

## **Impact of COVID-19 on RMG Supply Chain of Bangladesh**

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### **Abstract**

*COVID-19 is an acronym that stands for coronavirus disease of 2019. It has spread globally as a pandemic. This outbreak adversely affected world's economy. There's no way to tell how long the pandemic will continue. COVID -19 is ripping Bangladesh's Ready-Made Garments (RMG) sector which forms the economy's backbone to shreds. It is the largest industrial sector in Bangladesh which contributes most in Gross Domestic Product (GDP), foreign exchange and employment generation. Earnings of Bangladesh garment industries mostly depended on export. Typically suppliers, manufacturers, buyers are involved in different phases of supply chain like procurement, manufacturing, replenishment and customer order in this industry. In supply chain Macro level covers global issues and Micro level covers issues within the manufacturing unit. COVID -19 pandemic has disrupted supply of raw materials, delayed shipments, cancelled or suspended orders and led to factory closures. Factories are being failed to give payments to the worker. COVID-19 has already impacted RMG workers' health, wellbeing, and resulted in loss of employment. The study is based on secondary data collected from different journals and web portals. This paper represents the brief scenario and the potential impact of the COVID-19 pandemic on the supply chain of RMG sector of Bangladesh. Finally the paper proposes few measures to address these adverse impacts.*

**Keywords:** COVID-19, Pandemic, RMG sector, Supply Chain Management

### **1. Introduction**

COVID-19 is an acronym that stands for coronavirus disease of 2019. It started in Wuhan, China in late 2019 and has since spread worldwide. It possesses serious threat to global public health. It spreads primarily through respiratory droplets or contact with contaminated surfaces. Exposure can occur at the workplace, while travelling to work, during work-related travel to an area with local community transmission. Bangladesh is at great risk from this public health emergency as it is a densely populated country. First COVID-19 patient was identified here on 8th March 2020. Aged people, people with disabilities or living in close congregate environments are Vulnerable and mostly affected.

Supply chain starts with the delivery of raw materials from a supplier to a manufacturer and ends with the delivery of the finished product or service to the end consumer (Jason, 2021). Supply chain management (SCM) is the optimization of a product's creation and flow from raw material sourcing to production, logistics and delivery to the final customer. (Diann, 2020). Key elements of the SCM include planning, sourcing of raw materials, manufacturing, delivery, and returns (Fernando, 2021).

The Garments Industry has been considered a lifeline for our economy for a few decades. The sector accounts for about 84 per cent of the country's total exports and employs nearly 4 million people of which 61 per cent are women (Mujeri, 2020). RMG industry of Bangladesh heavily leans on China for raw materials and capital machinery. Supply chain activities of such industries were severely disrupted when COVID -19 was germinating in China. Bangladesh exports garments mainly to US and European market. They are also severely affected by COVID -19. Manufacturers were at risk when buyers began to either cancel or delay order shipments although materials were already in house. An overall decrease in demand led to a substantial decrease in textile and apparel product manufacturing that ultimately shut down factories and laid off workers. This became serious when the amount reached around billions of dollars. The RMG workers are also vulnerable as they are mostly illiterate, have low socioeconomic background, and work in a dense condition. It requires coordinated, good faith efforts by all actors to safeguard the health of the workers, as well as to facilitate the economic recovery and continued viability of this industry.

## **2. Problem Statement**

Presently due to COVID-19 RMG sector is addressing various challenges. At long run it will adversely affect our national economy. The researcher tries to suggest ways forward for our RMG at this backdrop. For this relevant data were collected mainly from secondary sources. After collecting data, researcher analysed those data and develop some findings.

## **3. Literature Review**

Only a few papers have been published regarding this pandemic situation and the current economic condition of Bangladesh. SCM is interlinked with logistics, operations management, strategic management, marketing, industrial organization, production management, and informatics (Dmitry, 2010). It aims to link all the supply chain agents to jointly cooperate within the firm as a way to maximize productivity in the supply chain and deliver the most benefits to all related parties (Finch, 2006).

The RMG industry is highly dependent on imported raw materials. About 90% of woven fabrics and 60% of knit fabrics are imported to make garments for export (Rashid, M.A, 2006). The global supply chains have been disrupted during the COVID-19 pandemic. Clothing orders from the international brands/buyers have been canceled considerably since the COVID-19 pandemic outbreak. The ‘Centre for Global Workers’ Rights’ and ‘Worker Rights Consortium’ conducted a study on the impact of the COVID-19 crisis in Bangladesh RMG sector on 27 March 2020, with the participation of 316 Bangladeshi suppliers. The study reported that international brands and retailers have suspended clothing orders from Bangladesh for up to United States Dollar (USD) 3 billion (Humayun, 2020).

Bangladesh is advancing ahead to make it as developed one through setting up targets-vision 2021 and vision 2041. RMG sector will play a vital role to make the targets fruitful and also achieve the United Nation adopted Sustainable Development Goals by 2030 (Nasir, 2017). While we were trying to recover from the shock caused by the first wave of the pandemic during July-September of 2020, the second wave marked its beginning during the final quarter of 2020 and has worsened the situation. On this backdrop, it is difficult to project 2021 since there are a number of uncertainties around us. Based on the current trend and scenario it appears that the global apparel market may continue to experience a slowdown till May/June 2021. Recovery from the virus, as well as the recovery of the global economy, trade and business is still ambiguous to a great extent (Huq, 2021).

#### **4. Research Questions and Objective of the Study**

a. Primary Question: How to address the impact of COVID-19 on RMG SCM of Bangladesh?

b. Secondary Questions:

i) What are the impacts of COVID-19 on RMG SCM ?

ii) How to overcome the adverse impact of COVID-19 on RMG SCM of Bangladesh?

c. The Objectives of this Study are

i) To know detail about RMG SCM.

ii) To find the current challenges of SCM in RMG sector.

- ii) To find the ways forward of RMG SCM at the backdrop of COVID -19.

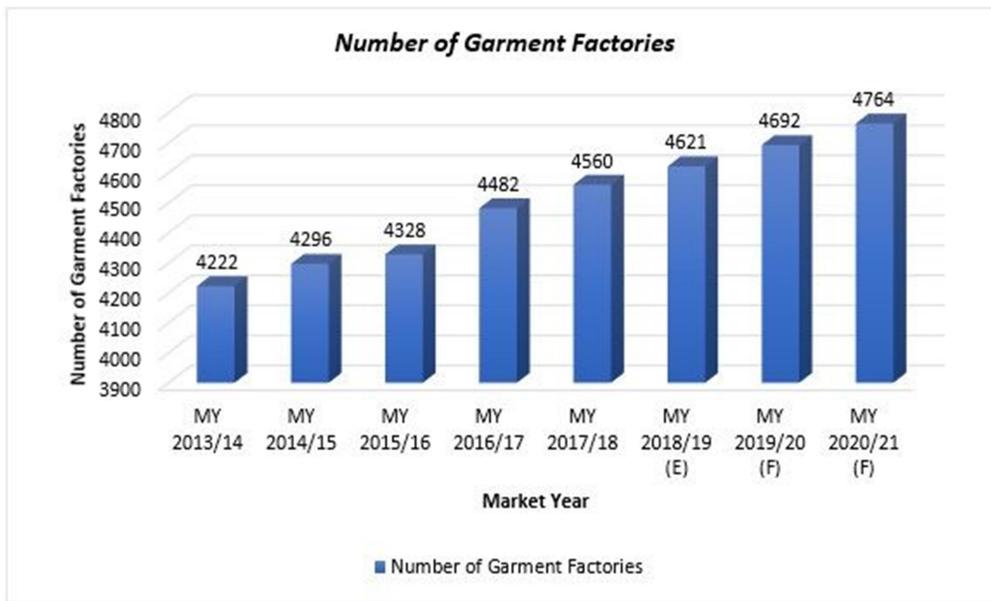
## **5. Methodology**

The forthcoming economic condition and the COVID-19 situation can't be predicted as the scenario is changing day by day. The study is designed to give a brief scenario of garments sector in Bangladesh at the backdrop of COVID. Findings were derived based on detailed study after the completion of the literature review to gain a deeper understanding of the current problems of RMG industry of Bangladesh. Thus, the main data has been collected from secondary sources such as various journals, internet, newspaper, different national and international organizations, earlier research work and various reports. Relevant national and international literatures have also been reviewed in conducting the study that increased the validity of the research. There is no quantitative but qualitative prediction is shown based on the data collected. In terms of expert opinion some primary data are used. Different statistical tables have been used to present the data and result of the research.

## **6. RMG sector and the Supply Chain of RMG of Bangladesh**

RMG is the leading sector in Bangladesh in terms of foreign currency earnings. The export oriented RMG sector in Bangladesh started its journey in late 1970s as a small non-traditional sector of export. Manufacturers are getting more and more attracted to the production here due to lack of standard wages, a large number of workers, and the cheap cost of energy in Bangladesh. Over the past decade, the sector registered a phenomenal and exceptionally high growth rate.

The Bangladesh economy remains highly dependent on RMG for employment, foreign reserve, and women empowerment. Currently, Bangladesh is the second largest garments exporter next to china (Ullah, 2020). Approximately 42 lakh workers are currently employed, with 70 percent of these workers being women. Around four crore Bangladeshis are either direct or indirect beneficiaries of this sector (Mia, 2020). RMG produced in Bangladesh are separated mostly into woven and weave items. Shirts, Jacket and Trousers are the primary woven items and underpants, socks, stockings, T-shirts, Polo Shirts, Sweaters and other easygoing and delicate pieces of clothing are the essential sewing items.



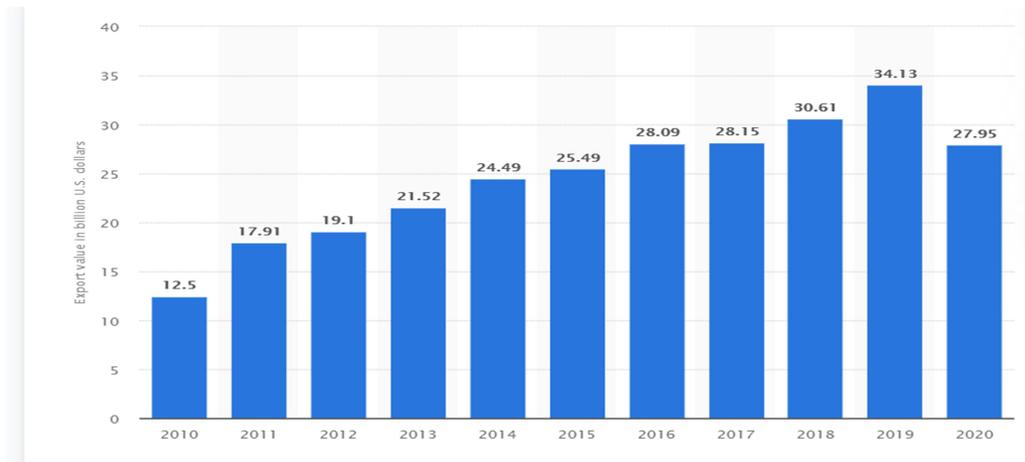
**Figure 1:** Number of garment factories in Bangladesh. **Source:** Fibre2Fashion, 2020.

Bangladesh has set a target of USD 50 billion for its readymade garment (RMG) exports in 2020-21 in line with its commitment to enhance earnings from the sector (Islam, 2021). Overall contribution of RMG in economy can be understood from following table.

**Table 1:** Comparative Statement on Export of RMG & Total Export of Bangladesh Value in Million United States Dollar (USD)

Year	Export of RMG	Total Export of Bangladesh	% of RMG's to Total Export
1983-84	31.57	811.00	3.89
1984-85	116.2	934.43	12.44
2017-18	30614.76	36668.17	83.49
2018-19	34133.27	40535.04	84.21
2019-20	27949.19	33674.09	83.00

**Source:** BGMEA, 2021.



**Figure 2:** Export value of ready-made garments (RMG) in Bangladesh from 2011 to 2020 (in billion U.S. dollars). **Source:** Statista, 2021.

The global pandemic had catastrophic consequences for RMG supply chain of Bangladesh. Between July and January, the first seven months of the fiscal year, the shipment of garment, declined 3.44 per cent year-on-year to USD 18.40 billion (Ullah, 2021).

**Table 2:** Export for FY 2020-21 July-February (Value in Mn USD)

Products	Export for 2019-20	Export Performance for July-Feb. 2020-21	Export Performance for July-Feb. 2019-20	% Change of export performance July-Feb. 2020-21 Over July-Feb. 2019-20
All products	33674.09	25862.32	26241.83	-1.45
RMG	27949.19	21033.01	21847.53	-3.73

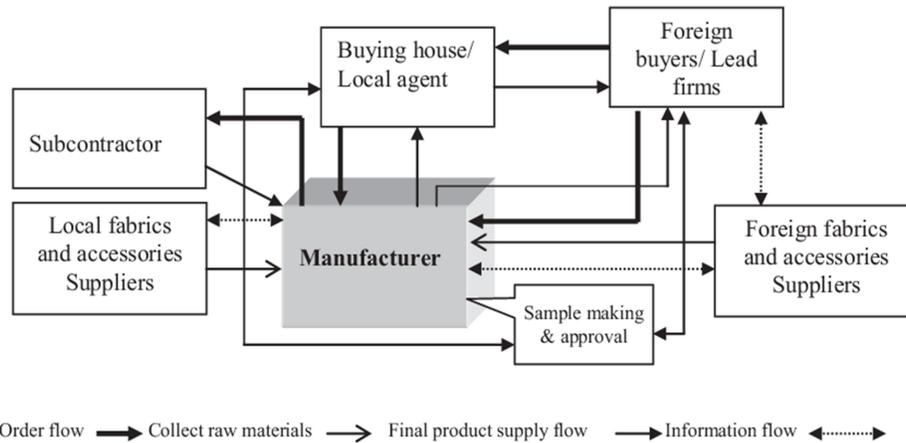
**Source:** EPB, 2021.

## 6.1 Supply Chain of RMG

A Supply Chain is a system of organizations, people, technology, activities, information and resources involved in moving a product or service from Supplier to Retailer (Sue, 2015). Supply chain activities transform natural resources, raw materials and

components into a finished product that is delivered to the end customer. In the supply chain, parties playing a major role are suppliers, manufacturers, retailers, contractors, sub-contractors, merchandisers, wholesalers and distributors, buyers and customers. SCM is the active management of supply chain activities to maximize customer value and achieve a sustainable competitive advantage. It represents a conscious effort by the supply chain firms to develop and run supply chains in the most effective and efficient ways possible. In general SCM is multidimensional. Supply Chain Management (SCM) aims to improve trust and collaboration among supply chain partners, thus improving inventory visibility and velocity ( Helal, 2014).

The SCM of RMG is more complex due to its involvement in global Supply Chain. Supply chain activities transform natural resources, raw materials and components into a finished product that is delivered to the end customer. Supply chain can be of macro level which is part of global supply chain and Micro level which is within manufacturing unit. In supply chain system, it can be materials, it can be information, and even it can be a supply of business. Various parties like supplier, buyer and manufacturers are involved in SCM implementation and every stage of order completion is dependent and interlinked to each other. The general elements of supply chain process in Bangladesh Garment Industry are Supplier, Garment Industries, Individuals, Raw Materials, Finished Goods and Payment. In addition Inventory management, Transportation service procurement, Materials handling, Inbound transportation, Transportation, Operations management activities are conducted as part of SCM (Chowdhury, 2020). Most of the companies and industries in Bangladesh are at the lower end of the supply chain as they are mostly sub-contractors and produce end product of the supply chain. Factories practicing SCM system get competitive advantage than others by reduced cost, lower lead time and higher quality. Value creation is the value added contribution made by each participant in the chain towards the creation of the final output.



**Figure 3:** Supply Chain of RMG Business. **Source:**Nurruzaman, 2016.

In the knit sector, the total activity can be divided into knitting, dyeing, sewing, cutting, and finishing. Bangladesh needs to import raw cotton, synthetic or viscose fibre, synthetic or mixed yarn, cotton yarn, dyes chemical, textile fabrics, and accessories for garments as inputs for the production. At present RMG manufacturers of Bangladesh are importing most of the required woven fabrics from China, India, Pakistan and Indonesia. Companies of Bangladesh import cotton from USA, Uzbekistan, Kazakhstan, Africa and Pakistan. Bangladesh has limited capacity of producing yarn and fabric as per buyer’s demand. Bangladesh is heavily dependent on China because of the import of raw materials and necessary industrial ingredients (Zawad, 2020).

Low labor cost, efficient worker, different organisational support and government support are the main strengths of this sector. Cotton yarn, fabric dyeing, cutting, finishing, sewing, printing, embroidery and washing are main features in manufacturing. In Bangladesh mainly the clothes are cut, sewn, ironed and packed into cartons for export. The enhancement of communication system and networking has played a key role in this development. Moreover, export-oriented manufacturing has brought some good returns to us. Communication means like road, railroad, river and air communication are easily accessible. Besides, considerable qualified and keen to learn

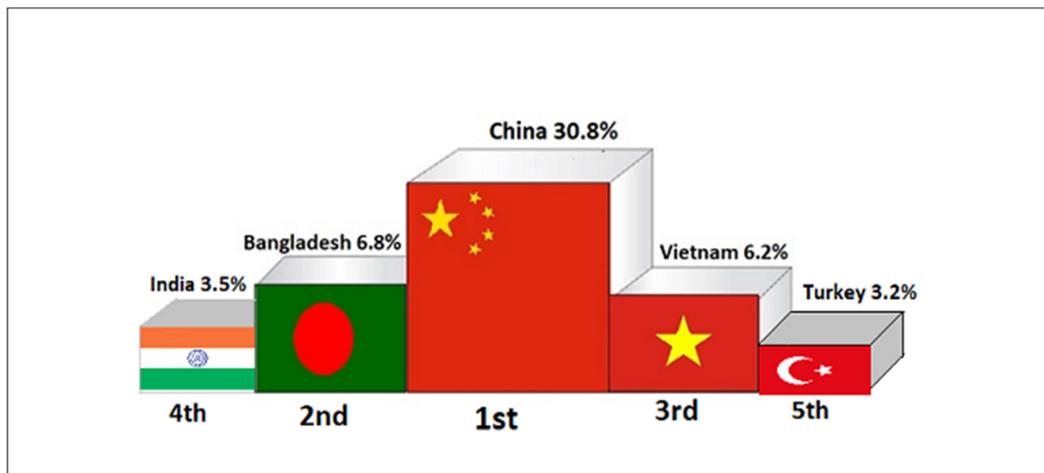
workforce are available here at low charges. Quick return, huge market opportunities, strong backward & forward linkage, geographic & demographic advantage, duty advantages in export destinations, recognized hotspot for sourcing and safe environment mainly attract investors in RMG sector.

**Table 3:** Estimated Cost in the RMG Sector

Cost	Unit	India	China	Bangladesh	Vietnam	Cambodia
Labor Cost	USD/month	160-180	550-600	100-110	170-190	180-190
Power Cost	USD/kwh	0.10-0.12	0.15-0.16	0.09-0.12	0.08-0.10	0.20-0.25
Water Cost	US Cents/m <sup>3</sup>	16-20	55-60	20-22	50-80	70-90

**Source:**LightCastle, 2020.

Bangladesh exports apparel goods to around 160 countries worldwide. Europe, Canada, USA, Japan, Australia, and India are the main buyers of Bangladeshi RMG products.



**Figure 4:** Global apparel export market shares of the top five countries **Source:**Textile today, 2020.

## 7. COVID-19 and Its Implications on Business

Coronaviruses are respiratory viruses, so they can be found in the nose, throat and lungs. The transmission rate is relatively high. The incubation period of COVID-19, which is the time between exposure to the virus and symptom onset, is on average 5-6 days, but can be as long as 14 days. The transmission rate can reduce by washing hands often, keeping common surfaces clean, limiting contact with other people, and wearing face masks. COVID-19 transmission is increasing in an alarming rate in Bangladesh. However, incidence of COVID-19 Pandemic has influenced every sector of Bangladesh badly.

**Table 4:** Casualty state in Bangladesh, as of 09 June 2021

Name	Cases - cumulative total	Cases - newly reported in last 24 hours	Deaths - cumulative total	Deaths - newly reported in last 24 hours	Transmission Classification
Global	173,674,509	333,823	3,744,408	8,662	
 Bangladesh	815,282	2,322	12,913	44	Community transmission

**Source:**WHO, 2021.

In the first quarter of 2020, the coronavirus pandemic led to a 3.0 per cent drop in global trade values (Teodoro, Antonella, 2020). COVID-19 could trigger the biggest economic contraction since World War II, affecting all industries from finance to hospitality. Supply and demand shock led to the global recession and unprecedented contraction in global trade.

Bangladesh is one of the most densely populated with limited health infrastructure countries in the world. The COVID-19 pandemic has hit the garment industry in Bangladesh. Bangladesh Garment Manufacturers and Exporters Association (BGMEA) closed their factories in line with the government's lockdown instruction. In addition, clothing shipment processes became problematic due to the increasing global lockdown impacted by COVID-19. Moreover, while demand for online purchases may have increased, supply chains could not continue to meet demand given changes to freight options. BGMEA reported that 1,025 factories experienced cancellations of export orders totaling 864.17 million items worth USD 2.81 billion (Kim, 2020). As a result, 10 million working people, including RMG workers, returned to their home towns from Dhaka, where the majority of the garment factories are located as they would be unable

to support themselves in Dhaka without work (Humayun,2020). Unfortunately, during the return journey safety measures related to the prevention of COVID-19 such as maintaining minimum safe social distance from others were not respected. It put them in serious risk of infection transmission. Millions of workers are unemployed due to the global pandemic. There are no unemployment benefits in Bangladesh. Factories lost new orders and existing orders which were already in the pipeline. The brands and buyers are generally reluctant to take any responsibility for the additional costs the factories have to bear in order to take preventive safety measures against COVID-19. RMG factories are taking orders at cheaper rates as the orders from global buyers have scaled down. Specially factories that manufacture sweaters have been hit harder due to order cancellations from the buyers during the peak time of the season. Sustained hike in the global cotton prices worsen apparel makers plight.

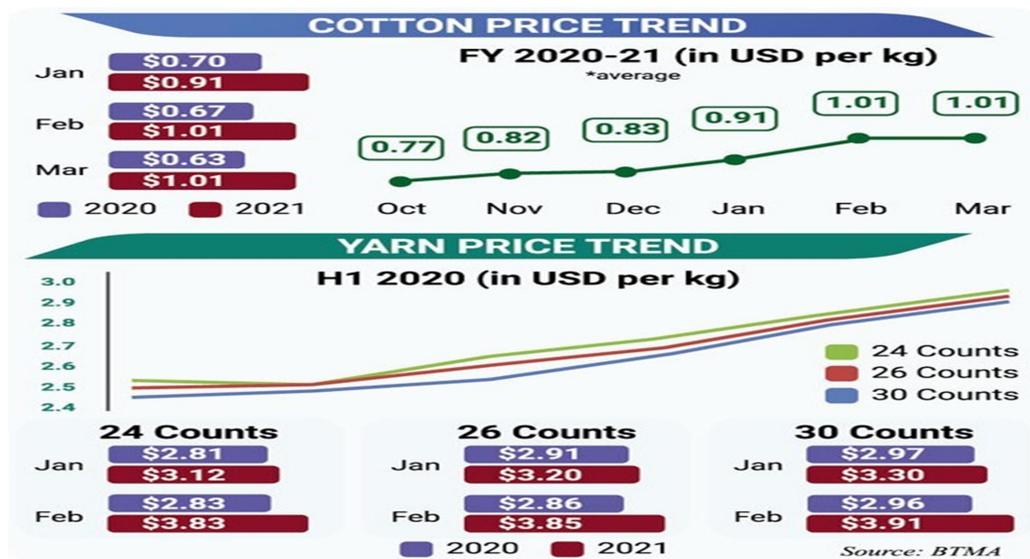


Figure 5: Sustained hike in the global cotton price Source: Munni, Monira, 2021.

At the global level, China remains an important supplier of fashion goods but has also become an important consumer of this industry. RMG industry is considered a time-sensitive industry. Delay or irregularities in production and delivery can lead to reduced or no profits for the owner. Besides, strong multimodal interlinkages are key to ensure just in time delivery. E-commerce developments have further accentuated time-related logistics requirements and delivery.

## 8. Analysis and Discussion

To ensure social distance and self-isolation during the ongoing COVID-19 pandemic, primary data collection was avoided rather analysis is done on published literature, and publicly available information.

### 8.1 Existing Work and Relevant Data

Huge negative impact on economy can be identified from the following table.

**Table 5:**Export receipts by mode of financing (Taka in Million)

Type of Transaction	April-June, 2020	January-March, 2020	April-June, 2019	Changes (1-2)	Changes (1-3)
	1	2	3	4	5
Cash	356399.0	624059.0	624348.0	-267660.0	-267949.0
Exports of EPZ	46063.0	125445.0	130544.0	-79382.0	-84481.0
Total	402462.0	749504.0	754892.0	-347042.0	-352430.0
(Changes in %)				(-46.3)	(-46.7)

**Source:** Bangladesh Bank, 2020.



Figure 6: Small garment factories struggling to stay afloat. Source: Ullah, 2021.

Report lists the fashion brands which have reportedly cancelled or postponed the most orders from suppliers in Bangladesh where more than a million garment workers have now lost their jobs because of the coronavirus pandemic (Simon, 2021).

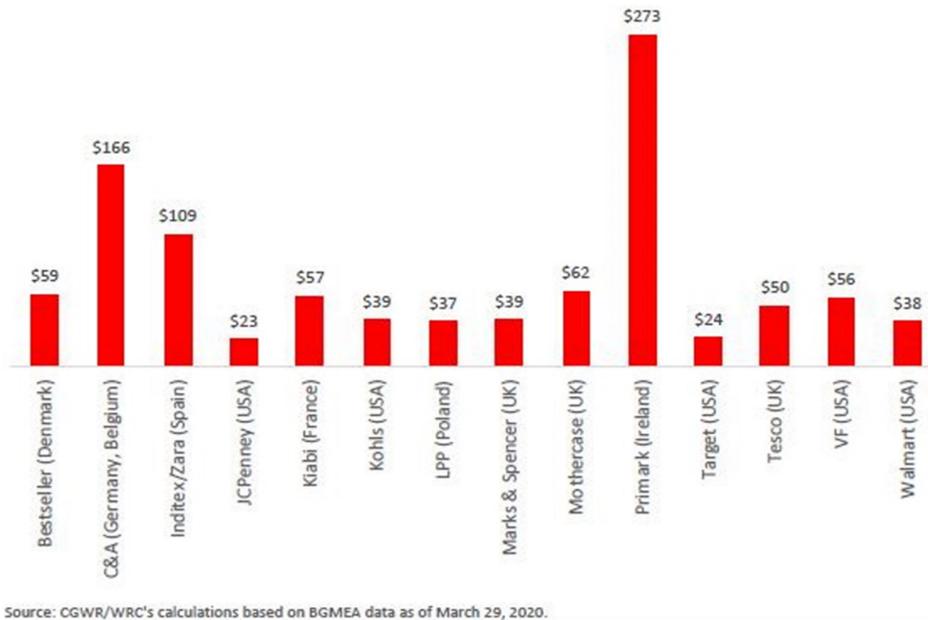


Figure 7: Cancelled and delayed orders, in USD millions. Source: Simon, 2020.

A survey done jointly by South Asian Network on Economic Modeling and Microfinance Opportunities identified only two per cent of garment workers in Bangladesh have so far been vaccinated against COVID-19 (Kaley, 2021).

Apparel exports witnessed a 7.12% decline to USD 24.10 billion during July-March, the first nine months of the 2020-2021 fiscal year. Between July and January, the first seven months of fiscal year, garment shipments declined 3.44 per cent year-on-year to USD 18.40 billion (Ullah,2021).

A survey conducted by ManusherJonno Foundation on 430 workers included as sample assessment. Survey covered also 22 different factory management associations and 22 trade union leaders (ManusherJonno Foundation, 2020). 87.1 percent of the workers with COVID-19 symptoms said that they had been given five to seven days of compulsory leave from their respective workplaces. 41.6 percent of workers said that they were dissatisfied with treatment facilities. 99.8 percent of workers stated that they had received their salaries for the months of March and April. But, out of the 430 respondents, nobody received their full salary. 26 percent of workers were on one meal a day, and 73 percent of them said that they, at times, had to deal with food shortages. Only 8 percent of the workers reported receiving some sort of food relief, but not on a regular basis.

A research survey by Penn State Center For Global Workers' Right paints a grim picture of the garment industry. They have divided the crisis into three phases: Increased Raw Material Cost, Delayed Payments and Cancellation of Orders. However, as the following chart shows, the foreign buyers have given little support to the Garment Manufacturers to deal with this crisis.



**Figure 8:** Personal protective equipment market growth .**Source:** Kunal, 2020.

New figures from the Export Promotion Bureau reveal that the country’s export earnings in 2020 fell to USD 33.60 billion from US\$39.33 billion in the previous year as the COVID-19 outbreak hit the global economy. (Simon , 2021).

Personal protective equipment helps in protecting human beings from infections and injuries. It helps to protect them from several hazards including airborne particulate matter, electrical, chemicals, physical, heat, and biohazards. Increasing awareness to prevent from such hazards owing to rising health and safety concerns will have a positive impact on personal protective equipment market growth (Kunal,2020).

**Table 6:** Survey on Impact of Covid-19 on Bangladeshi Garment Industry

Question In The Survey	Responses
Did the buyers adjust prices to help cover the costs of raw materials increase?	Yes, adequately-2.96% Yes, but only a little-5.19% No-91.85%
Have the buyers delayed their payments to you for completed orders?	Yes, by 1-10 days-10.87% Yes, by 11 or more days-68.84% No-20.29%
When buyers have cancelled orders, have they agreed to pay for raw materials already purchased?	Yes-13% No-72% Some Cases-15%
When buyers have canceled orders, have they agreed to pay for production cost?	Yes-3% No-97% Some Cases-6%
Buyer Order Cancellations Impact On Operations	No Major Impact For The Moment-19.9% Partial Cut In Employment- 22.2% Most Operations Are Shut Down-53.4% Factory Closure-4.5%

**Source:**Kidwa, 2020.

## 8.2Analysis

The RMG Industry, which has been considered a lifeline for our economy for a few decades now, has not been seeing considerable growth in recent years. Collected data prevails foreign buyers have given little support to the Garment Manufacturers to deal with this crisis. Brands and retailers canceled orders worth billions. The list of brands that have canceled or delayed payments is much longer. Predicted impact Annual GDP Growth is seen in following chart.



**Figure 9:**Forecasts of Annual GDP Growth (%) .**Source:**World Bank, 2021.

BGMEA has maintained that proposals it had put forward to the Finance Minister for the 2021-22 fiscal budget had not been included, and called upon the Government to withdraw the 10% tax on cash incentive, as the garment exporters are facing an acute shortage of cash during the pandemic, while demanding specialised health cards for apparel workers and bringing them under the purview of the vaccination programme on a priority basis. On March 25th 2020 the Government announced a BDT 500 million stimulus package, of which the majority is allocated for workers' wages and benefits.

## 9. Ways forward

The Bangladeshi RMG should concentrate on their efficiency instead of relying on low-cost workers. Garment owners to train and motivate their workers to be more skillful. Besides, diversification of products within RMG as well as diversifying the export sectors will be key to Bangladesh's sustained industrial development. Implementing Multi-modal Transport System will facilitate movement of cargo, transportation of operator and reduction of indirect costs. However, already few opportunities developed that need to be exploited

- a. Export earnings from RMG sector soared by 6.24% year-on-year to \$26 billion in July–April of the current fiscal year following a rebound of apparel shipments (Hossain,2021).
- b. PPEs were exported in first two months of the 2020-2021 fiscal year at USD 13.12 million, about 16 percent higher than the same period in the previous fiscal (Textilefocus, 2020).
- c. Bangladesh got duty-free benefit on export of RMG to Bhutan.

## **10. Conclusion**

The RMG sector contributes the most in export earnings and playing a vital role in the overall development of Bangladesh. The RMG industry already earned good reputation by ensuring quality, services, timely deliveries and adherence to buyer's quality standards.

Corona Virus pandemic is now a great concern for all over the world. It has already crashed the world economy and also affected in various sectors. Capital machinery and spare parts of RMG comes from China, which has the epicenter of the viral infection. Garment supply chains were dependent on demand for garments from consumers living in countries with the most stringent lockdown measures in place, where retail sales have plummeted. Due to COVID-19 the amount of cancellation of orders by RMG buyers is so high that factories cannot give the payments of the employer and they are losing their jobs. Cancelled orders are a cause for concern in many sourcing countries. Production of fashion goods could be moved away to other sourcing countries that are resuming activities faster or that are closer to retailers to diversify their supply chain risk.

In order to mitigate the impending economic and potential social crisis, it is needed to get ready with appropriate emergency assistance and post-crisis assistance in different forms as appropriate. However, opportunity resides at the opposite of the challenges. Still Bangladesh is regarded as one of the best choices for most of the buyers as safe and secure source of RMG. And as capability of designing and product development improves industry will start making more value added products, the trend of which is already evident. Today Bangladesh is the home of highest number of green factories which adds to our positive image as a sustainable partner of global business. The brand and buyers should demonstrate responsible business practices etc. Probably we are at the end of the tunnel, but the ray is not visible yet. Surely prospect of RMG sector can ensure smooth development of Bangladesh.

## **11. Limitation of this Research**

This study was conducted till the condition of May of 2021. As COVID is not over yet so the total picture was not portrayed. There prevail limited sources of secondary data. Focus was mainly on source of material, production and distribution part. To ensure social distance and self-isolation during the ongoing COVID-19 pandemic, any kind of face-to-face interactions with the RMG workers were avoided instead published literature, and publicly available information were consulted.

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