discuss the impact of COVID-19 on livelihood and employment. In these discussions, keeping the opinion of Krueger (2009) in our knowledge, we pursued and ensured relax sessions with the participants in a more informal manner so that we get honest opinions without any hesitation or plain compliance. Moreover, to encourage any kind of response, positive or negative, the moderator was highly receptive to criticisms and suggestions. Complying with the suggestions found in specialized literature (Stewart et al. 2007), a person was also employed as a silent observer in the FGDs, to take detailed notes of any exchange between the participants, particularly of non-verbal communications such as facial expressions. A typical focus group lasts about two hours and is usually recorded with the consent of the participants. The FGD involved twenty-one participants, lasting for four hours altogether. We also chose the members to maximize their variance with respect to sectors, employment status, gender: as a result, the focus groups were comprised of nurses, cleaning staff (hospital), garment's workers (employed & unemployed), CNG driver, construction labor, restaurant worker (employed & unemployed), lorry drivers (port), trade union leaders of each sector. In both discussions, we deliberately included trade union leaders and people who lost their jobs during the pandemic so that we could get the real scenario concerning the support of trade union and the distress of the workers. FGDs were directed in a quiet room in which only the participants, the observer and the moderator were present. We started our discussion by briefing about our objectives to the participants.

We performed content analysis to identify themes and elements of interest. The key findings have been summarized below keeping the details of the dialogue in **Appendix-A**:

6.1.1 Life and livelihood

Almost all the participants agreed on the fact that their lives and livelihoods are largely affected by COVID-19. They experienced enormous suffering for work and food during lockdown. They faced problems related to jobs concerning reduced salary, salary off, job loss to a great extent. The workers of the transport sector, construction sector, and restaurants suffered severely compared to the workers of garments, hospitals and port. They faced severe food-related distress as a result of inadequate income during the coronavirus pandemic. In addition to that, they were compelled to reduce their food consumption after lockdown due to inadequate income and price hiking of daily commodities. They skipped some mandatory medical expenses as well during the lockdown. Some of the respondents maintained their lives by borrowing money from multiple sources such as relatives, and cooperatives. We received similar responses from the respondents of the construction sector. Furthermore, the participants from the transport and construction sectors said that they were compelled to quit their children from coaching center due to their reduced income. Our discussion explored that the workers of the restaurant suffered the most since the restaurants were completely closed for almost five months. Even now, when they started their operations exploring new ways, the income of the restaurants' workers is still very low compared to their pre-COVID-19 income. The discussion also uncovered that the workers of garments, hospitals and port experienced similar loss of income due to Corona in their respective employment fields with a lower intensity.

6.1.2 Role of Trade Unions, employers, and the Government

Since the countrywide lockdown pushed the workers into a miserable condition in terms of their lives and livelihoods, we tried to find out the role or support of trade unions, employers, and the government to the workers. Trade union (TU) leaders of RMG admitted that they understood the high risk of the workers due to the pressure of job insecurity, unpaid wages and layoffs. They tried to resolve the problems through negotiating and adopting strategies like communicating with the media. We also found the similar types of support from the union leaders in health sector. When their employers had denied the health workers their rightful benefits during lockdown and post lockdown, the union leaders played a very positive role. Nevertheless, this support was not given in other sectors. Unfortunately, all the participants, except the one from the port, expressed their grievances and discontents against their employers (See section-9 for more detail on the role of TUs). Despite the efforts of Govt., NGOs and other voluntary organizations for providing the workers of the selected sectors with

food and financial support, most of the participants agreed that they did not receive such type of support while it was badly needed. Therefore, it can be assumed that compared to the needs of the people, the support was inadequate.

6.1.3 Expectations

It has already been explored that the life and livelihoods of the workers of the selected sectors are severely affected by Corona where supports of different wings seemed inadequate. Hence, we also tried to know their expectations from different stakeholders to cope with this situation of loss of income. Contrary to their grievances and discontents against their employers, all the workers believe that their employers can help them to overcome these challenges of Corona. We summarized the expectations of the workers in the following:

- Price reduction of necessary commodities,
- Proper distribution of Government and non-government supports. In this case, a ward-wise list can be made by using the information of NID card,
- Trade unions should be more organized in order to increase their bargaining power,
- Provision of accommodation facilities for low-income groups,
- Long term loan for the drivers who have valid licenses so that they can come out the problems of giving a specific amount of money to the owners,
- Govt. should support the employers so that they can continue their businesses.

From the dialogues, it is evident that the nature of problems across the sectors is not the same. Workers of restaurants, construction and transport sectors suffered severely since they had no job during lockdown period and thereafter for almost three months. These people cannot get rid of by on their own, they require a decent amount of assistance from the government and helping organizations.

We summarized the comprehensive issues of workers at a glance with regard to different sectors as they emerged from the group discussions (Table-26). Most notably, we found some relevant issues among the responses of workers in terms of employment and livelihood that will direct us to recommend realistic and justified guidelines for overcoming the challenges of COVID-19.

Table-26: Comprehensive Issues of Workers' at a Glance

Sector / Issues	RMG	Hospital and Diagnostic	Restaurants	Construction	Transport	Port
Cost of Living Employment	-Increased - Job loss -Reduced salary	-Increased - Job loss -Reduced salary	-Increased -Severe Job loss -Reduced salary -Salary stopped	-Increased -Severe Job Loss	-Increased -Severe Job Loss -Salary stopped	-Increased -Reduced salary
Financial Stability	-Deteriorated	-Deteriorated	-Deteriorated	-Deteriorated	-Deteriorated	-Deteriorated
Survival Strategy	-Job switch		- Loan - Job switch	Job switch	- Loan - Dues -Sales of belongings -Consumption rationing	-Less consumption
Income	-Reduced	-Reduced	-Reduced	-Reduced	-Reduced	-Reduced
Food	-Reduced consumption		-Consumption rationing	-Consumption rationing	-Consumption rationing	
Housing			-Moved to rural area	-Moved to rural area		
Education of Children			-Stopped	-Stopped	-Stopped	
Medical Care			-Skipped	-Skipped	-Skipped	

6.2 The Perspectives of the Employers and the Stakeholders

We organized and moderated the last and third FGDs with 18 members of different stakeholders in December 2020. In this dialogue, there were members from the firm's owners from six sectors, labour federations, different sectoral firm's owners' associations, central bank, VAT and Customs department, private and commercial banks, Non-Government Organizations, daily newspapers, and university.

The main objective of this discussion was to identify the impact of COVID-19 on employment in the selected sectors in general, to identify the role of the stakeholders of respective sectors to deal with this COVID-19 situation, to evaluate the existing policies and to find out the way to move forward and to deal with the upcoming days for a more sustainable business environment.

The whole discussion was based on a guideline with some open questions. It allowed comparable information to be obtained from respondents of different sectors and on the other hand, it also allowed sufficient flexibility for putting up the different contexts of their sectors, and for apprehending the everyday reality of their experiences amid lockdown and post-lockdown. The questions were formulated with careful consideration of our objectives (Table-27). Literally, these questions just helped to initiate the discussions which extended widely over the topic area as can be understood from the findings. This setting of discussion provides a natural environment as it permits the participants to discuss as would happen in everyday discourse. As a result, participants were able to explore the topic in their own words which was only encouraged using trigger questions (Morgan, 1988; Krueger, 1994).

Table-27: Trigger Questions for the Focus Group

What was the condition of your firm during the lockdown?
How were your employees?
How did the employers manage salary & wages for lockdown period?
How were your operations hampered?
How did you overcome the challenges?
What role did Chamber (CCI, BGMEA, REHAB, Bus Malik Samity) play?
What was the role of the government?
How are you now?
What problems are you facing now due to COVID-19?
What is the nature of your problems?
What can be done to solve these problems?
What are your expectations from the Govt., from the financial market and from the central bank?

A total of *four* themes were identified from the discussion shown in Table-28. The issues raised under the themes were almost common across all respondents and sectors having the different degree of impacts of COVID-19. Besides, direct quotations from the participants are used as examples to explain the way that the themes were stated by the

participants (The details are in **Appendix-B**). The key findings of the discussion under the themes are as follows:

Table-28 : Themes Identified and the Findings

Themes/Topic	Issues Raised
1. Employment Issues	- Job loss - Reduced salary - Employer's role - Labour Federation's role - No formal appointment letters - Firing from job without prior notice
2. Value Chain Issues	- Interrupted supply of raw materials - Shipment delay & limited distribution - Limited workforce/reduced number of workers
3. Operation and Profitability Issues	- Stopped operation - Reduced operation - Costly operation - Reduced demand - Cancellation of previous order - Reduced buying power - Business contraction - Stopped loan/lease rental repayment & rent payment - Less Profit/high Loss
4. Sustainability Issues	- Management and commitment - New opportunities for business - Integration of political commitment and research - Governmental Policy support

In the following section, we described the analysis and interpretation of FGDs again from same two perspectives: workers and employers.

7. Analysis and Interpretation: (FGDs)

7.1 Workers' Perspective

In the following we analyzed the key findings of the discussions under different sectors from workers perspective. We classified the sectors into three categories based on the severity of the adverse impact of COVID-19-most affected sector, moderately affected sector and least affected sector. We summarized the main issues with regard to different sectors as they emerged from the analysis of the group conversations. Most notably, we found some thought-provoking issues among the responses of workers regarding

employment that will direct us to recommend realistic and justified guidelines for overcoming the challenges of COVID.

7.1.1 Most Affected Sectors

- **Construction Sector**

In construction sector, all workers get appointment through the contractor for construction purpose. For one particular project, they employ/hire group of workers depending on the different phases of work, like plumbing, masonry, tiles, electricity, painting etc. This is a kind of informal contractual job, without any appointment letter, where most of the workers come from north Bengal and most of them stay in the construction premises. There are some workers from Chattogram as well, who live in rented houses. Employers of construction firms do not have any direct contact with the workers. On the other, people who are involved with construction in private level, they are also dependent mostly on the contractors for workers. However, there are some individual developers who hire workers from the labor market or through personal references. During the lockdown, all constructions, both at the individual and firm levels, were completely closed for two months. Consequently, these workers became jobless. They spent their lives in an inhuman condition, they were not able to pay the house rents, they skipped meals, they borrowed money from relatives, they sold their valuables, they could not afford their medical expenses as well. Some of them received relief from their trade union, non-govt organization or voluntary organizations which were very insufficient compared to their needs.

In addition, when Government eased the lockdown after 2 months, many of them were failed return to their work because of travel restriction as they already went back to their home districts with a hope that it would finish in a week or two. Again, at that time those who were in Chattogram, they did not have work because very few construction firms started their operations.

After lockdown, when situation started to get improved, some workers get job in both private level and firm level construction. However, pressure of their loans during lockdown, due house rents in addition to the price hike of necessary commodities has made their lives miserable. Again, their per day wages has been reduced compared to the pre-lockdown period. Ultimately, they are compelled to reduce their daily consumptions in addition to other cost cut activities like withdrawal of their children from coaching center or skipping medical checkup.

Many of them heard about the Govt's support but did not get it. They did not receive any support from their unions.

The situation is somewhat better for the contractors as they had some savings. Otherwise, they also had nothing to do for their livelihoods during lockdown. Now, as the market has limited scope of work and price of necessary commodities has also increased, they are also worried about the upcoming days.

- **Restaurant**

In restaurant sector, there are different types of workers like cook, waiter, cleaner, dish washer etc. They also do not have any formal contract for their work. They are usually paid monthly, and they get food twice in a day for free from the restaurant owners. Most of them stayed at the hotel and a few lives in rented house. As a result, when lockdown started the owners of the restaurant asked them to go back to their home and expected that the situation would be improved soon. However, lockdown prolonged for two months and additional restrictions were there for restaurants and shopping malls. Ultimately, most of the restaurants became operational after July. As a result, all the workers were out of employment for four months in this sector which affect their lives and livelihoods intensely and deepen their poverty since they did not have any income source. They also suffered a lot for food and daily necessities.

In post lockdown period, when they tried to get back their job, most of them did not get one as the owners permanently closed their restaurants since they were unable to cover operational costs. Moreover, due to the change in ownership of many restaurants, the new owners appointed new workers. Besides, due to the fall in customers demand for taking food outside, operations of restaurants have also been decreased. Consequently, some of them got job at a reduced salary and some did not get one. Again, since the number of customers has already been decreased, they are not getting 'tips' like before which is a major reason behind their salary reduction.

- **Transport**

The workers in transport sector are one the groups that also suffered the worst economic consequences of COVID-19. There are around five million transport workers all around Bangladesh spend their livelihoods on daily trips (Dhaka Tribune, 2020)[5]. The workers in Chattogram are not an exception.

5 https://www.dhakatribune.com/bangladesh/2020/04/07/coronavirus-country-s-transport-workers-fight-for-survival

In Bangladesh's transportation sector, there are two sorts of transport workers: drivers and assistance. Depending on the nature of the transportation, both or merely a driver is required. However, some public transport employs some skilled staffs like guides, supervisors, conductors, checkers, booking clerks and cashiers and unskilled staffs like cleaners and callers. Except for goods transport workers, who are normally paid based on trips, other workers are usually paid on a daily basis. Transport workers had the same job condition as those in other industries. A large number of transport workers lost their jobs during lockdown since there was restriction on transport movement and travel. The majority of transport workers, who were the sole breadwinners in their families, were laid off for more than two months. Consequently, they also suffered a lot for food, medical care, house rent, educational expenses of their children and also for regular expenses since they did not have any income. They spent their lives borrowing money from their relatives and taking loan on interest from cooperatives. Neither they received any relief from government, nor they did get adequate support from their trade unions. After lockdown, due to health and safety guidelines implemented by the Government for controlling the spread of the disease, the number of vehicles plying on roads has gone down significantly. As a result, these workers are also suffering largely due to the lockdown. On the one hand, their income has reduced, while the cost of daily necessities has grown. Their difficulties have gotten worse as a result of this situation. From the discussion, it is evident that these workers suffered greatly because they did not receive a regular monthly salary. Hence, if it is possible to implement the latest Road Transport Act concerning the issue of appointment letters for the workers of this sector would ensure the salary on a monthly basis which may protect them in case of any future uncertainty like Corona which might put pressure on the owners though.

7.1.2 Moderately Affected Sectors

- **RMG**

During the lockdown, most of the garment factories in Chattogram were closed for one month. However, they got their salaries because of government's declared stimulus package, though the salaries were not paid on time. Besides, many workers lost their jobs when production capacities of many factories reduced due to order cancellation of the foreign buyers. Moreover, due to delayed shipment as well as deferred payment of the buyers, owners could pay the salaries of the workers on time. In addition, to make

the products ready for the designated shipping time and to keep the production process running, they worked for extra time. However, they did not get 'over time payment' for that, rather the owners assured to adjust this with future payment. Ultimately, lockdown and post lockdown situation had an unprecedented impact on the lives of the workers of garments sector as well. During the lockdown, they experienced hardship as a result of their job loss and pay reduction. To cope, they cut back on their consumption, eliminated their refreshment activities, and avoided social gatherings. Contrary to the role of the trade union in construction, restaurant and transport sector, workers of garments got support from their trade union leaders in terms of fighting/raising voice to reclaim their job or wage. However, in this situation, the lack of an appointment letter was a stumbling block for establishing their legal rights.

- **Hospital and diagnostic**

During the lockdown, the only sector that was not closed for a single day in any country was the 'Hospital and Diagnostic' sector. Bangladesh is not an exception. Workers in this field, however, have lost their jobs as a result of COVID-19. They were afraid to leave their houses at the end of March 2019, when widespread panic was in the air. Many health-care employees did not report to work for a few days because there was a high risk of close contact with a COVID-19 patient at the time. Since hospitals were desperate need for health workers, they managed their tasks by offering incentives to current workers and employing them for two shifts. However, compared to the pre-lockdown period, these employees were paid less. When the workers who had previously departed returned following the lockdown, many of them were unable to find work in their prior workplace, which had been alleged to be illegal. Nevertheless, they managed to get job in other hospital or clinic since there was need for workers. Some of them were hired for a single shift. Some clinic employees were not paid an Eid bonus, so they went on strike. The workers who were out of job during lockdown, endured the same hardship although not to the same extent. After lockdown, they are suffering for household expenses due to price hiking of the daily commodities.

7.1.3 Least Affected Sector

- **Port**

Among the selected sectors, workers of the port can be considered as least affected workers since they had contract for their job, their salary was regular, and they did not

lose their job. However, since activities of the port reduced during lockdown, workers did not get commission based on their activities. Moreover, temporary workers, who were not enlisted, they had no work/job. After lockdown, activities were slow and gradually situation is getting better after September. Yet, temporary workers have been suffering from food crisis. Even after lockdown due to shrunk in their income, they were passing somewhat hard time compared to pre-lockdown period.

The FGDs, comprising workers and trade union leaders, reveal the experiences that the low-income workers confronted the challenges of living and leading their lives during the lockdown period and beyond. While workers from all sectors got adversely affected by the on-going pandemic, the experiences of construction, transportation, and restaurant workers were bitter than that of the RMG, health, and port laborers. In many cases, days were tougher for the first group of individuals, making them even skipping and reducing meals multiple times. Some were found to forgo the required medical care and medications, and some stopped children's education. Strategies, adopted by the affected workers, to finance the purchase of necessities include spending from savings, borrowing from informal sources, and selling properties. The three relatively more affected sectors - construction, transportation, and restaurant could not operate at all during pandemic holidays that lasted for more than two months. These sectors moved up to an efficient level of production after months of an official declaration of an end to the lockdown measures. While the workers now have returned to their normal schedule, except those unemployed, the long-term effects are still there such as repaying loans which taken during lockdown period and making payment of the unpaid house rent.

7.2 Employers' Perspective

As mentioned earlier, the final and third FGDs were attended by eighteen participants who represented employers and other stakeholders. From the discussion, we explored about COVID-19's effects on the aforementioned specific sectors, their coping strategies, and the role and expectations of stakeholders. The impacts of COVID-19 were not found same across all sectors as documented from the discussion. The stakeholders also came up with different opinions and suggestions. However, restaurant, transportation, and constructions business were reported being affected severely in terms of operations and profitability management, while the garments, hospital and diagnostic, and port were found to be less affected.

- **Restaurant**

This study also put forward with the fact that restaurant sector is also severely affected due to Corona. It is considered as one of the worst hit sectors for two reasons: owners were compelled to keep their restaurant closed for a long time due to Govt. instruction and when they reopened them customers avoided gathering for maintaining social distances for avoiding the infections. Similar to the findings of National Restaurant Association, 2020[6] Bangladesh is also facing the problems of unemployment in restaurant sector because of Corona. In Bangladesh there were almost 60,000 food service establishments including hotels, restaurants and sweet makers that created employment for more than 15 lakh people of which 6000 have already closed their business and more than 15,000 restaurants and food service providers have yet to reopen due to Corona. As a result, over 5 lakh workers of this sector have remained unemployed (The Daily Star, 2020)[7].

All restaurants were kept closed at least for two months from March 27 to May 31, 2020, and in some cases, it was lasted for four months. In addition, many restaurants were quite unable to reopen due to lack of capital and manpower. They restarted their business in the month of June or July with 40 percent to 50 percent capacity. Some of them reached to about 75 percent capacity in the month of September/October, but still, they are not with their regular capacity. When they reopened, they suffered severely as the customers were highly reluctant to dine out as well as the shortage of capital and manpower. They needed to maintain social distancing as well as hygiene issues for both customers and staffs. The restriction imposed by the government not to arrange any program/party was another barrier for running their normal business. Another important issue was that the landlords compelled the restaurants owners to pay the monthly rent despite the fact that they earned nothing or very little. All of this seriously disrupted the restaurant owners' ability to run their business and manage their personnel. These findings, however, are consistent with those of Byrne et al. (2020), Kapoor (2020), and Lemieux et al. (2020), who found that the food services industry is one of the hardest hits. Nonetheless, some financially sound restaurant owners paid a percentage of the salary or earnings to their staff, while others did not. Some owners

6 National Restaurant Association, 2020. New Research Details Early Impact of Coronavirus Pandemic on Restaurant Industry. Retrieved from https://restaurant. org/articles/news/study-details-impact-of-coronavirus-on-restaurants.

7 https://www.thedailystar.net/business/news/hundreds-restaurants-dhaka-closed-good-1975961

assisted their employees by providing non-monetary benefits such as 5 to 15 kgs of rice, 1 kg of dal, 2 to 5 kg of potatoes, 1 kg of oil, a face mask, and a soap bar for hand washing, among other things. When restaurant owners complained about their exorbitant gas bills, VAT officials handed them notice that they needed to pay the VAT. They expected the appropriate authorities to lower the bill or the VAT. They also asked the government for a long-term low-interest loan as well as a VAT rebate so that they could relaunch their restaurant. Officials from the bank and the VAT department took careful notes in order to raise the issues with their superiors (policy formulators). So far, the government has provided no assistance to this sector.

Hence, in order to overcome this challenge, Govt. should support the restaurant owners by providing stimulus package i.e., providing long term loan at low interest rate (subsidized rate). Moreover, to make it easier for restaurant owners to do business, they demand to be excluded from paying utility bills. They also expected a tax exemption if they had to pay VAT.

- **Transport**

Transportation owners also suffered a huge loss due to the suspension of public transport during lockdown. Even after lockdown, they suffered a loss because of the smaller number of passengers. Since it is uncertain how long the situation may continue, it is also undefined how to overcome this challenge. The findings indicate that the respondents are not only aware about their present conditions, but they are also worried about their future.

Transport sector was another hardest affected sector. The nationwide lockdown, and restrictions on the number of passengers allowed to carry considering the seat capacity after lockdown resulted in huge loss of transports owners, although we have documented a bit different cases regarding cargo transport. Consequently, the passenger transport generated no revenue during the lockdown period and after the lockdown they suffered from passenger shortage. Further, this business is controlled by workers to some extent, hence, the owners of the business are compelled to depend on what workers report for their revenue. This finding is consistent with the finding of Byrne et al. (2020); Kurmann et al. (2020) and Lemieux et al. (2020). However, most of the transport companies could not pay salaries or wages to their employees because their verbal agreement was like 'no work no pay' but they tried to help them in other ways like by paying a lump sum amount for livelihoods or by providing some food stuffs. They provided those food stuffs either from their own or from organizations such as their own unions or city corporation. Due to their inability to generate revenue, the

owners said that they were unable to repay the loan taken out to purchase the automobiles. They demanded for long-term loan with low interest as well as rebate on registration fees and road permit fees from the respective authorities. Further, they also demanded for a technology-enabled well traffic management system because the manual traffic management system seeks some undue benefits from drivers while they are on the road.

Hence, a long-term plan is essential for supporting the owners of this sector to overcome the challenge of Corona. The owners in this sector also expected a long-term loan at low interest rate for this purpose.

- **Construction Sector**

Construction sector was completely closed for two months. After lockdown, a few, only 10 to 15, construction companies started to work among about 145 companies in Chattogram. Their collection of installment payment was hampered due to the reduced income of the apartment buyers. Consequently, this will raise the construction cost and will affect ultimately on profit. Kapoor (2020) also noted the same in Indian context. However, the construction companies run on with small number of permanent employees since they outsource all the labor force from the labor market. They do not maintain any direct relationship with the workforce but with the agent. Therefore, they did not need to pay them but they paid to their permanent employees. Although legally they are not bound to pay their outsourced workforce if they are not in work, they helped them from humanitarian ground. However, in some cases, they engaged their employees in some other business sectors they own. The owners mentioned that the cost of construction is increasing day by day. They do not have enough capital to restart their construction since the buyers are unable to pay the installment. But the delay of construction will ultimately squander their estimated project cost and profit potentiality. Thus, they urged loan from the government either for themselves or for their apartment buyers.

This research came up with the fact that Bangladesh's construction sector is facing serious challenge as the development activities is very slow due to COVID which ultimately results in many workers out of job. Around 35 lakh construction workers became jobless throughout the country due to the Coronavirus outbreak (The Daily Star, 2020). Proper policy guidelines are required to get momentum in this sector. A number of subsectors i.e., backward linkage is involved with the activities of construction. Therefore, operation of backward linkage industries is also necessary to make this sector active.

Effect of COVID is considered as an unprecedented event which affected project development in the real estate sector negatively. Same negative affect happened to sales operations of existing real estate, cost estimates, values and rates of return of existing real estate sector in general (Tanrıvermiş, 2020). This is all about supply side of construction sector. In the demand side, customers are always unwilling to invest in the real state during any crisis. Consequently, this sector is at high risk, from both customers and employer's perspective. Hence, this is high time to take decision on both the short-term and long-term solutions to face and overcome this challenge. To this end, if banks provide the developers with moratorium facilities that can reduce their working capital problems and they can carry out their running project even the buyers fail to pay the instalment. Since the buyers are not interested in further investment in crisis, long term home loan which is accessible to the public should be given i.e., loan facilities at lower rate should be given to the buyers so that they get induced to invest in this sector.

- **RMG**

COVID-19 forced the closure of 23 garment factories out of a total of 324. They did not receive government stimulus packages since they did not have good relations with the banks. As a result, 5,566 workers in those factories suffered. There are various reasons behind this, according to the participants in the discussions. For instance, order cancellation and deferred payment, pressure to pay minimum wages, training for health and safety issues of workers, supply of masks, sanitizers etc. Further, government announced a minimum wage of Tk. 8000 for worker. This pressure of minimum wages created shortage of working capital of the owners during lockdown. Even in the December 2020, many factories are running their business under capacity (at 60%) but bearing the cost of operation for full capacity (say, paying 100% salary, rent for full capacity setup etc.). They received a stimulus or incentive package from the government to pay salary and wages although they didn't like the term of this support "incentive/stimulus package' rather it is simply a package of soft loan. They mentioned that they were suffering from raw material shortages since December 2019 since most of the raw materials supplies are from China and the suppliers cancelled or deferred several orders due to COVID-19. They were instructed to pay 65 percent of salaries while their factories were closed for 30 days during the lockdown period.

One of the major employers in our country is Ready Made Garments manufacturers. This sector is also awfully affected by COVID-19 for some reasons. During lockdown and after lockdown many factories had to shut down and currently many factories are running their business at lower capacity due to cancellation of orders and reduced demand in

the export market. Consequently, many employees lost their jobs in this sector. However, the condition of the workers of this sector is not as worse as the workers of construction, restaurant or transport sector.

- **Hospital and diagnostic**

Hospital and diagnostic sector observed an unparallel situation during the first few months of COVID-19. Regular non-COVID patients did not go to hospitals unless it was emergency as they were afraid to be infected by COVID-19 from hospitals and diagnostic centers. They maintained separate blocks for COVID and non-COVID patients. Further, they induced the workforce to work in COVID-19 specified area by providing extra benefits since working in the situation was life-threatening. However, they never stopped providing their services. Their revenue generation was hampered due to non-attendance of regular non-COVID patients as well as the quick increase of prices of supplies. Hence, some hospital and diagnostic centers reduced the salary for a temporary period with a promise to pay the rest later. They did, however, provide free transportation and in-house lodging for their staff during the lockdown. Additionally, they provided free medical treatment as well as paid leave for COVID-19 infected employees.

- **Port**

A different scenario was found in the Chittagong Port. As the global export and import became slow down during lockdown, the activities of port were reduced too. Hence, the income of workforce was reduced. The workers who left the job for a few days or months, received regular salary and companies consider them as leave with payment but the workers who were present in the station received salary plus percentages of their container handling or servicing vehicles in the port. Other than this, the companies operating in port were fine since the government tried to keep running-the domestic supplies of goods as well as the export smoothly. Workers Welfare Trust of the part gave Tk. 6,000 to port users' workers as donation and provided loan of Tk. 5,000 to them which would be repaid in installment at no cost to help them cope with their hardship.

In the following section, we described the analysis of firm-level data under two broad heads: Value Chain Analysis and Occupational Safety and Health.

8. Firm Data Analysis

8.1 Value Chain Analysis

The financial success of any organization depends on its efficiency and value to the clients (Sturgeon, 2001). Michael Porter introduced the value chain as a tool for identifying more customer value through integrating a firm's different activities from designing, producing, marketing, delivering and supporting its product (Porter, 1985). Moreover, the success of an organization also depends on value delivery network or supply chain which refers to partnership or coordination with specific suppliers and distributors (Kotler, et. al. 2009). Despite the fact that the value chain model (Porter, 1985) has been originally developed for manufacturing, research also showed that the value chain technique is also useful for service organizations (Choi, 2001).

In this backdrop, we also assessed the impact of the COVID-19 on the value chain activities of the selected sectors. We found that activities of the value chain were largely affected in the garments sector.

8.1.1 Impact of COVID-19 on Firm's Value Chain

The garment sector is one of the most important sectors of Bangladesh's economy. Like many other developing countries, garments production is vital industrial activity in Bangladesh. The core functions of the value chain of garments in Bangladesh are sourcing, input supply, garment manufacturing, exporting and marketing. While sourcing functions include sourcing, inspection, quality control and compliance, the input supply function include some sub-functions. These sub-functions are cotton import, spinning, yarn dyeing, knitting or weaving, accessories supply, grey fabric sourcing, dyeing and all over printing. The garment manufacturing and export function includes cutting, panel printing/ embroidery, sewing, finishing, quality control and branding, packing and shipment. All these activities are conducted by the workers. Marketing activities includes warehousing, branding and retailing functions Management functions are performed by high skilled professionals employed by the factories (SNV Report, 2014).

During and after the lockdown, the RMG sector has been challenged by both upstream and downstream activities. Since COVID-19 outbreak began in China at the end of 2019, the regular inflow of raw materials of many garments' factories was interrupted due to the reliance on China. Particularly, woven factories were largely dependent on China for woven fabrics and their operations were hampered due to delays and inventory shortages. Moreover, during the lockdown all the factories, with few exceptions, were

closed from March 26 to April 14. At that period, there was no production. Besides, many of the factories that reopened after lockdown were operating below capacity for two reasons: factories had difficulty getting their workers back as many of them left the area and lack of inventories. Ultimately, many factories failed to ship their finished goods on time. Some factories also failed to ship their goods due to the restriction on transport, Furthermore, situations got worse due to the cancellation of orders from the buyers. We also found the same scenario in our sample firms with the exception of a factory which is a sweater manufacturer. Since the raw materials of this factory had been supplied before lockdown and their shipments were due after the port activity had started, they did not suffer as much compared to other garment factories. However, we also found factories that used air cargo as a means to meet their shipment deadlines; this turned out to be very inefficient as they had already missed a couple of deadlines and it proved to be very expensive and at the same time.

In the case of hospitals, their value-chain activities ran smoothly but they had to compromise by purchasing raw materials at higher price; also, their regular services had been affected by corona as non-COVID patients stopped coming in, which compelled them to get rid of very expensive inventory. They also had to pay higher salaries to hospital staff because they were reluctant to work in a dangerous environment. Since hospitals had to arrange new equipment and facilities for the COVID-19 patients (e.g., beds, oxygen tanks etc.) their overall expenditure amount increased a lot.

Transport, restaurant, and constructions sectors on the other hand had been closed for a long period of time which hampered their ability to provide service to their end customers. So, the value-chain activities in these three sectors were practically stopped. In port, we found that the work was constant though the pace was slowed down a bit.

8.2. Workers' Safety Measures at Workplace

Figure 5 represents the safety measures taken by workers and employers. We evaluated it by initiating seven relevant safety measures questions. For instance, "Do you wear a mask when you are out of home?", "Do you wear a mask when you are at work?", "Does your employer provide handwashing facilities at work premises?", "Do you use hand sanitizer at a regular interval?", "Do you wear mask when you are at home?", "Do you maintain social distance at your residing place?", "Does your employer provide masks and declare it as mandatory to wear at work?". 84% of the respondents replied that they wear masks when they are outside of home while 70% wear masks at work. 76% of the participants wash hand at a regular interval 62% use hand sanitizer. 60% and 51% wear

masks and maintain social distance respectively at their residence. 65% of the workers replied that masks are supplied by their employers where 34% said no mask is provided by their companies.

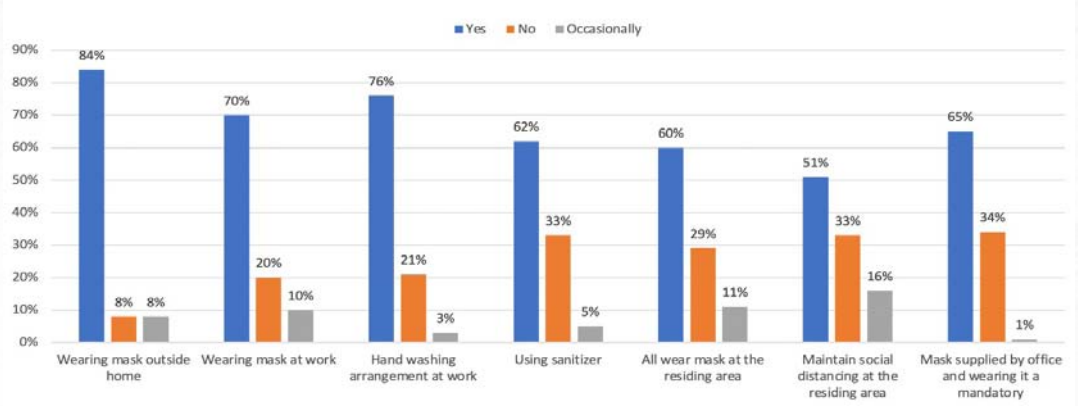


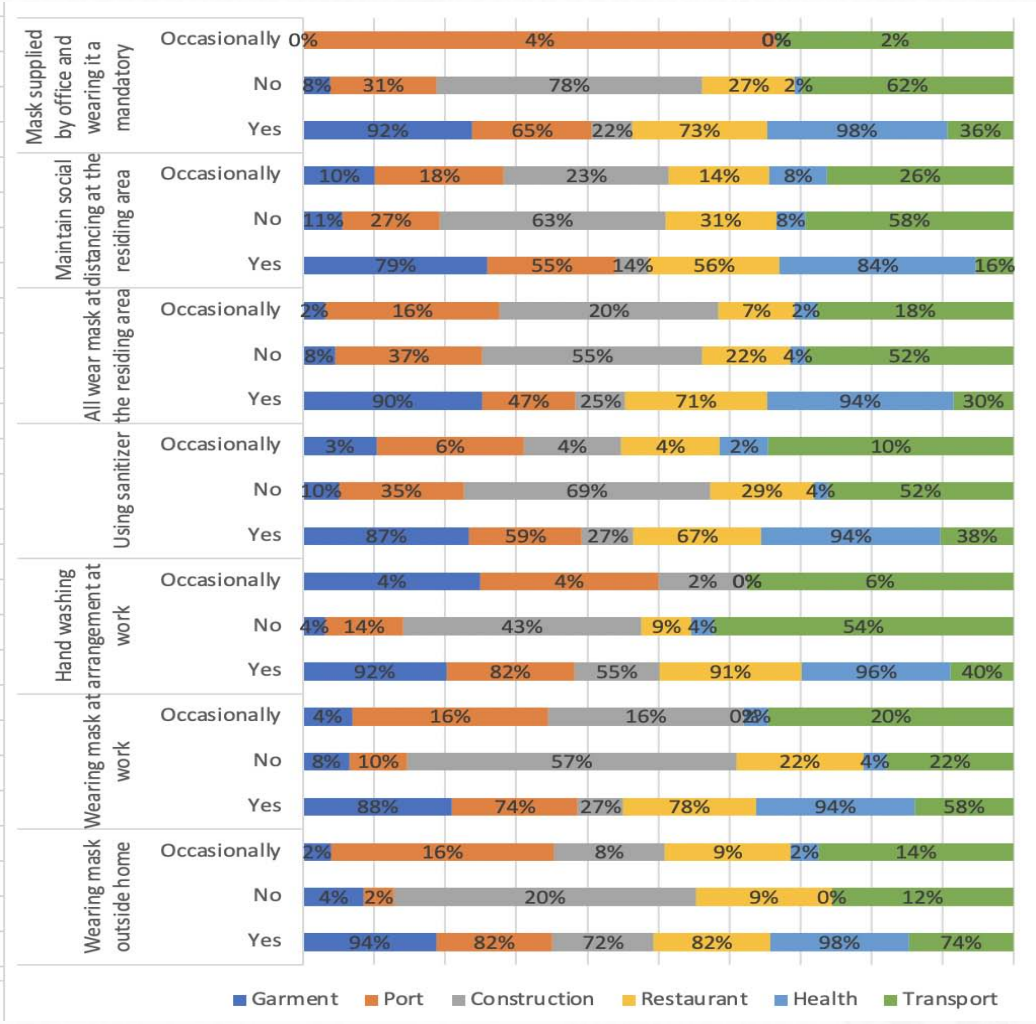
Figure 5: Percentage of workers on different issues of safety measures

In the sectoral analysis of workers' safety measures in Table-29, the analysis revealed that the health sector workers were replied 'Yes' at the highest percentage against all the measures or arrangements. On the other, construction sector workers were found to reply 'No' at the least percentage against all the measures or arrangements. For instance, 98% and 94% of health workers said that they wear masks outside the home and at work respectively, whereas 72% and 27% of construction workers do the same. However, the reason behind this is obviously the health sector workers were at the highest risk to be affected by COVID. As a result, they were highly cautious, and all the necessary strategies were taken by the workers and employers. On the other, the construction sector workers were less conscious as well as their work type compels them to unfollow the safety measures. With a very close percentage to the health sector, the garment sector comes second, and with a big difference, the restaurant sector comes next. After that, comes port and transport with the position 4th and 5th respectively. The positions of all the sectors are the same for all the measures or arrangements.

Nevertheless, the garment sector needed to maintain workplace safety measures since workplace safety is a prioritized issue after the Rana Plaza accident in 2013. On the other, since the restaurant customers were very reluctant to dine out due to safety issues, the restaurant workers needed to ensure that eating outside is safe to bring the customers back. The nature of work in the port let the customers not to follow the safety measures strongly. For instance, they work in a spacious place with maintaining a big distance which was not possible in the case of health and garment sectors. In the case of

transport, we could say that the workers were less conscious as well as their financial ability let them unfollow proper safety measures.

Table-29 : Sector-Wise Safety Measures



In the following section, we summarized the role of the associations and trade unions based on our survey data and FGDs.

8.3 Impacts of Covid-19 at the Firm Level: Evidence from the Firm Survey and Stakeholder Dialogue

Besides the value chain and workers' safety measures at the workplace, we investigated other critical issues that might affect the operations of employers' business and how they responded to the challenges. The intensity of impacts on the lives and employment of workers was an outcome of the intensity of impacts on the firms. We derived the following findings from the analysis of the impacts on the firms:

First, all firms surveyed were affected by COVID-19. Because of the closure, they had to keep their firms also closed. The degree of closure was longer for the restaurant, construction, and transport sectors.

Second, because of scaling down of operations and cancellation of work-order forced some RMGs to default in pay wages or salary payment. However, with the Bangladesh Bank stimulus packages the situation improved in the RMG sector.

Third, firms in the restaurant, construction, and transport severely suffered from liquidity because of the closure during the lockdown. As a result, they could not extend financial supports to their workers in most cases.

Fourth, firms have recovered mostly when the lockdown was withdrawn. But the losses incurred by the firms during the lockdown period have brought new challenges for some of the firms. However, with subsidized credit facilities, the challenges may ease for the firms who can avail themselves.

It emerged during our discussion with the stakeholders that some of the firms reported to bad practices like termination and taking the signature of the workers on white paper during the lockdown period. Such behavior has deprived many workers of their rights. Workers are rarely seen as partners in the good and bad times of a business. The absence of a humane approach was reported in the meeting of the stakeholders.

9. Role of the Associations and Trade Unions

Among the six sectors, the most organized sector is RMG with employers' association and workers' trade union. During the pandemic, both BGMEA and BKMEA leadership played role in negotiation with the government on the nature of packages they needed to cope with the situation. In some cases, small RMG factories laid off under special circumstances of cancellation of work orders. The government declared financial package for the payment of salary of the workers during the crisis. The financial package carried an interest subsidy of 4.50 percent. The port users' workers are relatively more organized than the other sectors.

The most unorganized sectors are restaurant, transport, and construction sectors. As a result, there was little financial supports for the workers. The most important problem is the informal nature of employment. As a result, ownership of workers was absent. The role of trade unions in the COVID-19 situation was limited. Visible role was evident in case of RMG. They collaborated with the employers in ensuring that no one is left out. In possible cases, they stood for the rights of workers in case of any termination.

In unorganized sectors, the role of trade unions was limited; it was limited to organizing them and work with the workers in establishing their rights. They were, to a very limited extent, able to provide workers' living in the city during the lockdown with occasional relief, something that originally came from individuals as part of charity and from institutions like City Corporation. They are, however, active in making labor contract more formal for a long time.

In the port sector, the port users' workers' welfare association is quite active. Every worker is a member of the association, the association has created 'welfare fund' for the workers. During the pandemic, the association provided a grant of Tk. 6,000 as grant and Tk. 5,000 as loan at free of cost. Such arrangement has minimized the extent of sufferings of the workers.

We started our research with the objective of assessing the impact of COVID-19 on employment in Chattogram based selected industrial sectors and analyzed the situation of workers' lives and livelihood in these industrial sectors. We came up with the findings that have been described in the next section. Based on those findings, we put forwards some policy recommendations for the policymakers, professionals and different government and international agencies for facing the current challenges as for future calamities if there is any.

10. Summary of the Findings and Policy Recommendations

The study was conducted over a sample of some 300 workers spread over six sectors – construction, restaurants, transport, port, RMG and health. We have analyzed the data more in a descriptive way. In possible cases, we have complemented with econometric analysis. The analysis brought us to the following findings:

First, the workers in three sectors – restaurant, construction, and transport – were worst affected by COVID-19 induced lockdown. Port users' workers were moderately affected. Relatively least affected sectors were the RMG and health sectors.

Second, around 98 percent of the restaurant and transport sectors became unemployed during the lockdown period, some 70 percent of the port and construction

workers affected during the same period. Around 15 percent of the workers in the RMG and health sectors became unemployed due to COVID-19 induced lockdown.

Third, because of the narration in the above second, economically workers became worse-off. Total income declined at the aggregate level by some 50 percent. But the intensity of decline was higher for the workers in the restaurant and transport sectors. There was a decline in income by around 86 percent. Income fell by some 13 percent for the health and around one-third for the RMG workers. Modest fall was noted for construction and port users' workers. Quite a significant percentage of workers had secondary income. Not only total income decline; secondary income also declined.

Fourth, how did the workers maintain their livelihood? Households maintained their livelihoods using three means – use of savings, consumption rationing, sale of assets. Around 70 percent of the affected workers used savings in meeting consumption expenditures. Generally, most of the affected workers regardless used savings to cope with the adverse shock of COVID-19 induced lockdown.

Fifth, not all the affected workers used borrowing as another means. Around 50 percent of the affected workers borrowed to some extent. This happens when savings is not sufficient to meet the consumption demand. Only one-third of the affected workers in the RMG and health sectors borrowed for consumption purpose. In other sectors, more than 60 percent of the affected borrowers had borrowed to meet consumption need.

Sixth, not all of them were lucky to use savings and borrowing to meet their full consumption needs. Some of them were forced to sale property. Some 10 percent of the workers did sell whatever limited properties they had to cope with the situation.

Seventh, extreme circumstances led some affected workers to ration consumption. Some 29 percent of the affected rationed consumption by food rationing. Under some more extreme situation, some 10 percent of the workers had to skip meal occasionally. All these extreme situations or circumstances were experienced relatively more by the affected workers in port, transport, restaurant, and RMG sectors.

Eighth, the affected workers have recovered from the shock by the end of August 2020, almost two months after the lockdown was withdrawn in the beginning of July. Not all could recover. Some 78 percent of the affected workers had their pre-level income restored by the end of August. Some 12 percent of the workers could recovery partly (below 50 percent). The intensity of partial recovery was more pronounced for the workers in the transport sector, followed by the restaurant and construction sectors. The workers with long experience recovered quickly than the young workers. This was also supported by our econometric analysis.

Ninth, insurance mechanism like savings has played a key role in smoothing consumption and recovering from early shock of COVID-19.

Tenth, the role of trade unions in unorganized sectors was very limited. They were quite active in the RMG sector. In the port sector, workers association provided financial support from the 'welfare fund' to the extent of BDT 11,000 including loan of BDT 5,000.

Based on the key findings, we draw the following **policy implications**:

First, since savings have played a critical role in consumption smoothing, we recommend that in all enterprises, employers in collaboration with employees should create worker 'welfare fund' with contribution from employees. This should be managed by the association or by the employer jointly with worker leadership. In addition, special savings instruments may be developed to increase marginal propensity to save of the workers.

Second, workers need to be organized. Government should ensure that employees are organized in all sectors so that concerned association can work jointly with the employers. It is always better taking positive steps in the interest of the workers in situation like COVID-19 if workers are organized.

Third, there will be some long run impacts of COVID-19 and the lockdown period. Some 12 percent of the workers have partially recovered (less than 50 percent). In other words, these workers are more likely to fall below poverty line on perpetual basis. In order to assist them to smooth consumption, the government needs to bring these workers under the social safety net programs.

Fourth, not only the employers need supports to run their business, workers need supports from the government. As has been evident in this study, quite a significant percentage of workers are engaged to complement their low primary income. Loan facilities nay be extended to the workers to finance their self-employment activities.

Fifth, entrepreneurs in construction, restaurant and transport are different from the RMG; they generate revenue when their businesses are open. The RMG sector could function in many cases because of the international work orders. Financial stimulus package should be drawn separately for these sectors.

Sixth, it is probably high time that government in collaboration with insurance companies introduce 'social insurance scheme' for the workers.

11. Limitations:

Like all other studies, this study has some limitations. First, the study has been conducted over a small sample of 300 workers with a sub-sample of 50 workers from

each of the six sectors. Certainly, larger sample would have always been better. Resource constraint of the sponsoring organization put us in a constraint. However, we might add here that we are confident of the robustness of the findings on two grounds –300 samples for aggregate analysis were sufficiently large, and findings from each of the six sectors truly represent the aggregate level findings as there no large variance. Second, the study is limited to Chattogram. Therefore, it may not represent the national level.

12. Conclusions

The world has already witnessed the grievous effect of COVID-19 on public health as well as socio-economic condition. 'Lockdown', 'no-touch' emergency state situation, 'stay-at-home order' 'isolation', 'quarantine', 'social distancing' evoked by the COVID-19 have impacted the lives and livelihood all over the earth. Since Chattogram plays a role as the economic backbone of the country, the broad objective of the study was to assess the impact of COVID-19 on Employment in Chattogram based selected industrial sectors and analyze the situation of workers' lives and livelihood in these industrial sectors. The FGDs, comprising laborers and laborer leaders working in the sectors of interest, reveals the experiences that the low-income workers encountered during the lockdown period and beyond. While workers from all sectors got adversely affected by the on-going pandemic, the experiences of construction, transportation, and restaurant workers were bitter than that of the RMG, health, and port laborers. COVID-19 type shock will have long run effects; but this is a shock. Shock of different types, particularly covariate shocks, will emerge. Adverse impacts of all these shocks will adversely affect the workers in future as well if we are not prepared. Our policy perspectives have been driven by the need for future initiatives and actions.

It is noteworthy that "recovery" in our report has been defined as the income restoration in post-lockdown (income in August 2020) compared to the income of the pre-lockdown period (March 2020). We identified a person to have fully recovered if his/her post-lockdown income as a percentage of pre-lockdown income is at least 100 percent. We are aware of the fact that in this recovery, we did not consider the economic condition of the samples with regard to dissaving or selling properties which they mentioned as their strategies to cope with the derived situation due to COVID-19. In other words, the economic condition of the samples returned to their pre-lockdown situations only in terms of their income. Moreover, when we finalized the report at the end of December 2020, the situation of COVID-19, in terms of new cases and the death rate, was getting better (WHO, 2020e). However, the situation is getting worse again and the Government of Bangladesh has enforced a weeklong lockdown again from

April 5, 2021[8]. Considering the current situation, it is difficult to conclude whether this recovery will exist or not and how long this recovery will last, as this could be only temporary. Moreover, in this worsening situation of COVID-19, it is not possible to say if the affected group is approaching a debt trap due their borrowing from different sources. Further research is highly recommended after this second wave for getting the trend on this aspect.

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Appendices

Appendix – A

Focused Group Discussion at Workers' Level

November 16-17, 2020

We organized and moderated two Focus Group Discussions (FGDs) in November 2020 among the labors and trade union leaders of the selected sectors with the aim of assessing the impact of COVID-19 on their livelihood and employment. The group discussions were conducted by adopting the methodology proposed by [1,2] considering the fact that this method is extremely helpful to gain an in-depth understanding of social issues. Usually, a focus group is a moderated discussion involving a relatively small group of participants (from six to twelve) who discuss freely on a specific issue/topic; in our case, the impact of COVID-19 on livelihood and employment. This discussion is usually held with the help of a moderator, who must be knowledgeable about the topic under evaluation and stays in charge of supporting and guiding the discussion [2]. In these discussions, we pursued and ensured a relax sessions with the participants in a more informal manner so that we get honest opinions without hesitation or plain compliance [1]. Moreover, in order to encourage any kind of response, positive or negative, the moderator was highly receptive to criticisms and suggestions. Complying with the suggestions found in specialized literature [3], a person was also enrolled as a silent observer of the focus groups, in order to take detailed notes of any exchange between the participants, particularly of non-verbal communications such as facial expressions. A typical focus group lasts about two hours and is usually recorded with the consent of the participants. The FGD involved twenty-one participants, lasting for four hours altogether. We also chose the members so as to maximize their variance with respect to sectors, employment status, gender: as a result, the focus groups were comprised of nurse, cleaning staff (hospital), garment's worker (employed & unemployed), CNG driver, construction labor, restaurant worker (employed & unemployed), lorry driver (port), trade union leaders of each sectors. In this discussion, we deliberately include trade union leaders and people who lost their jobs during pandemic so that we could get the real scenario with regard to the support of trade union and the distress of the workers. Discussions were done in a quiet room in which only the participants, the observer and the moderator were present. We started our discussion by briefing about our objectives to the participants.

We recorded the discussions with the permissions of the participants and carried out affinity clustering with paper copies of their transcripts. We then performed content analysis to identify themes and elements of interest [4]. We report the detailed

discussions in the next sections by grouping the relevant passages under three themes with supporting quotations and discuss them accordingly.

A. Discussions

The imposition of the countrywide lockdown by Government on March 26, 2020 had a huge, unprecedented impact on the lives of the workers of selected sectors. All the workers have experienced loss of income in their respective employment fields during this pandemic.

- ***Life and livelihood:***

Almost all the participants agreed on the fact that their lives and livelihoods are largely affected by COVID-19. They experienced enormous sufferings for work and food during lockdown.

They faced problems related to job concerning reduced salary, salary off, job loss to a great extent. The workers of transport sector, construction sector, restaurants suffered severely compared to the workers of garments, hospital and port. They faced severe food-related distress as a result of inadequate income during the lockdown.

As one of the respondents said,

> "…We passed through severe distress at that time, I have a family of five, we had to skip meals for a day or two…"

"I was forced to skip meals with my children and wife, we could not eat in the morning, we ate in the afternoon and again we didn't eat at night…"

Furthermore, due to insufficient income and price hike in daily consumables, they were forced to restrict their food consumption after the lockdown.

> "…Now the price of all commodities has been increased, now it is not possible to live life on 10,000/-……now I am compelled to buy 15kg of rice instead of 20 kgs…I have to reduce my expenses…. I reduced food consumption…for example I used to buy 4kgs of fish before, now I have to buy 2 kgs…"

They skipped some mandatory medical services as well during lockdown. Some of the respondents maintained their lives by borrowing money from multiple sources such as relatives, and cooperatives. According to one CNG driver, whose story is similar to that of many others,

"...I did not have any income for almost three months, I borrowed BDT 30,000 at that time, I failed to pay the house rent for three months which was BDT 24,000….so far I reimbursed BDT 21,000 of the house rent… and now I am paying BDT 500 per month…

We got the similar responses from the respondents of the construction sector:

"…I borrowed BDT 10,000 from my brother, but I could not repay it, I spent all of my savings which was around BDT 25,000…"

Moreover, we found a participant who was forced to sell gold he had left in the family in order to buy food.

"…contractors were fine…., but daily labors like me….our distress is indescribable…I earned around 14,000/- per month before Corona…I was at home for 15 days, I did not have anything to eat….I got out to look for work… I went to Halishahar area for work…I worked for BDT 550, even for BDT 300 which was usually BDT 700 before Corona…but it was for few days…finally I was compelled to sell my wife's gold….At that time all shops were closed…I called one of my known jewelers, then I mortgaged the gold to him and got BDT 10,000….now I don't work under the contractor from then since I did not get any help from them during my distress….I go to labor market at Chawk Super Market area…"

Furthermore, participants from the transport and construction sectors said that they were compelled to take out their children from coaching center due to their reduced income.

"…one of my daughters is in class 5 and another one is in class 4…my son is in class 1…I used to spend BDT 1,500 for their coaching… I am forced to stop this now…school is off…no study…"

Our discussion explored that the workers of restaurant suffered the most since the restaurants were completely closed for almost five months. Even now, when they started their operations exploring new ways, the income of the restaurants workers is still very low compared to their previous income.

"…before lockdown I used to earn BDT 11,000 to BDT12,000 per month, actually my salary was BDT 5,500 and rest of the amount was from tips. Now the income is like half of my previous income, since there aren't customers like before…. I have house rent due, I borrowed 40,000 from my brothers….we had BDT 25,000 in hand….we spent our life on this amount during lockdown…we bought 1 kg instead of 3…. We lived on

> mashed potato and dry fish…. my boss did not receive my phone calls…"

The discussion also uncovered that the workers of garments, hospitals and port suffered similar income losses due to Corona with a lower intensity.

As one of the participants said,

> …..I worked in a garment factory…. I was on maternity leave before the general holiday due to Corona, it lasted for 112 days, when I returned to work after the lockdown, my company gave me a 56-day salary, took my signature on a white paper and told me that my service was no longer required….later on I came to know that ~~as~~ the company had fired many employees….I even did not get the due salaries….

However, we found another participant from garments whose condition is different from the previous one, as she said

> ….I used to receive my basic salary up to last month (October, 2020) …as company is running with limited capacity there is no overtime ….my income has decreased… but the price of food items has increased, Transport cost has increased….all these factors have changed my cost of living…we have not got the salary of this month yet, as there is no shipment……there is a rumor in the factory that it might get closed in the next month….we are not sure …..what could be happened….everything is very uncertain…..

While the workers of garments expressed their hardships due to salary reduction or loss of income, having the same challenges of job loss and price hike, hospital workers confronted a life-threatening situation due to the nature of their profession. However, in hospital sector, who worked at corona unit during lockdown and after lockdown they received extra salary as incentives.

> …our employer wants only work….in March and April when the doctors did not come to the hospital…we worked….but now, employer is looking for a chance to fire us…many of our ward boy, nurses did not come out of fear….at that time we worked for two shifts…we received salary for shifts…when those ward boys, nurses, other lab staffs returned to their work, they found that they were fired… some of these staffs were asked to stay home by the authority when they showed their interest to come….later on they were informed that as they were absent for more than one month without any application…they are not eligible

> to join…I worked in two clinics before corona…Now I work in only one clinic….I also feel very insecure about my job…

Surprisingly, we found opposite statement from another participant from the hospital regarding job status and salary. Yet, she also admitted that her cost of living has increased due to price hike of necessary commodities.

At this point again, the issue of job was a primary concern for all of the participants, no matters whether they are employed, unemployed or having a formal contract or informal contract. As one participant from port said,

> ….My financial condition is not good….I am a driver…as import-export has been reduced, activities of port have been reduced…..my fixed salary is BDT6000 …I used to get BDT18000 per month before lockdown as our income increases based on trip…during lockdown there was no trip….no commission…and nowadays situation is improving….but not as before…I received BDT11,600 as October's salary…

From the overall discussions on life and livelihoods of the workers it becomes clear that all of them are facing financial hardship due to salary cut, job loss, reduced income, or income related issues. Moreover, they are also assuming potential poverty if the situation prolongs.

- ***Role of Trade Unions, employers and the Government:***

As we already explored that the countrywide lockdown which was imposed to reduce the spread of corona virus pushed the workers in to a miserable condition in terms of their lives and livelihoods, in the second phase of our discussions we tried to find out the support of trade unions, employers and the government to the workers.

Trade union leaders of Ready-Made Garments (RMG) admitted that they understood the high risk of the workers due the pressure of job insecurity, unpaid wages, and layoffs. They tried to resolve the problems through negotiating and adopting strategies like communicating with media.

> "….in Agrabad area, '_____' garments compelled their workers to work for extra time…but they did not give any over time…. …moreover, "_____" garments did not give overtime to their cartridge supervisor and sewing supervisor…. but they work for 18 hours instead of 8…. same thing happened to Olongkar, Shagorika….factory authority went for layoffs….they didn't even give the amount that they had received from the Govt as incentive…again, in Baluchora area

> "_____" garments compelled their workers to work during general holidays during lockdown, but they did not give full salary to them…. for the sake of Corona and Govt rules, they gave 60% salary …but they kept their factories open, finally the workers staged demonstrations for full payment of their salaries and dues… they also put up a blockade for several hours on highways…then factory authority took the help of industrial police….at that time we contacted with the representatives of BILS and with their help we contacted journalists so that the situation got focus in media…..finally, after negotiation the factory management promised to pay 60% of their wages at that time and agreed to pay the remaining amounts later…."

We also found the similar type of support from the union leaders in health sector. When the health workers had been denied from their rightful benefits by their employers during lockdown and post lockdown, the union leaders played a very supportive role.

Nevertheless, this support was not given in other sectors. Unfortunately, all the participants, except the one from the port, expressed their grievances and discontents against their employers.

Despite the efforts of Govt., NGOs and other voluntary organizations for providing the workers of the selected sectors with food and financial support, most of the participants agreed that they did not get such type of support. It can be assumed that compared to the needs of the people, the support received was far from adequate.

- ***Expectations***

Corona has already been identified to have a significant impact on the lives and livelihoods of workers in specific areas, where support from several wings appears to be insufficient. Hence, we also tried to know their expectations from different stakeholders to cope with this situation of loss of income. Contrary to their grievances and discontents against their employers, all the workers believe that their employers can help them to overcome these challenges of Corona. We summarize the expectations of the workers in the following:

i. Price reduction of necessary commodities.

ii. Proper distribution of Government and non-government supports. In this case, ward-wise list can be made by using the information of voter ID card.

iii. Trade unions should be more organized in order to increase their bargaining power.

iv. Provision of accommodation facilities for low income group.

v. Long term loan for the drivers who have valid license so that they can come out the problems of giving specific amount of money to the owners.

vi. Govt. should support the employers so that they can continue their businesses.

vii. Workers should be given a contract letter so that they can exercise their legal rights when necessary.

B. Conclusions

It is evident from the discussion that the nature of difficulties in different sectors is not the same. Restaurant, construction, and transportation workers suffered greatly since they were unable to work during the lockdown and for over three months afterwards. These people cannot get by on their own, they require a decent amount of assistance from the government and helping organizations. As the development of our country depends on their ability to work, the government cannot just stand by while they suffer. As part of the general population of our country these people deserve to be treated the same as working class people.

Appendix–B

Focused Group Discussion with Stakeholders

December 13, 2020

We organized and moderated the last and third Focus Group Discussions (FGDs) which consisted of 18 members in December 2020 among different stakeholders. In this group, there were employers from six sectors: federation leaders, representatives of respective firm's associations, a representative of central bank, a VAT and Customs official, bankers from both Govt and private commercial banks, an NGO representative, a journalist (business reporter), and academician. We deliberately kept this size large because we tried to get the input from all stakeholders at the same time, otherwise the required or necessary information may not be found. Moreover, it would facilitate sharing of their opinions and thoughts to each other which might be helpful for proper policy direction. Though we are aware that the size of this focus group is not the same as the size of a standard FGD (Krueger, 1994). We considered this limitation of the study to be compensated by findings that may not have been possible to find in other ways. The main objective of this discussion was to identify the impact of COVID-19 on employment in the selected sectors in general, to identify the role of the stakeholders of respective sectors to deal with this COVID situation, to evaluate the existing policies, and to find out the way to move forward and to deal with the upcoming days for a more sustainable business environment.

The whole discussion was based on a topic guide which consists of some open questions. Following the topic guide, we obtained comparable information from respondents of different sectors and it also allowed sufficient flexibility for putting up the different contexts of their sectors. The questions were formulated with careful consideration of our objectives (Table 1). These questions just helped to initiate the discussions which extended widely over the topic area as can be understood from the findings. This setting of discussion provides a natural environment as it permits the participants to discuss as would happen in an everyday discourse. As a result, participants were able to explore the topic in their own words which was only encouraged by the use of trigger questions (Morgan, 1988; Krueger, 1994).

Trigger Questions for the Focus Group with Stakeholders

What was the condition of your firm during the lockdown?
How were your employees?
How did the employers manage salary & wages for lockdown period?
How were your operations hampered?

How did you overcome the challenges?
What role did Chamber (CCI, BGMEA, REHAB, Bus Malik Samity) play?
What was the role of the government?
How are you now?
What problems are you facing now due to COVID-19?
What is the nature of your problems?
What can be done to solve these problems?
What are your expectations from the Govt., the financial market and the central bank?

A. Major Findings:

A total of 3 themes were identified from the data. The issues raised under these were almost common across all respondents. These themes are presented below. Besides, direct quotations from the participants are used as examples to explain the way that the themes were stated by the participants.

Themes identified and the Findings:

Themes/Topic	Issues Raised
1. Employment Issues	- Job loss - Reduced salary - Employer's role - Labour Federation's role - No formal appointment letters - Firing from job without prior notice
2. Value Chain Issues	- Interrupted supply of raw materials - Shipment delay & limited distribution - Limited workforce/reduced number of workers
3. Operation and Profitability Issues	- Stopped operation - Reduced operation - Costly operation - Reduced demand - Cancellation of previous order - Reduced buying power - Business contraction - Stopped loan/lease rental repayment & rent payment - Less Profit/high Loss
4. Sustainability Issues	- Management and commitment - New opportunities for business - Integration of political commitment and research - Governmental Policy support

B. Discussions

1. Employment issues:

Dakin et al. (1989) define employment as *'a relationship between two parties, usually based on contract where work is paid for, where one party, which may be a corporation, for profit, not-for-profit organization, co-operative or other entity is the employer and the other is the employee*'. However, this is not what we found in this discussion.

As one labor federation leader said,

> *Workers in every sector lost their jobs during the lockdown. Lots of workers lost their jobs in hotel sectors and construction sectors….they did not have any work for three to four months…... Even in the garments sectors, many lost their jobs….. Workers who worked for more than 20 years also lost their jobs….employers took the advantage of corona…. We also received complaints of the workers of clinics and diagnostic centers…..Many of them work without having any contracts….in labor law it is mandatory to give an appointment letter….but practically employers provide them no appointment letter for the contract….*

Trade Unions believed and appreciated the stimulus package of that the Tk 5,000 Crore from the government was a timely initiative to lessen uncertainty about workers' wage payments (BIGD, 2020). However, we found participants criticizing the role of employers in this case as they did not distribute this incentive properly and they got used to depending on Government's incentive.

As one leader said,

> *…..the employers do not concentrate on their own business…rather they are getting dependent on the Govt. stimulus…what they are telling now is export decreases, they have lost orders….they are just looking for more stimulus……*

In this regard we tried to find out the role of the federation leaders. Though the union leaders played an active role in negotiating with owners, associations, and the government to ensure workers' rights concerning salaries and job security and occupational health and safety issues, they experienced difficulties in communicating and carrying out protests in lockdown situation.

> *….Since it was not possible to make any gathering or movement due to social distancing restrictions….the employers took advantage out of it…they dismissed many workers….they did not pay them…they*

prepared resignation letters beforehand, when the employees came back after lockdown, they took signatures from the workers…..

We also tried to explore the role of the employers in such situations. In this case, we found issues are different in different sectors. Owners of the RMG sectors complied with the directions of the Govt in terms of reopening the garments and wages payment. They differed with the opinions of the federation leader with regard to payment and dismissal from the employment.

…what you considered as stimulus or incentive, this is nothing but a soft loan…there is no way to mismanage the amount which is fixed for an individual worker since it is transferred to their accounts through BKash…..you know, we were affected by corona when raw materials supply stopped from China from December…then order cancellations….factories were closed for 30 days…and we were instructed to pay 65% for that month…we did so…later on when factories reopened….

Findings were somewhat different in the hospital and diagnostic sectors where employers tried to motivate their workers to continue their services since they were reluctant to work due to the fear of COVID.

….when we got the notice from the Govt regarding compulsory admission of COVID patient and we dedicated one floor for them, our regular patient started to decrease….at that time our staffs declined to work…..we started to realize that our operating expenses are increasing due to ICU and oxygen support for the COVID patients…as a result we were facing a situation like income is decreasing and expenses are increasing…at that time we were compelled to reduce the salary of the staffs…we came to a consensus that all staffs both operational and administrative will take 60% salary….they understood the situation…and they agreed with this proposal…..this situation continued up to May….

The discussion explored that the COVID-19 affected restaurant and transport sectors strongly. Both federation leaders and employers of the respective sectors agreed on the fact that employers and workers suffered equally due to COVID-19. Restaurant owners and workers suffered from a huge loss due to continuous lockdown for two months for COVID-19. At that time, owners were compelled to pay the rent of their restaurants without having any income. However, some of the owners tried to help their staff by paying a small amount of money.

As one owner of the restaurant said,

…All restaurants were closed for 2 months…..some were closed for 4 months….even, when Govt permitted for reopening for a fixed period, many owners failed to open due to lack of capital and shortage of manpower….later on, when after 4 months we opened our hotel…we suffered from an acute crisis of customers….I did not have any earnings from my restaurant in these four months… some of my workers called me and sought help…. But how can I help them?....during Ramadan I gave few of them a little amount of money from Jakaat…

We got the reflection of restaurant owner's voice even in the statement of the concerned federation leader, as one said,

…In fact, in the case of restaurant and transport both owners and workers are loser…owners spent a distressful life, how can they help their workers…conditions of the workers were worse…owners could have managed in some ways…but workers spent their lives miserably….workers of construction sector also suffered a lot since they did not have anything to do…they spent an inhuman life….

The hardship of the workers in the construction sector also came out from the representative of the construction sector, as he said,

…site was completely closed for two months….there was no work at that time…at that time we opened a messenger group just to get information about our workers…we helped them in their treatment…

In the case of port, we found a bit different scenario, since their activities are related to export and import, their activities reduce if export-import reduces. During the lockdown, their activities were reduced.

As the representatives of transport said,

….we are involved with container handling…..all activities are dependent on export and import….we have a direct relation with garments….in my company, there are 1000 workers….workers wages are depending on uploading and downloading….since there were less activities in lockdown…their wages were reduced…

Based on the discussion on employment conditions during the lockdown, it can be said that workers are affected in all sectors with different magnitudes due to COVID-19. Then we tried to find out their situation after lockdown. It was explored through the discussion that the worse situation is getting improved very slowly with a huge change in operational capacities which is also related to employment status.

2. Operation and Profitability Issues

The second theme that emerged, during the thorough discussion on employment issues, is the operational capacity of the firms which also had an impact on the profitability of the organization.

One of the representatives of the chamber said-

> *…there were 324 factories in Chattogram before lockdown….now, there are 293 factories …23 factories closed down only because of Corona…they did not have good relations with the banks…they did not get the stimulus package…..there were 5566 workers in those factories….GOB announced a new minimum wage for garment workers…… which has fixed the minimum monthly wage at 8000 Tk without evaluating the ability of the owners….during lockdown this pressure of minimum wages created shortage of working capital of the owners…again order cancellation and deferred payment…. order will be received after 6 months….it means, we don't have work, but we have to pay….we don't know what will happen if the second wave comes….again, we have to provide them training for health and safety issues, we have to provide the masks, sanitizers etc.…so our cost is increasing….*

Another representative of the chamber, who is also an employer expressed their helpless condition, said-

> *..Now we are running our business at 60% capacity…we are paying 100% salary…how can we manage additional 40%....*

As it is already been found that transport is one of the sectors where workers were out of work during the lockdown and also after lockdown for a long time since people reduced their travel due to the COVID situation.

> *….during the lockdown, there was no trip…after lockdown, when restriction was relaxed…there was a mandatory rule for social distancing….as a result, there were a shortage of trips as well as passengers…. which automatically reduces profit…...workers are taking benefits out this situation….. in the transport sector, the situation is different….it is a worker-controlled business…in this sector, owners do the business but revenue remains with the workers…we have to rely on what workers say….situation has not changed that much…*

Regarding the operation and profitability, the representative of the hospital said,

…..I can start with an issue of last week….I already told you about our primary problems during the lockdown and after lockdown regarding our staff….since we faced the challenge of exit and entry point for the COVID patients, which reduced the admission of our regular non-COVID patients…we arranged separate exit and entry for COVID and non-COVID patients…..from mid-November COVID patients have increased again…but we cannot charge them like before….since we are compelled for taking the admission of COVID patients, we are supposed to refuse non-COVID patients…because we cannot accommodate them…ultimately, it makes us loser financially….

The impact of COVID on business operations and profitability in restaurant and construction sector has also been explored during the discussions.

As one manager and owner of a restaurant said-

….We have been suffering from the lockdown and we are also suffering now….we do not have customers like before…..we have to think for the social distancing issues…we brought changes in our interior for this purpose… we have to think about the hygiene issues for both customers and staffs.…there are restrictions on parties…..so in one hand our business has shrunk, on the other hand, our expenses have increased….

We also found a similar scenario in the case of the construction sector with regard to operations and profitability.

….I already told you about the lockdown situation, when the industry was completely closed…after lockdown market is slow….there is no speed…there are several reasons…there is one group who has already bought flats, but now they are not paying their installments….so our collection has decreased…in another side, there is another group who has the ability to buy….but they are waiting for further reduction of the price of the flat…since it is a buyer market …they are giving lower price….in Chittagong there were around 145 construction firms…now you will find hardly 10 to 15 firms that are active……when we project for a flat, we try to make profit of 200 taka in per square feet….now, price of steel has increased for 7000 taka in a week…so this price increase will have a negative impact on my profit..

The participants acknowledged that the impact of COVID on their operations and profit is inevitable. In one the hand, the business has shrunk due to lack of

working capital and reduced customer demand; on the other hand, the new normal way of conducting business has increased their costs.

3. Sustainability Issues

The economic situation in terms of the labor market, described in the introduction and literature review section, Bangladesh is undergoing an unprecedented situation which is caused by COVID-19 like the whole world. This situation is recognized by the participants with a tense feeling about what has been happening, and with wariness for its consequences. When it becomes obvious that all the sectors underwent a massive crisis during and after lockdown due to COVID-19 and are predicting worse in the near future, we tried to identify the role of the stakeholders of respective sectors to deal with this situation and to evaluate the existing policies and to find out the ways to deal with the upcoming days for a more sustainable business environment.

Despite the devastating impact of COVID-19 on business sectors, participants believed that all pandemics create opportunities for development and proper policy-making would help to overcome the challenges created by COVID.

> *"….today COVID is a calamity, a disaster but it is a claim of opportunity, now it is depending on the fact that whether we can use this opportunity…whether we have the mentality to utilize this, whether we have intellectual ability to utilize this….whether we have adequate manpower to utilize this…we should have focus on this…two things are important in this case…political commitment and adequate research on this….in developed countries, they always consider professional knowledge in case of policy making…we should do this….integration of political commitment and professional knowledge can help us to overcome such challenges.. Govt. should be facilitator……if we work properly, thousands of avenues of business will come out…*

Necessity of proper policy for overcoming such problems has also been revealed from the opinion of other participants.

> *…we are following the British rules of dividing the share between owners and workers in our sector…if it is possible to make one platform…considering ourselves as two sides of one coin, it will be better for both parties.…as you know there is ruling of bank…we did not get any incentives, any donation from Govt…at the same time, there is pressure form bank's…Bank did not consider this situation of COVID….they are calculating compound interest rate…we simply want cooperation so that we can make the losses….we can survive…..*

Participants also agreed that support to the business could automatically help boosting up the activities of port and transport sector. Moreover, policy support is also found as one of the main ways for the sustainability of business sector.

As one participant said,

> *…if policies are buyer friendly, it will be easier to overcome the challenges….when Mr. Salahuddin was the governor of Bangladesh Bank, he released a fund of 900 crore for construction purpose.…we noticed… only at that time… middle class buyers came in this market to buy flat….so, proper policy is very important….*

The decline in national demand in restaurants, construction, transport and global demand for manufactured goods, mainly in the garment sector which also affected the activities of port and transport, created unemployment and deepen poverty. The discussion reported in this write-up aimed to identify the impact of COVID-19 on employment in RMG, construction, hospital, restaurants, port and transport sectors in general, to identify the role of the stakeholders of respective sectors to deal with this challenge. Moreover, it intended to evaluate the existing policies so that any revision and addition can be recommended for a more sustainable business environment in the upcoming days and to get rid of this anticipated poverty trap.

The support offered by the GOB was seen to be crucial for the sustainability of the business which is essential for the lives and livelihoods of the workers. Other recommendations that were found from the discussion are listed below:

- Up to date and adequate data on labors is a must, for proper allocation of govt support, Proper and up to date data of labors should be preserved by the Govt,
- Planning is highly needed, in addition to contingency planning,
- Central bank should increase the liquidity,
- Loan should be increased in micro credit sector,
- Continuity management is required, incentive is not enough for survival.

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