

Prospects and Problems of RMG Industry: A study on Bangladesh

Md. Masud Chowdhury,
Lecturer, Department of Finance and Banking, Jatiya Kabi Kazi Nazrul Islam University,
Trishal, Mymensingh-2220 md.masudchowdhury@yahoo.com

Razu Ahmed ,
Assistant Professor, Department of Accounting and Information Systems,
Jatiya Kabi Kazi Nazrul Islam University, Trishal, Mymensingh-2220.

Masuma Yasmin
Lecturer, School of Business, Central Woman's University, 1, R. K. Mission Road, Dhaka-1203.
* E-mail of the corresponding author: md.masudchowdhury@yahoo.com

Abstract:

The development of Garments Industry is considered as the priority area in the development policy in many countries, especially in Bangladesh. The young entrepreneurs are engaged in varied form of small and medium scale garments industry which comprises of products like shorts, trousers, shirts, sweaters, blouses, skirts, tea-shirts, jackets, sports attire and many more casual and fashion items with the changing times. This study is conducted to analyze the prospects, problems and solution of problems of Readymade Garments Industry in Bangladesh. The findings of this paper show that Bangladesh has a great opportunity to earn a great foreign currency through developing readymade garments industry. The study also suggests some measure for the removal of ongoing crisis of garment sectors.

Keywords: Readymade garments, History, Trend, Infrastructural development.

Literature review:

Several authors have analyzed aspects of the garment industry in Bangladesh. Of the various aspects of the industry, the problems and the working conditions of workers have received the greatest attention. There are several studies including the Bangladesh Institute of Development Studies (BIDS) study by Chowdhury S, and Mazumdar P. (1991) and the Bangladesh Unnayan Parisad (1990) study on this topic. Both of these studies use accepted survey and research methodology to analyze a wealth of data on the social and economic background, problems and prospects of female workers in the RMG sector. Ahmad M. looks at the industrial organization of the sector and discusses robustness and long-term viability of apparel manufacturing in Bangladesh. Wiigton (2000) provides a good overview of this industry, especially the developments in the early years. One of the few studies on the Bangladesh apparel industry to be published in a reputed journal in the U.S. is that of Yung Whee Rhee (2003) who presents what he calls a "catalyst model" of development. The Bangladesh Planning Commission under the Trade and Industrial Policy (TIP) project also commissioned several studies on the industry. Hossain and Brar (2004) consider some labor-related issues in the garment industry. Quddus (2006) presents a profile of the apparel sector in Bangladesh and discusses some other aspects of the industry. Islam and Quddus (2006) present an overall analysis of the industry to evaluate its potential as a catalyst for the development of the rest of the Bangladesh economy. Paul-majumder (2007) found that demand for weekly holiday is a major reason for worker's unrest during 2006. It is observed that the workers are engaged in work for all most all days. Abdin M. J. (2008) in his journal "Overall Problems and Prospects of Bangladeshi Ready-Made Garments Industries" focused on labor unrest in RMG sector and provide some solution regarding this problem. Sultana S. and et al (2011) presents results from a survey of "Likely Impacts of Quota Policy on RMG Export from Bangladesh: Prediction and the Reality" which indicates that despite the concern and fear of negative impact on in the aftermath of quota removal of RMG sector in Bangladesh appears with positive trends along with the substantial increasing rate of export amount, the number of jobs and industries and GDP's growth. In 2010, the sector keeps around 20 percent GDP growth of the country. In another study, Ferdous R. (2012) found that the reason behind the labor unrest is the absence of legal and institutional arrangements to ensure labor rights in the RMG sector. Many of the garments factories in Bangladesh are alleged not to comply with the Labor Law and ILO conventions. The main reason for labor unrest is inadequate wages of the workers. Islam M. S, and Ahmad (2010) identified that conveyance, lunch bill and enhancement of casual leave, increase of monthly minimum wages from tk. 1662 to tk. 5000; low house rent and better supply of water and gas are the reasons for the labor unrest in the ready-made garment industry of Bangladesh. In another study, Mirdha R. U. (2012) found that the rumor, fear of job loss, jhoot business, case with police stations, fear of shutdown of factories, arrears, checking at entry point and identity cards, pay hike and discrimination in grades, bad relation

with workers and mid level management, provocation by locally influential people and international conspirators and some NGOs, fear of police and role of industrial police, sudden order cut by international buyers, production in piece rate, accommodation and higher house rent, lack of motivational training program, inflation etc. are also the reasons for labor unrest in ready-made industry of Bangladesh.

Objectives:

- To identify the future of the readymade garments sector in Bangladesh.
- To identify the impediments faced by the readymade garments sector and develop some overcome strategies.

Methodology:

This study is followed exploratory research design based on quantify and qualitative research approach. Whereas qualitative research is an unstructured, exploratory research methodology based on small samples intended to provide insight & understanding of the problem setting (Malhotra and Dash, 2010). This research focused on different methods and least square method of trend analysis is one of them. Data required for this quantitative and qualitative analysis were collected from primary sources and secondary sources like, face to face interview, project contract and records, media reports and publications, documents and articles from relevant agencies, companies & BGMEA. This study mainly focused on three aspects: firstly, trend analysis and secondly, problems faced by this sector and finally recommend some overcome strategies. For trend analysis, three parameters such as factory, workers and export are considered. The problems faced by this sector are gathered through face to face interview with the chief executive body and workers. After exploring the problem faced by this existing garments, this study recommend some overcome strategies. Further to make the study more broad based & informative this research conducted informal interview with an expert in this area. This expert is the senior consultant, project development, Infrastructure Investment Facilitation center (IIFC). Materials of the paper were presented systematically for analytical purpose & also to draw inference there from.

Rationale of the study:

This paper will be significant for stakeholder's like- public sectors, private sectors, policy makers, analysts etc for gathering knowledge regarding readymade garments sector in Bangladesh.

The Bangladesh Garment Industry:

In the 1950s, labors in the Western World became highly organized; forming trade unions. This and other changes provided workers greater rights including higher pay; which resulted in higher cost of production. Retailers started searching for places where the cost of production was cheaper. Developing economies like Hong Kong, Taiwan and South Korea presented themselves as good destinations for relocations because they had open economic policies and had non-unionized and highly disciplined labor force that could produce high quality products at much cheaper costs. In order to control the level of imported RMG products from developing countries into developed countries, Multi Fiber Agreement (MFA) was made in 1974. The MFA agreement imposed an export rate 6 percent increase every year from a developing country to a developed country.

It also allowed developed countries to impose quotas on countries that exported at a higher rate than the bilateral agreements. In the face of such restrictions, producers started searching for countries that were outside the umbrella of quotas and had cheap labor. This is when Bangladesh started receiving investment in the RMG sector. In the early 1980s, some Bangladeshis received free training from Korean Daewoo Company. After these workers came back to Bangladesh, many of them broke ties with the factory they were working for and started their own factories. The hundred percent export-oriented RMG industry experienced phenomenal growth during the last 15 or so years. In 1978, there were only 9 export-oriented garment manufacturing units, which generated export earnings of hardly one million dollar. Some of these units were very small and produced garments for both domestic and export markets. Four such small and old units were Reaz Garments, Paris Garments, Jewel Garments and Baishakhi Garments. Reaz Garments, the pioneer, was established in 1960 as a small tailoring outfit, named Reaz Store in Dhaka. It served only domestic markets for about 15 years. In 1973 it changed its name to M/s Reaz Garments Ltd. and expanded its operations into export market by selling 10,000 pieces of men's shirts worth French Franc 13 million to a Paris-based firm in 1978. It was the first direct exporter of garments from Bangladesh. Desh Garments Ltd, the first non-equity joint-venture in the garment industry was established in 1979. Desh had technical and marketing collaboration with Daewoo Corporation of South Korea. It was also the first hundred percent export-oriented company. It had about 120 operators including 3 women trained in South Korea, and with these trained workers it started its production in early 1980. Another South Korean Firm, Youngones Corporation formed the first equity joint-venture garment factory with a Bangladeshi firm, Trexim Ltd. in 1980. Bangladeshi partners contributed 51% of the equity of the new firm, named Youngones Bangladesh. It exported its first consignment of padded and non-padded jackets to Sweden in December 1980.

Within a short period, Bangladeshi entrepreneurs got familiar with the world apparel markets and marketing. They acquired the expertise of mobilizing resources to export-oriented RMG industries. Foreign buyers found Bangladesh an increasingly attractive sourcing place. To take advantage of this cheap source, foreign buyers

extended, in many cases, suppliers' credit under special arrangements. In some cases, local banks provided part of the equity capital. The problem of working capital was greatly solved with the introduction of back-to-back letter of credit, which also facilitated import of quality fabric, the basic raw material of the industry. The government assigned high priority to the development of RMG industry. Till the end of 1982, there were only 47 garment manufacturing units. The breakthrough occurred in 1984-85, when the number of garment factories increased to 587. The number of RMG factories shot up to around 2,900 in 1999. Bangladesh is now one of the 12 largest apparel exporters of the world, the sixth largest supplier in the US market and the fifth largest supplier of T-shirts in the EU market. The industry has grown during the 1990s roughly at the rate of 22%. In the past, until 1980, jute and jute goods topped the list of merchandises exported from Bangladesh and contributed more than 50% of the total export earnings. By late 1980s, RMG exports replaced jute and jute goods and became the number one in terms of exports. The history of the Readymade Garments Sector in Bangladesh is a fairly recent one. Nonetheless it is a rich and varied tale. The recent struggle to realize Workers' Rights adds an important episode to the story. Below, we present a detailed narration of the evolution of the RMG sector from its humble origins to the present day.

Analysis & Findings:

Trend analysis for factory establishment:

Research is conducted by using the least square method in order to conduct the trend analysis of factory of readymade garments industry. In forecasting methods, time is the independent variable and the value of the time series is the dependent variable. Furthermore, we often code the independent variable time to make the equation easier to interpret. In other words, we let t be 1 for the first year, 2 for the second, and so on. When time is coded, we use the Excel program to find the slope, b, and the intercept, a, to substitute into the linear trend equation.

LINEAR TREND EQUATION : $Y' = a + bt$

where:

Y' read Y prime, is the projected value of the Y variable for a selected value of t.

a is the Y-intercept. It is the estimated value of Y when t=0. Another way to put it is: a is the estimated value of Y where the line crosses the Y-axis when t is zero.

b is the slope of the line, or the average change in Y' for each change of one unit in t.

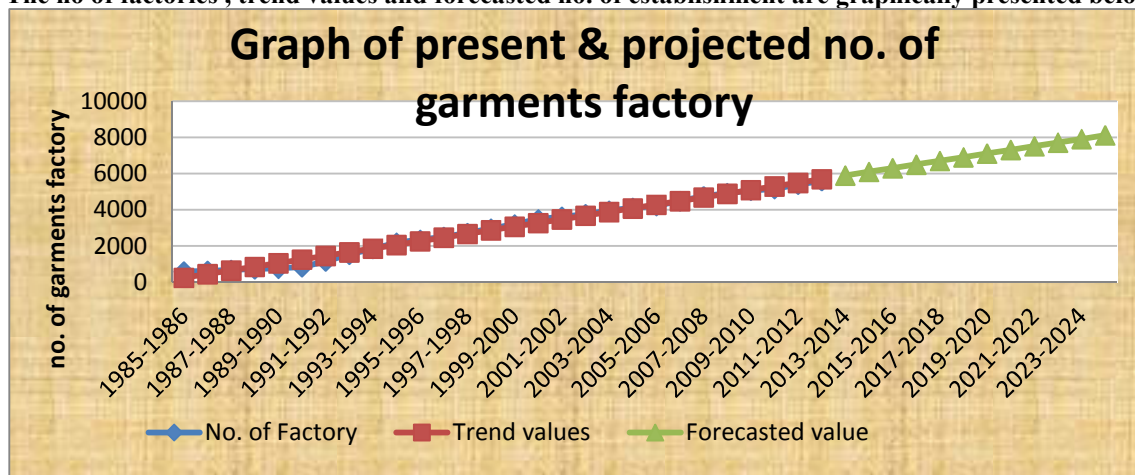
t is any value of time that is selected.

By substituting the value of slope and intercept we get

$$Y' = 45.15079 + 201.8246(t)$$

The overall calculation shown on appendix 1.

The no of factories , trend values and forecasted no. of establishment are graphically presented below.



The X axis represent the fiscal years and the Y axis represent the number of factory establishment.

Findings:

From the graphical presentation it can be easily inferred that If all things else equal than the no. of establishment, its trend and forecasted no. of establishment are showing the positive trend. From table-2 we know that over the past twenty seven years, the number of garment factory has grown from 384 to over 5600. From appendix 1 we get that the forecasted no. of establishment are 5898, 6100, 6302, 6503, 6705, 6907, 7109, 7311, 7513, 7714,

7916, 8118 in FY2013-14, FY 2014-15, FY 2015-16, FY 2016-17, FY 2017-18, FY 2018-19, FY 2019-20, FY 2020-21, FY 2021-22, FY 2022-23, FY 2023-2024, FY 2024-25 respectively. The factory growth rate was 3.70% in Fiscal year 2012-2013. It was also mentionable that factory growth rate was never negative in past. The major advantage of RMG sector is its cheap labor force which provides a competitive advantage over its competitors. Although the Govt. has introduced the new pay structure which has shown in table 1, this structure is relatively low in comparison to other country. The Net Salary varies from 3000 to 9300 from Grade7 to Grade1. from FY 1984-85 to FY 2012-13 in the country.

Trend analysis for employment creation:

Research is conducted by using least square method in order to conduct the trend analysis of employment creation of readymade garments industry. In forecasting methods, time is the independent variable and the value of the time series is the dependent variable. Furthermore, we often code the independent variable time to make the equation easier to interpret. In other words, we let t be 1 for the first year, 2 for the second, and so on. When time is coded, we use the Excel program to find the slope, b, and the intercept, a, to substitute into the linear trend equation.

LINEAR TREND EQUATION: $Y' = a + bt$

where:

Y' read Y prime, is the projected value of the Y variable for a selected value of t.

a is the Y-intercept. It is the estimated value of Y when $t=0$. Another way to put it is: a is the estimated value of Y where the line crosses the Y-axis when t is zero.

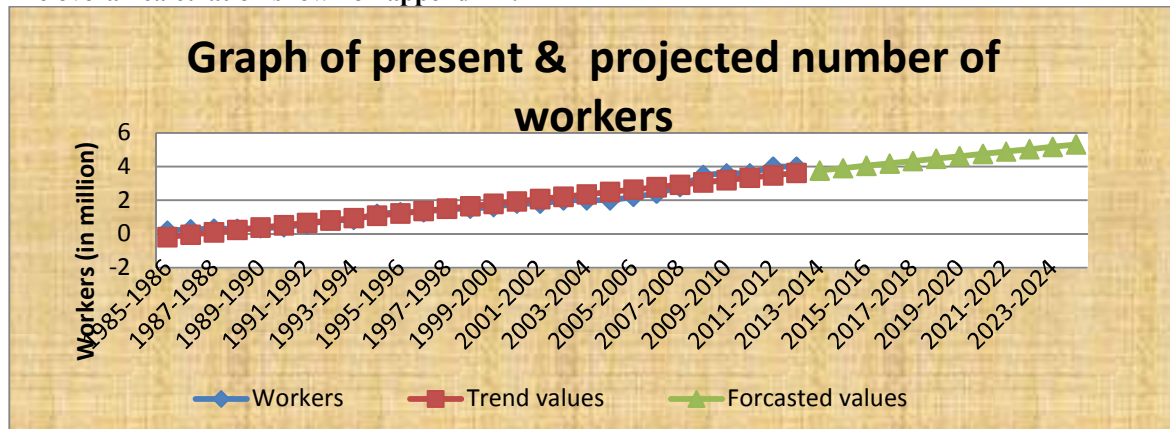
b is the slope of the line, or the average change in Y' for each change of one unit in t.

t is any value of time that is selected.

By using the excel method we get that the value of intercept and the value of slope are -0.32413 and 0.14095 respectively. By substituting the value of slope and intercept we get trend equation is as follows:

$$Y' = -0.32413 + 0.14095(t)$$

The overall calculation shown on appendix 2.



The X axis represent the fiscal years where Y- axis represent the number of workers of RMG sector in million.

Findings:

The graphical representation makes it clear that in synonymous of factory establishment, if all things else equal the employment creation, trend values and forecasted employment show the positive trend. The sector has also played a significant role in the creation of employment opportunity. From table-2 In FY 1984-85 the total employment was 0.12 million which has increased to 4 million in FY 2012-13. The forecasted employment creation are 3.76342 mill., 3.90437 mill., 4.04532 mill., 4.18627 mill., 4.32722 mill., 4.46817 mill., 4.60912 mill., 4.75007 mill., 4.89102 mill., 5.03197 mill., 5.17292 mill., 5.31387 mill. in FY2013-14, FY 2014-15, FY 2015-16, FY 2016-17, FY 2017-18, FY 2018-19, FY 2019-20, FY 2020-21, FY 2021-22, FY 2022-23, FY 2023-2024, FY 2024-25 respectively which are shown in appendix 2. The growth rate of worker was 66.67% in FY 1984-85 and shows the positive trend continuously. It is also mentionable that 90% of the workers are female. This sector opened up employment opportunities for many more individuals through direct and indirect economic activities which eventually helps the country’s social development, woman empowerment and poverty alleviation. If we look at table-3 then we can see that in terms of wages Bangladesh is the lowest wage payer which is 340.90. But in terms of productivity Bangladesh hold the lowest position which is 890.10. And in terms of share of wages Bangladesh hold the second position that is 38.3%. So the authorities should focus on the

second and third terms for the effectiveness and enrichment of this sector.

Trend analysis of RMG export:

Research is conducted by using least square method in order to conduct the trend analysis of export of readymade garments industry. In forecasting methods, time is the independent variable and the value of the time series is the dependent variable. Furthermore, we often code the independent variable time to make the equation easier to interpret. In other words, we let t be 1 for the first year, 2 for the second, and so on. When time is coded, we use the Excel program to find the slope, b, and the intercept, a, to substitute into the linear trend equation.

LINEAR TREND EQUATION: $Y' = a + bt$

where:

Y' read Y prime, is the projected value of the Y variable for a selected value of t.

a is the Y-intercept. It is the estimated value of Y when $t=0$. Another way to put it is: a is the estimated value of Y where the line crosses the Y-axis when t is zero.

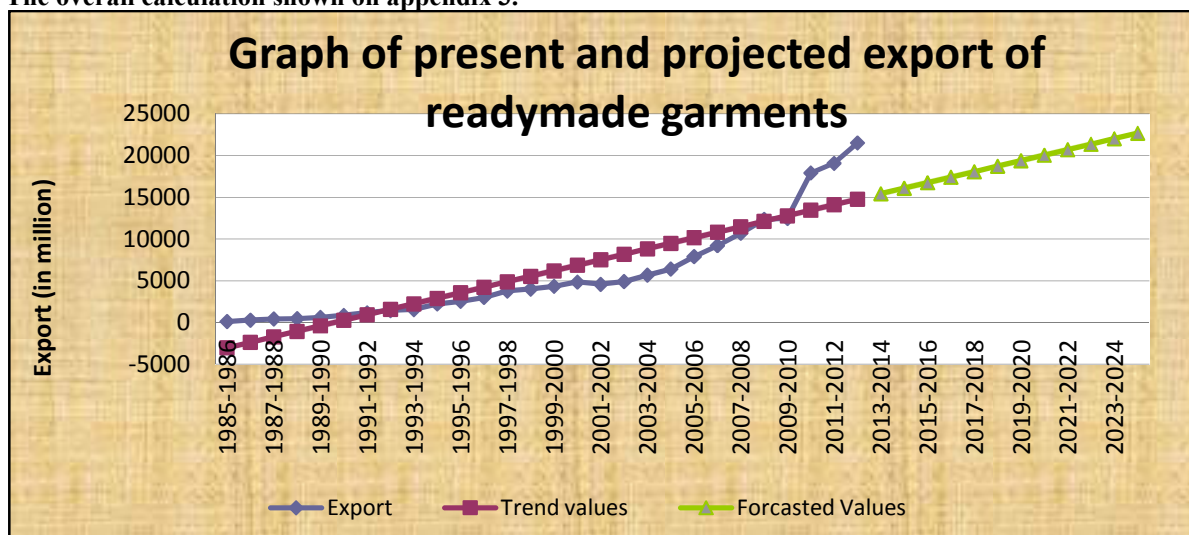
b is the slope of the line, or the average change in Y' for each change of one unit in t.

t is any value of time that is selected.

By using the excel method we get that the value of intercept and the value of slope are -3680.46 and 659.1778 respectively. By substituting the value of slope and intercept we get trend equation is as follows:

$$Y' = -0.3680.46 + 659.1778(t)$$

The overall calculation shown on appendix 3.

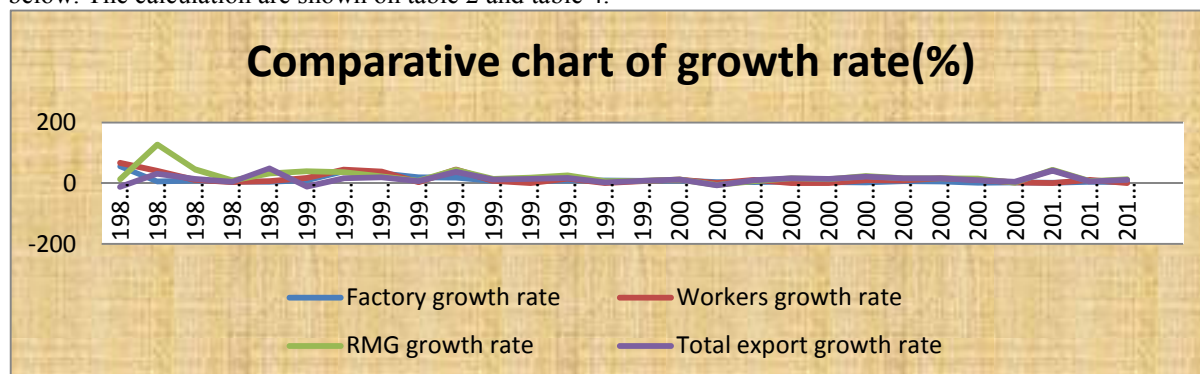


The X axis represent the fiscal years where the Y- axis represent the value of export of RMG sector in million.

Findings:

It can be observed that the export curve is upward sloping which indicates that the value of export is increasing day by day. Despite the concern and fear of negative impact on in the aftermath of quota removal, the whole scenario of RMG sector in Bangladesh appears with positive trends. Bangladesh mainly exports garment, knit and woven goods including shorts, trousers, shirts, sweaters, blouses, skirts, tea-shirts, jackets, sports attire and many more casual and fashion items with the changing times. From table 4 we get that As per the statistics of BGMEA (Bangladesh Garment Manufacturers and Exporters Association), an apex trade body of the country, in FY 1984-'85 the value of export was 116.20 million which is continually increases up to FY 2012-'13. The value of export was 21515.73 million in FY 2012-'13. Despite removing privileged quota system, the number of RMG industries rose up over the periods (Rahman et.al., 2008). RMG export of Bangladesh was 3.89% of total export in 1983-84 while in 2012-13. it was about 80% (Table-4). After quota removal in 2004 average more than 16% growth were observed from 2004-05 to 2008-09 and during this period total export growth rate were also more than 15%. There were negative growth rate in 1985-86, 1990-91 and 2001-02. In 1985-86 and 2001-02 growth rate was negative due to decrease in RMG export while in 1990-91 negative growth was due to decrease in total export and this was probably due to severe flood in 1988. Through the techniques of forecasting we get that the projected export of RMG sector are 15435.6962 mill., 16094.874 mill., 16754.0518 mill., 17413.2296 mill., 18072.4074mill., 19390.763 mill., 20049.1186 mill., 20709.1186 mill., 21368.2964 mill., 22027.4742 mill., 22686.652 mill. in FY2013-14, FY 2014-15, FY 2015-16, FY 2016-17, FY 2017-18, FY 2018-19, FY 2019-20, FY 2020-21, FY 2021-22, FY 2022-23, FY 2023-2024, FY 2024-25 respectively which are shown in appendix

3 . So we can easily conclude that this sector has a great opportunity to burst out in future. The only things needed are to removal of all impediments associated with this sector. The comparative chart of growth rate of RMG export, total export, number of factories and workers is given below. The calculation are shown on table 2 and table 4.



Problems surrounding readymade garments sector:

In order to find out the Problems surrounding readymade garments sector a comprehensive interview has been taken of 20 top level management, 60 middle level management and 200 workers over 20 garments industry, situated on the district of Dhaka and Gazipur. The questionnaires has prepared two sets. One is for management level and another one is for workers. On the basis of face to face interview and questionnaires the following obstacles are found.

1. 80% of the managing director of the garments sector told that **diesel** and power crisis is the core important obstacle for the development of Readymade garments. 90 percent of the generators used in garment factories is diesel run and only about five percent is run by gas. So, in the face of diesel and power crises, garment factory owners are being forced to ship their product by air to make up for lost time in a bid to maintain deadlines.

2. 72% of the managing director of the garments sector expressed that they have to imports raw materials for garments like cotton, thread color etc. This dependence on raw materials hampers the development of garments industry. Moreover, foreign suppliers often supply low quality materials, which result in low quality products.

3. 52% of the mid level manager told that sometimes they need to borrow money for shipping an order. But they didn't get it from the government and the private bank at a low interest rate. At that time they have faced problems due to insufficiency of loan in time which often obstructs the industry..

4. 99% of the CEO conveyed that frequent general strikes and political unrest in recent times have taken their toll on the readymade garments sector, raising cost of production.

5. 56% of the CEO conveyed that lead time is another factor to hinder the development of garments industry. In the 1980s, the usual lead time in the garment industry was 120-150 days for the main garment supplier countries of the world; it has been reduced to 30-40 days in the current decade. However, in this regard the Bangladesh RMG industry has improved little; for example, the average lead time is 90-120 days for woven garment firms and 60-80 days for knit garment firms. In China, the average lead time is 40-60 days and 50-60 days for woven and knit products respectively; in India, it is 50-70 days and 60-70 days for the same products respectively. Bangladesh should improve its average lead time to compete in the international market.

6. 87% of the mid level manager expressed that most of the illiterate men and women workers in garments are unskilled and so their products often become lower in quality. 30% worker can't be able to read and write their mother language. 35% complete their primary education. 25% of the worker complete their secondary level and 10% of the worker complete their higher secondary level. They told that they have to leave their education due to bear their living expenses and family burden. Moreover 10% of the garments provide little training to its workers. The other 70% of the garments industry don't have this facility. Even 80% of the workers whose experience is more than 5 years don't get any sort of training. So inefficiency must be common phenomena for garments workers.

7. 67% of the supervisor conveyed that in the garment industry in Bangladesh, tasks are allocated largely on the basis of gender. All the workers in the sewing section are women, while almost all those in the cutting, ironing and finishing sections are men. Women workers are absorbed in a variety of occupations from cutting, sewing, inserting buttons, making button holes, checking, cleaning the threads, ironing, folding, packing and training to supervising. Women work mainly as helpers, machinists and less frequently, as line supervisors and quality controllers. There are no female cutting

masters. Men dominate the administrative and management level jobs. Women are discriminated against in terms of access to higher-paid white collar and management positions.

8. 95% of the worker told that taking the advantages of workers' poverty and ignorance the owners forced them to work in unsafe and unhealthy work place overcrowded with workers beyond capacity of the factory floor and improper ventilation. It leads to a destruction that causes death to the workers. They also violate the safety code in order gain the huge profit in view of owners.

9. The government of Bangladesh sets minimum wages for various categories of workers that mentioned in table 1. 99% of the workers told that this pay scale also relative very low in comparison to living standard. A survey conducted in 1998 showed that 73% of female helpers, as opposed to 15% of their male counterparts, did not receive even the minimum wage. This result in labor unrest.

10. The working environment of factory worker was not sound. They often have to exposed of Dust & fumes, Fire, gas, flames, Loud noise, Extreme heat, Dangerous tools, Work underground, Work at height. 30% of the workers are exposed of dust and fumes, 67% are exposed of fire, gas, flames. 80% of the workers are exposed of loud noise. 42% are exposed of extreme heat and cold. 84% of the workers are exposed of dangerous tool, 2% of the workers are exposed of work underground and work at height. So without the proper worker environment it is a dream to get high quality product. At the time of face to face interview surveyors find that

- Routes are blocked by storage materials
- Machine layout is often staggered
- Lack of signage for escape route
- No provision for emergency lighting
- Doors, opening along escape routes, are not fire resistant
- Doors are not self-closing and often do not open along the direction of escape
- Adequate doors as well as adequate staircases are not provided to aid quick exit
- Fire exit or emergency staircase lacks proper maintenance
- Lack of proper exit route to reach the place of safety
- Parked vehicles, goods and rubbish on the outside of the building obstruct exits to the open air
- Fire in a Bangladesh factory is likely to spread quickly because the principle of compartmentalization is practiced

11. The 1965 factory Act allows women to work delivery deadlines; however, women are virtually compelled to work after 8 o'clock. Sometimes they work until 3 o'clock in the morning and report back to start work again five hours later at 8 o'clock. They are asked to work whole months at a time the Factory Act, which stipulates that no employee should work more than ten days consecutively without a break.

Recommendation:

1. Government also have some responsibility to improve the situation by providing-proper policy to protect the garments industries, solve the license problem, quickly loading facility in the port, providing proper environment for the work, keep the industry free from all kind of political problem and the biasness. Credit must be provided when the industry fall in need.

2. Solar Energy can be a great source for solving power crisis in Bangladesh. Bangladesh is situated between 20.30 and 26.38 degrees north latitude and 88.04 and 92.44 degrees east which is an ideal location for solar energy utilization.

3. The government should focus on production and procurement of high quality raw materials within the country. For this endeavor Government should use Public Private Partnership. This will in turn gives the nation an ample opportunity to add a significant amount with the national income.

4. Bangladesh labor productivity is known to be lower when it compared with of Sri Lanka, South Korea and Hong Kong. Bangladesh must look for ways to improve the productivity of its labor force if it wants to compete regionally if not globally. Because of cheap labor if our country makes the labor productivity in the apex position, then we think the future of this sector is highly optimistic. BKMEA has already introduced educational program on fashion designing. The various private university and training institution has already introduced various program regarding this issue.

5. The existence of sound infrastructural facilities is a prerequisite for economic development. The policymakers should not only focus on creating the law but also focus on implementation of the law. The govt. should focus on separate route for the export and import activities. It may be high way, metro line, more cargo ship etc. The development of infrastructure will avoid the problem of safety, unskilled worker, lead time, transportation problem and so on.

6. The main causes of labor unrest include lack of minimum facility and safety at work, sub-standard living conditions, deferred payment of wages and benefits, international conspiracy and coercive role of the law enforcing agency, too much dependency on buyers, pressures from the workers and local terrorists, use of workers by others and rumors, un-fulfillment of education demands of their children, distorted minded workers, political instability of the country, too much workload, lack of promotion opportunity, insufficient wages to survive etc. If the policy makers of Bangladesh consider these causes and make policies to overcome the problems the labor unrest in garment sector may be minimized.

7. The main two political parties should not take any harmful and destructive steps which will causes a great lose to the general interest of people such as strike. They should take action beyond the Business sector.

8. Government body must ensure that the garments sector fully comply with the factory act 1965 in order to construct a garments factory. The workers right and privileges must also be ensured. The working environment should be favorable to work. The following steps should be taken to improve the environment.

- Building should be constructed with fire resisting materials
- Adequate exits and proper escape routes should be designed
- Protection against fire and smoke should be ensured
- Electrical wiring must be properly designed, installed and maintained
- Escape routes should be lighted at all times, kept clear, be indicated by signs
- Regular fire drills should be held
- Doors should be protected and should open along the direction of escape
- Doors should not open on the steps and sufficient space should be provided.
- Smoke/Fire alarm systems must be installed
- Adequate number of extinguishers should be provided
- Prior relationship with local Fire service.

Conclusion

The Ready-Made Garments (RMG) industry occupies a unique position in the Bangladesh economy. It is the largest exporting industry in Bangladesh, which experienced phenomenal growth during the last 25 years. By taking advantage of Multi Fiber Agreement (MFA) of GATT, the industry plays a key role in employment generation and in the provision of income to the poor. To remain successful, Bangladesh needs to remove all the structural obstacles in the transportation facilities, telecommunication network, and power supply, management of seaport, utility services and in the law and order situation. The government and the RMG sector would have to jointly work together to maintain competitiveness in the global RMG market. Given the remarkable entrepreneurial initiatives and the dedication of its workforce, Bangladesh can look forward to advancing its share of the global RMG market.

References:

- Sultana S. and et al 2011, "Likely Impacts of Quota Policy on RMG Export from Bangladesh: Prediction and the Reality."
- Azim, M. Tahlil, and Nasir Uddin, 2003, "Challenges for Garments Sector in Bangladesh After 2004: Avenues for Survival and Growth" Bangladesh Institute of International and Strategic Studies Journal, Vol. 24, No. 1, Page 49-82.
- Bhattacharya, D, M. Rahman and A. Raihan, 2002, "Contribution of the RMG Sector to the Bangladesh Economy", CPD Occasional Paper Series, Paper 50.
- Islam, Sadequl, 2001, The Textile and Clothing Industry of Bangladesh in a Changing World Economy, CPD and The University Press Ltd.
- Jahan, Sarwat, 2005, "The End of Multi-Fiber Arrangement: Challenges and Opportunities for Bangladesh", WBI Policy Note.
- Bhattacharya, D., & M. Rahman. (1999). Female Employment Under Export-Propelled Industrialization: Siddiqi, H. G. A. (2004). The Readymade Garment Industry of Bangladesh. The University Press Limited, Dhaka.
- Zafour, Abu. (2009). Problems and Prospects of Garments Industries in Bangladesh. [Online] Available: BGMEA database. [Online] Available

Table 1: Current minimum wage Structure (effective since 1 November 2010)

Grading (Main Posts)	Basic	House rent	Medical Allowance	Net Salary
Grade 1: Pattern Master, Chief Quality Controller	6500	2600	200	9300
Grade 2: Mechanic, Electrician, Cutting Master	5000	2000	200	7200
Grade 3: Sample Machinist, Senior Machine Operator	2870	1148	200	4218
Grade 4: Sewing Machine Operator, Quality Inspector, Cutter, Packer, Line Leade	2615	1046	200	3861
Grade 5: Junior Machine Operator, Junior Cutter, Junior Marker	2395	958	200	3553
Grade 6: Operator of General Sewing/ Button Machine	2230	892	200	3322
Grade 7: Assistant Sewing Machine Operator, Assistant Dry washing man, Line Iron Man	2000	800	200	3000
Trainee				2500
Source: KG Moazzem and Saifa Raz (CPD) 2013: Revision of the Minimum Wage in the RMG Sector in 2013				

Table 2: MEMBERSHIP AND EMPLOYMENT

YEAR	NUMBER OF GARMENT FACTORIES	Factory Growth rate	EMPLOYMENT IN MILLION WORKERS	Workers Growth Rate
1984-85	384	-	0.12	-
1985-86	594	54.69	0.20	66.67
1986-87	629	5.89	0.28	40.00
1987-88	685	8.90	0.31	10.71
1988-89	725	5.84	0.32	3.23
1989-90	759	4.69	0.34	6.25
1990-91	834	9.88	0.40	17.65
1991-92	1163	39.45	0.58	45.00
1992-93	1537	32.16	0.80	37.93
1993-94	1839	19.65	0.83	3.75
1994-95	2182	18.65	1.20	44.58
1995-96	2353	7.84	1.29	7.50
1996-97	2503	6.37	1.30	0.78
1997-98	2726	8.91	1.50	15.38
1998-99	2963	8.69	1.50	0.00
1999-00	3200	8.00	1.60	6.67
2000-01	3480	8.75	1.80	12.50
2001-02	3618	3.97	1.80	0.00
2002-03	3760	3.92	2.00	11.11
2003-04	3957	5.24	2.00	0.00
2004-05	4107	3.79	2.00	0.00
2005-06	4220	2.75	2.20	10.00
2006-07	4490	6.40	2.40	9.09
2007-08	4743	5.63	2.80	16.67
2008-09	4925	1.73	3.50	10.71
2009-10	5063	2.80	3.60	2.86
2010-11	5150	1.72	3.60	0.00
2011-12	5400	4.85	4.00	11.11
2012-13	5600	3.70	4.00	0.00

Source : BGMEA.

Table 3: Labor productivity

Countries	Wages	Productivity	Share of Wages (%)
Pakistan	1553.5	3236.1	48.0
Srilanka	653.1	1876.1	34.8
India	627.5	3146.1	19.9
Bangladesh	340.9	890.1	38.3
Nepal	-	-	-

Source: Islam, 2001

Table 4: RMG export & total export

YEAR	EXPORT OF RMG (IN MILLION US\$)	RMG Export(%)	TOTAL EXPORT OF BANGLADESH (IN MILLION US\$)	Total Export(%)	% OF RMG'S TO TOTAL EXPORT
1983-84	31.57	-	811.00	-	3.89
1984-85	116.2	-	934.43	-	12.44
1985-86	131.48	13.15	819.21	-12.33	16.05
1986-87	298.67	127.16	1076.61	31.42	27.74
1987-88	433.92	45.28	1231.2	14.36	35.24
1988-89	471.09	8.57	1291.56	4.90	36.47
1989-90	624.16	32.49	1923.70	48.94	32.45
1990-91	866.82	38.88	1717.55	-10.72	50.47
1991-92	1182.57	36.43	1993.90	16.09	59.31
1992-93	1445.02	22.19	2382.89	19.51	60.64
1993-94	1555.79	7.67	2533.90	6.34	61.40
1994-95	2228.35	43.23	3472.56	37.04	64.17
1995-96	2547.13	14.31	3882.42	11.80	65.61
1996-97	3001.25	17.83	4418.28	13.80	67.93
1997-98	3781.94	26.01	5161.20	16.81	73.28
1998-99	4019.98	6.29	5312.86	2.94	75.67
1999-00	4349.41	8.19	5752.20	8.27	75.61
2000-01	4859.83	11.74	6467.30	12.43	75.14
2001-02	4583.75	-5.68	5986.09	-7.44	76.57
2002-03	4912.09	7.16	6548.44	9.39	75.01
2003-04	5686.09	15.76	7602.99	16.10	74.79
2004-05	6417.67	12.87	8654.52	13.83	74.15
2005-06	7900.80	23.11	10526.16	21.63	75.06
2006-07	9211.23	16.59	12177.86	15.69	75.64
2007-08	10699.80	16.16	14110.80	15.87	75.83
2008-09	12347.77	15.40	15565.19	10.31	79.33
2009-10	12496.72	1.21	16204.65	4.11	77.12
2010-11	17914.46	43.35	22924.38	41.47	78.15
2011-12	19089.69	6.56	24287.66	5.95	78.60
2012-13	21515.73	12.71	27018.26	11.24	79.63

Source : BGMEA.

Appendix 1: Calculation of trend of number of garment factories

Year	Coded Values	NUMBER OF GARMENT FACTORIES	Trend values	Forecasted values of no. of garments factory
1984-85	0	384	-	-
1985-86	1	594	246.97539	-
1986-87	2	629	448.79999	-
1987-88	3	685	650.62459	-
1988-89	4	725	852.44919	-
1989-90	5	759	1054.27379	-
1990-91	6	834	1256.09839	-
1991-92	7	1163	1457.92299	-
1992-93	8	1537	1659.74759	-
1993-94	9	1839	1861.57219	-
1994-95	10	2182	2063.39679	-
1995-96	11	2353	2265.22139	-
1996-97	12	2503	2467.04599	-
1997-98	13	2726	2668.87059	-
1998-99	14	2963	2870.69519	-
1999-00	15	3200	3072.51979	-
2000-01	16	3480	3274.34439	-
2001-02	17	3618	3476.16899	-
2002-03	18	3760	3677.99359	-
2003-04	19	3957	3879.81819	-
2004-05	20	4107	4081.64279	-
2005-06	21	4220	4283.46739	-
2006-07	22	4490	4485.29199	-
2007-08	23	4743	4687.11659	-
2008-09	24	4925	4888.94119	-
2009-10	25	5063	5090.76579	-
2010-11	26	5150	5292.59039	-
2011-12	27	5400	5494.41499	-
2012-13	28	5600	5696.23959	-
2013-14	29			5898.06419
2014-15	30			6099.88879
2015-16	31			6301.71339
2016-17	32			6503.53799
2017-18	33			6705.36259
2018-19	34			6907.18719
2019-20	35			7109.01179
2020-21	36			7310.83639
2021-22	37			7512.66099
2022-23	38			7714.48559
2023-24	39			7916.31019
2024-25	40			8118.13479
Intercept: 45.15079				
Slope: 201.8246				

Appendix 2: Calculation of trend of employment opportunity garment factories

Year	Coded Values	EMPLOYMENT IN MILLION WORKERS	Trend values	Forecasted Employment (million)
1984-85	0	0.12		
1985-86	1	0.2	-0.18318	
1986-87	2	0.28	-0.04223	
1987-88	3	0.31	0.09872	
1988-89	4	0.32	0.23967	
1989-90	5	0.34	0.38062	
1990-91	6	0.4	0.52157	
1991-92	7	0.58	0.66252	
1992-93	8	0.8	0.80347	
1993-94	9	0.83	0.94442	
1994-95	10	1.2	1.08537	
1995-96	11	1.29	1.22632	
1996-97	12	1.3	1.36727	
1997-98	13	1.5	1.50822	
1998-99	14	1.5	1.64917	
1999-00	15	1.6	1.79012	
2000-01	16	1.8	1.93107	
2001-02	17	1.8	2.07202	
2002-03	18	2	2.21297	
2003-04	19	2	2.35392	
2004-05	20	2	2.49487	
2005-06	21	2.2	2.63582	
2006-07	22	2.4	2.77677	
2007-08	23	2.8	2.91772	
2008-09	24	3.5	3.05867	
2009-10	25	3.6	3.19962	
2010-11	26	3.6	3.34057	
2011-12	27	4	3.48152	
2012-13	28	4	3.62247	
2013-14	29	0.2		3.76342
2014-15	30	0.28		3.90437
2015-16	31	0.31		4.04532
2016-17	32	0.32		4.18627
2017-18	33	0.34		4.32722
2018-19	34	0.4		4.46817
2019-20	35	0.58		4.60912
2020-21	36	0.8		4.75007
2021-22	37	0.83		4.89102
2022-23	38	1.2		5.03197
2023-24	39	1.29		5.17292
2024-25	40	1.3		5.31387
Intercept: -0.32413				
Slope: 0.14095				

Appendix 3: Calculation of trend of export of Readymade garment factories

Year	Coded Values	Export (MILLION)	Trend values	Forecasted Export (million)
1984-85	0	116.2		
1985-86	1	131.48	-3021.2822	
1986-87	2	298.67	-2362.1044	
1987-88	3	433.92	-1702.9266	
1988-89	4	471.09	-1043.7488	
1989-90	5	624.16	-384.571	
1990-91	6	866.82	274.6068	
1991-92	7	1182.57	933.7846	
1992-93	8	1445.02	1592.9624	
1993-94	9	1555.79	2252.1402	
1994-95	10	2228.35	2911.318	
1995-96	11	2547.13	3570.4958	
1996-97	12	3001.25	4229.6736	
1997-98	13	3781.94	4888.8514	
1998-99	14	4019.98	5548.0292	
1999-00	15	4349.41	6207.207	
2000-01	16	4859.83	6866.3848	
2001-02	17	4583.75	7525.5626	
2002-03	18	4912.09	8184.7404	
2003-04	19	5686.09	8843.9182	
2004-05	20	6417.67	9503.096	
2005-06	21	7900.8	10162.2738	
2006-07	22	9211.23	10821.4516	
2007-08	23	10699.8	11480.6294	
2008-09	24	12347.77	12139.8072	
2009-10	25	12496.72	12798.985	
2010-11	26	17914.46	13458.1628	
2011-12	27	19089.69	14117.3406	
2012-13	28	21515.73	14776.5184	
2013-14	29			15435.6962
2014-15	30			16094.874
2015-16	31			16754.0518
2016-17	32			17413.2296
2017-18	33			18072.4074
2018-19	34			18731.5852
2019-20	35			19390.763
2020-21	36			20049.9408
2021-22	37			20709.1186
2022-23	38			21368.2964
2023-24	39			22027.4742
2024-25	40			22686.652
Intercept:	-0.3680.46			
Slope:	659.1778			

Questionnaire for Chief Executive Officer/Managing Director/Unit Head		
1	Name & address of the Factory	
2	Name of the MD/CEO/Unit Head	
3	How long your company been in business?	
4	Is your business registered? What type of license?	a)Yes b)No a)Public Ltd b)Private Ltd c)Partnership d)Proprietorship
5	Total number of workers engaged In your factory	Male : Female:
6	What are the problems that you face at the time of running your garments factory?	a) Diesel & power crisis b) Raw materials c) Insufficient of loan d) Inefficiency of workers e) Labor unrest f) Political crisis g) Lead time h) Wage i) Other
7	Do you provide Education & on-the-job training facilities to the workers	a)Yes b)No c)Not applicable
Thanks for your cooperation		

Questionnaire for workers		
Factory Name		
Worker name		
Address		
1	Can you read mother tongue/any language?	a)Yes b)No
2	Can you write mother tongue/any language?	a)Yes b)No
3	Have you ever attended school?	a)Yes b)No
4	Are you attending any school presently?	a)Yes b)No
5	If yes, what is the level of school you are attending?	a)Primary b)Secondary c)High School d)College/University
6	If no, what is the main reason for leaving the school?	a)No school/School too far b)Cannot afford c)Family did not allow d)Not Interested/Poor in studies e)Education considered not important f)To learn a job g)To work for pay h)To contribute in family business i)To help at home in household activities j)Disabled
7	Total years of working	a)0-3 years b)3-5 years c)Above 5 years
8	Are you aware of the skills required in your job?	a)Yes b)No
9	Do you receive any sorts of training	a)Yes b)No
10	Are you satisfied with your wage	a)Yes b)No
11	Are you exposed to any of the following at work?	a)Dust & fumes b)Fire, gas, flames c)Loud noise, vibration d)Extreme cold or heat e)Dangerous tools f)Work underground g)Work at height h)Insufficient ventilation i)Chemicals(pesticides, glues) l) Explosive
Thanks for your cooperation		

The IISTE is a pioneer in the Open-Access hosting service and academic event management. The aim of the firm is Accelerating Global Knowledge Sharing.

More information about the firm can be found on the homepage:
<http://www.iiste.org>

CALL FOR JOURNAL PAPERS

There are more than 30 peer-reviewed academic journals hosted under the hosting platform.

Prospective authors of journals can find the submission instruction on the following page: <http://www.iiste.org/journals/> All the journals articles are available online to the readers all over the world without financial, legal, or technical barriers other than those inseparable from gaining access to the internet itself. Paper version of the journals is also available upon request of readers and authors.

MORE RESOURCES

Book publication information: <http://www.iiste.org/book/>

Recent conferences: <http://www.iiste.org/conference/>

IISTE Knowledge Sharing Partners

EBSCO, Index Copernicus, Ulrich's Periodicals Directory, JournalTOCS, PKP Open Archives Harvester, Bielefeld Academic Search Engine, Elektronische Zeitschriftenbibliothek EZB, Open J-Gate, OCLC WorldCat, Universe Digital Library, NewJour, Google Scholar

