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Editorial Note

After the successful publication of two consecutive issues of the Bangladesh Tariff Commission (BTC) Journal on Tariff and Trade we feel encouraged to publish the third issue. As a part of the regular activities of the Commission to conduct studies on different sub-sectors, recently three studies namely “Prospects of Market Expansion of Domestic Cosmetics and Toiletries Products”, “Prospect of Rice Bran Oil Industries in Bangladesh” and “Problems and Prospects of IT and IT Enabled Services Outsourcing in Bangladesh” have been completed successfully. In this issue we covered these three studies including two other topics on “An Assessment of Industrial Relations & Labor Dissatisfaction at RMG Sector in Bangladesh” and “Export & Growth Potential of Melamine Industries in Bangladesh”.

I am hopeful that these timely demanded articles covered in this issue will help to increase the understanding among the stakeholders and indeed help them to take positive steps towards expansion of trade and investment.

In our previous issues most of the articles were written by the BTC officials. Now we are looking forward to open the journal for outside researchers. BTC welcomes any kind of advice as well as constructive criticism from the readers to improve the quality of the journal. At the same time, the Commission has already approved the principle of the Editorial Policy in their last meeting. It is also my pleasure to inform the readers that, by this time, we have obtain the International Standard Serial Number (ISSN): 2412-6209 from ISSN International Centre, 45 rue de Turbigo, 75003 Paris, France, which enhanced the Journal an international standard.

I avail myself of the opportunity to express my heart-felt gratitude to the Chairman of the Commission Dr. Md. Azizur Rahman, Advisors, Journal Committee members and the contributors for their continuous support and co-operation in maintaining the standard and quality of the articles.

Mohd. Khalid Abu Naser
Editor in Chief
Editorial Board, BTC Journal

Bangladesh Journal of Tariff and Trade
 July-September, 2015
Table of Contents

Issue 03		2015
Prospects of Market Expansion of Domestic Cosmetics and Toiletries Products	<i>Bellal Hussain Molla</i> <i>Md. Raihan Ubaidullah</i> <i>Md. Abdul Latif</i> <i>Mohinul Karim Khondker</i>	1-13
Prospect of Rice Bran Oil Industries In Bangladesh	<i>Sk. Liaquat Ali</i> <i>Md. Raihan Ubaidullah</i> <i>Md. Mahmudul Hasan</i> <i>Md. Lokman Hossain</i>	14-33
Problems and Prospects of IT and IT Enabled Services Outsourcing in Bangladesh	<i>Md. Mamun-Ur-Rashid Askari</i> <i>S. M. Sumaiya Zabeen</i> <i>Kazi Monir Uddin</i>	34-59
An Assessment of Industrial Relations & Labor Dissatisfaction/Unrest at RMG Sector in Bangladesh	<i>Md. Raihan Ubaidullah</i>	60-99
Export & Growth Potential of Melamine Industries in Bangladesh	<i>Mohinul Karim Khondker</i>	100-107

Prospects of Market Expansion of Domestic Cosmetics and Toiletries Products

Bellal Hussain Molla¹
Md. Raihan Ubaidullah²
Md. Abdul Latif³
Mohinul Karim Khondker⁴

Abstract

Cosmetics & toiletries industry is one of the major economic sectors in Bangladesh, which contributes at the national economy. This study tried to furnish the overview of the performances of cosmetic and toiletries industry sector in Bangladesh. The study has also shown the overall picture of the cosmetics & toiletries industry market and opportunities in Bangladesh. In Bangladesh, International Cosmetics and Toiletries brands are playing a dominant role at the upper-end market. Here, pricing of the Cosmetics & Toiletries are playing a vital role at the market. Rich and solvent buyers are reluctant to buy local products. On the other hand, most local manufacturers are producing lower-priced toiletries and perfumes with their own brands, and focus on the middle-to-low price market segments. Many domestic industries, long accustomed to tariff protection, are finding it difficult to adjust with the changed competitive situation resulting from the reduction/removal of tariff and other non-tariff barriers. Moreover, some cosmetics firms think that the trade liberalization have made them vulnerable to increasing competition with foreign firms. Competition from domestic firms has also increased substantially. This writing is an endeavor to find out the real scenario and trying to provide some solution through some Policy Generation and Recommendations.

Key Words: Cosmetics, ERP, DRC, NRP, Market Expansion, Tariff, Toiletries

1. INTRODUCTION

Cosmetics known as makeup are care substances used to enhance the appearance of the human body. They are generally mixtures of chemical compounds, some being derived from natural sources, many being synthetic. Although modern make-up has been traditionally used mainly by women, an increasing number of males are gradually using cosmetics usually associated to women to enhance or cover their own facial features.

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Locally produced toiletries now play a significant role in a sector that has been dominated by imports in the past. Most of the products in this sector are common consumer goods which have a large demand in the domestic market. Imports of cosmetics and toiletries are targeted mostly to the middle and high-end segments of the market. Most of the local customers are quite happy with the domestic products as long as product performance is satisfactory and the price is reasonable. While most of the manufacturers focus primarily on meeting the demands of the local market, some firms have started exporting cosmetics and toiletries products from Bangladesh.

A large number of firms produce toiletries products like toilet detergent, cosmetics and other perfumes. However, only few firms control 95 % of the market share. These firms are Unilever, Keya Cosmetics, Kohinoor Chemical Company, Lalbag Chemical company, Mousumi industries, Millat chemicals, Reckitt Benckiser Bangladesh Ltd and Squares Toiletries. An observation of market share of soap, cleaning detergent, laundry detergent and detergents of major cosmetics and toiletries firms in Bangladesh reveals that Unilever Bangladesh plays the dominant role in the market.

1.2 OBJECTIVES OF THE STUDY

- ✓ To obtain in detail profile of the indigenous cosmetics & toiletries,
- ✓ To analyze market situation of the relevant industries,
- ✓ To identify the barriers of market development, product development and product diversification and to fix strategy for overcoming the barriers,
- ✓ To analyze protection structure,
- ✓ To identify the problems and prospects of export market,
- ✓ To recommend for future market expansion.

1.3 LITERATURE REVIEW

Literally speaking, cosmetic is a substance which is used to segment the beauty of the human body. It is generally a highly refined chemical preparation manufactured with sophisticated machinery but sometimes home-made potions are also used for the same purpose. Cosmetics are a major industry in any developed market economy, a large number of items for both men and women being produced by this industry. A striking feature of this industry is the dominance of multinational companies (Rashid).

Bangladesh is a poor country with the bulk of the population living in villages. It is well known that demand for food and other bare necessities of life dominate at low levels of per capita income. Since cosmetics can by no means be considered a basic necessity, it can be inferred that its demand in Bangladesh will be confined to the urban section of the population enjoying incomes above the bare minimum required for survival. That is, the market for cosmetics in Bangladesh can be considered to be small in size. It is likely that this market has expanded somewhat in recent times due to the spurt in female employment in the ready-made garment industry. Increase in per capita income level and advertisements of cosmetics on television, particularly the latter, have also contributed to an increase in the demand for cosmetics (Rashid).

The removal of trade barriers makes domestic markets more competitive, which in turn induces local firms to become more efficient in input usage (Scholte, O'Brien & Williams, 1998). Trade liberalization opens up opportunities for import of better quality and cheaper raw materials. It also gives firms access to sophisticated technology. Improvements in technical efficiency could result as firms reduce input wastage and increase capacity utilization, and exploit the available

scale economics as markets expand. As a result, domestic firms could produce more with the given amounts of inputs and thereby reduce costs of production. Higher amount of production enables firms to capture untapped market opportunities both in the domestic and the overseas markets. Trade liberalization could also trigger shifts in resources towards activities which become relatively more profitable as a result of tariff cuts. Another important channel through which the removal of trade barriers could benefit the economy is the increased availability of new technologies, new products/capital goods, and ideas/knowledge about improved production processes, management, product designs and quality (World Bank, 1999a).

1.4 METHODOLOGY OF THE STUDY

Both primary and secondary data is used to reach on a conclusion of the objectives set. Primary data is collected through direct interview, questionnaire, field visit, group discussion. Secondary data is collect from various published articles, journals, legal and policy issues, different sources of database analysis.

Standard tools are used to analyze the data such as trend analysis, Protection analysis (NRP, ERP and DRC) & SWOT analysis. Data is presented in pictorial graphs, bar charts and pie charts.

1.5 LIMITATIONS OF THE STUDY

For doing analysis, earnest effort has been made to collect the necessary data on the industry's various activities through firm visits. A questionnaire was used through which the required information is collected. Unfortunately most of them are not willing to provide their full insights as they fear it might be used for tax purpose. Besides these time constraint, unavailability of complete National Statistics, limited budget, inadequate data collector are also notable.

2. OVERVIEW OF THE COSMETICS & TOILETRIES INDUSTRIES IN BANGLADESH

In the old days, when people went to abroad, they were given shopping lists that contained a whole range of toiletries: soaps, shampoos, conditioners, face washes, creams, etc. In those days the local toiletries market was not advanced enough to meet all the demands of the people. But in the last decade things have changed drastically for the toiletries industry in Bangladesh.

Now people no longer have to rely on others traveling abroad to get what they want. The basic necessities of everyone are now available. Shampoo, conditioner, face wash, face scrub, cream, lotion, toothpaste, Vaseline, powder, shaving cream, etc., goes, all that are now locally produced and readily available.

2.1 PRODUCT ITEMS

1. Soap
 - 1.1. Beauty care soap
 - 1.2. Laundry soap
 - 1.3. Detergent
2. Hair oil
3. Face wash
4. Toothpaste
5. Vaseline
6. Shampoo
7. Lip gel
8. Lotion
9. Saving cream

2.2 MARKET SIZE

In Bangladesh the cosmetics and toiletries market is around 9000 core BDT and the Unilever Bangladesh captures almost 60% of it. The local companies also give it good run for money. The major players of local markets are Square toiletries Ltd., Kohinor chemicals ltd, Keya cosmetics limited, and Mousumi industries limited. Unilever capture more than 60% of the market share. Square, Kohinor, and Keya have 20%, 15%, 5% of share respectably (approximate)

The cosmetics and toiletries industries depend on import chemical for manufacturing process. Besides some local company also provide some chemicals for this purpose. Basically 90% of the chemicals are imported chemicals and these chemicals are generally come from India and China for their low price and low distribution cost. Besides some companies who has positioned themselves as quality service provider import chemical from Germany, France, Malaysia, Indonesia, Italy UK and USA.

2.3 MARKET PLAYER

A short description of major market player is given below:

2.3.1 ACI LIMITED

ACI was established as the subsidiary of Imperial Chemical Industries (ICI) in the then East Pakistan in 1968. After independence the company has been incorporated in Bangladesh on the 24th of January 1973 as ICI Bangladesh Manufacturers Limited and also as Public Limited Company. This Company also obtained listing with Dhaka Stock Exchange on 28 December, 1976 and its first trading of shares took place on 9 March, 1994. Later on 5 May, 1992, ICI plc divested 70% of its shareholding to local management. Subsequently the company was registered in the name of Advanced Chemical Industries Limited. Listing with Chittagong Stock Exchange was made on 22 October 1995

The Consumer Brands Division boasts in having an unequivocal presence in consumers' heart with the market leading brands like ACI Aerosol, ACI Mosquito Coil, Savlon. These are the persistent performers in keeping the household clean and free from germs and harmful insects.

2.3.1.1 ANTISEPTIC CREAM

Savlon Antiseptic Cream combines germ-killing power and long-lasting protection in a soothing cream. Formulated to treat cuts, scratches, blisters, grazes, insect bites, windburn, sunburn, nappy rash or even cracked and itchy skin. Soothes skin and helps protect against infections.

2.3.1.2 LIQUID ANTISEPTICS

Because of its antiseptic action, it helps protect family by gently cleansing and helping to prevent infection. Use Savlon Antiseptic Liquid on cuts and grazes, insect bites and stings, minor burns and scalds - even for personal care in the bath or for midwifery.

2.3.2 KEYA COSMETICS LTD.

Incorporated in the year 1996 as a KCL Private Limited Company Keya Cosmetics Ltd has been converted as a Public Limited Company in the year 1999. Initial public offering of shares (IPO) was done in 2001 and the company was listed with Dhaka & Chittagong Stock Exchange in the year 2001. The company has been giving hand some dividends to the shareholders every year for which the shares of the company are in high demand in the market and value of shares are going up. Keya Cosmetics Ltd is one of the leading cosmetics

manufacturing company in Bangladesh. Located at Jarun-Konabari, Gazipur covering an area of 28,800sft, the company began its production in 1997 with a state-of-art manufacturing facility and has a strong workforce of 744 people.

KCL Authorized capital of the company is Tk. 700 Million and paid up capital is Tk. 288 Million as on 30.06.2009. Keya is a popular brand name at every nook and corner of Bangladesh for super quality of the products within affordable price. Chief product of Keya Cosmetics Ltd are:- Keya Beauty Soap, Keya Laundry Soap, Keya Ball Soap, Keya Coconut Oil, Keya Pumpkin Oil, Keya Talcum Powder, Keya Prickly Head Powder, Keya Ice Cold P. Heat Powder, Keya Lifeguard Soap, Keya G.M Tooth Paste, Keya Active Tooth Paste, Keya Shaving Cream, Keya saloon Lather Shaving Cream, Keya Petroleum Jelly, Keya Lip Gel, Keya Glycerin, Keya Pomade, Keya show, Keya Natural Care Shampoo, Keya Dandruff Shampoo.

2.3.2.1 KEYA SUPER BEAUTY SOAP

Keya Super Beauty Soap is mode of 100% vegetable fat and widely accepted by people of all age group and races for its purity, high quality and brilliant look.

2.3.2.2 KEYA TALCUM POWDWR

Keya Talcum Powder contains essential ingredients to absorb moisture and bring breeze of freshness of body and mind.

2.3.3 KOHINOOR CHEMICAL COMPANY (BANGLADESH) LTD.

A Pakistani entrepreneur founded the company as Kohinoor Shilpa Gosthi. The company was listed in 1959 and was registered in 1959 from the very beginning of its journey Kohinoor Group of Industries (KGI) consisted two manufacturing plants, namely Kohinoor Chemical Company Limited established in 1959 and Kohinoor battery manufacturers limited established in 1964. It also started business by producing Tibet Snow in 1956 and from then it never really had to look back as Tibet Snow gave it solid ground to stand firmly. Then it went on producing Tibet Ball Detergent, Tibet Kadur Tel and so on. After liberation, these companies were placed under Bangladesh Fertilizer Chemical and Pharmaceutical Corporation in 1972 and subsequently under Bangladesh Chemical Industries Corporation (BCIC) in 1976.

2.3.3.1 KCCL PRODUCTS

KCCL's products can be classified into four broad categories.

- Cosmetics
- Toiletries
- Soap and
- Detergent

Cosmetics & Toiletries

- Tibet Pomade
- Tibet Perfumed Petroleum Jelly
- Fair & Care
- Tibet glycerin
- Tibet Snow

Body Powder

- Tibet Luxury Talcum Powder
- Tibet Talcum Powder
- Tibet Prickly Heat Powder
- Tibet Baby Powder

Soap

- Sandalina Sandal Soap (125 Gm/75 Gm)

2.3.4 MOUSUMI INDUSTRIES LIMITED

Mousumi Industries Ltd., a family owned business was founded in 1972 by its Chairman, Kazi Mahtab Uddin Ahmed, Founding Managing Director Late Kazi Ashraf Uddin Ahmed, Directors Kazi Moin Uddin Ahmed and Kazi Rajib Uddin Ahmed. The cosmetics & toiletries of the company are manufactured under the brand name, “Cute”.

For the last four decades Cute has maintained the highest quality management. A professional R&D team is consistently dedicated in developing and managing the quality of products, which has adorned Cute with the “Golden Europe Award”. Cute’s era of success has expanded in the global market arena over two decades.

2.3.4.1 CUTE JASMINE

Jasmine fragrance uplifts the mind and spirit, giving a relaxing bath everyday. Traditionally used to restore skin, its extracts increase skin elasticity and balances moisture. Our Jasmine infused soap helps bolster skin’s immunity and hydrates it for softer skin.

2.3.4.2 COCONUT OIL

Non-greasy, perfumed coconut oil Keeps the scalp healthy, promotes healthy hair growth and improves the condition of damaged hair.

2.3.5 SQUARE TOILETRIES LIMITED

Square Toiletries Limited (STL) is one of the leading Bangladeshi manufacturers of toiletries and cosmetics products operating with over 50 international quality products. STL started its challenging journey with branded coconut oil under the brand “Jui” in 1988. Currently STL, an ISO 9001:200 certified company, is operating with the trust of Bangladeshi consumers with 16 famous brands.

STL manufactures and markets a wide array of consumer toiletries products ranging from Hair Oils, Toilet Soaps, Baby Care, Dental Care, Shaving products, Fabric Care, summer to winter products. The company also markets Feminine Hygiene products and mosquito repellent manufactured by its sister concern, Health Products Limited (HPL) and Square Pharmaceuticals Ltd (SPL) respectively.

2.3.6 JUI

Jui has been taking care of Bangladeshi women's hair with tenderness. Based on different hair care needs, Jui has come up with two varieties of hair care for: Jui Hair Care Oil and Jui Coconut Oil.

2.3.6.1 JUI COCONUT OIL

Over the years, Jui Coconut Oil has become a standard for haircare to Bangladeshi women. Jui is the best quality refined coconut oil that makes hair naturally soft and healthy, which will in turn get the appreciation from close ones– appreciation that truly deserve. For convenience, Jui Coconut Oil is available in both Plastic and Tin containers.

2.3.7 MERIL PROTECTIVE CARE

Winter tends to damage our normal skin condition. Meril Protective Care is the range of products that provides protection and care and thus remedies any skin damage and backs it to normalcy. Meril Protective Care is the symbol of confidence for over 70% Bangladeshi during winter. Meril Petroleum Jelly Meril Petroleum Jelly is the pioneer in providing the complete solution for protection against the cold in winter. Meril Petroleum Jelly prevents skin contraction and relieves dryness. Enriched with jojoba oil and lemon fragrance, the jelly provides a protective layer against cold. The presence of jojoba oil moisturizes the skin making it soft. It also provides

protection to minor burns and chapping as the jojoba oil has natural healing power.

2.3.8 UNILEVER BANGLADESH LIMITED

Unilever Bangladesh (UBL) is the leading Fast Moving Consumer Goods Company in Bangladesh with a heritage of 50 years and products that are present in 98% of Bangladeshi households. UBL started its journey in Bangladesh with the production of soaps in its factory in Kalurghat, Chittagong. Over the years the company introduced many affordable brands which won the hearts of consumers across the country. Today, their brands are present in almost every household in the country. UBL is the market leader in 7 of the 8 categories it operates in, with 20 brands spanning across Home Care, Personal Care and Foods. Its operations provide employment to over 10,000 people directly and indirectly through its dedicated suppliers, distributors and service providers. 99.8% of UBL employees are locals with a large number of local UBL employees now working abroad in other Unilever companies as expatriates. UBL is a Joint Venture of the Government of Bangladesh and Unilever, one of the world's leading suppliers of fast moving consumer goods with strong local roots in more than 100 countries across the globe. Unilever holds 60.4% share in UBL.

2.3.8.1 LUX

Lux began its story in 1924 as the first mass marketed beauty soap. Now sold in over 100 countries, it is the most recognizable soap brand in the world – giving women across the world the million dollar feeling with its fine fragrance skin treats.

2.3.8.2 PEPSODENT

Pepsodent is one of the world's best-selling toothpaste brands, developed to give a fresh, healthy smile.

2.3.8.3 SUNSILK

For girls, hair is often an emotional rollercoaster. Sunsilk understands and its range addresses the most common hair dramas in 80 countries around the globe, helping girls everywhere to gain the confidence to express them.

2.3.9 RECKITT BENCKISER BANGLADESH LTD

For such a fast-paced, entrepreneurial business some are surprised to learn the company's history spans 150 years of innovation for consumers across the world. With a German and British heritage, RB's commitment to producing top quality, trusted medicines, medical devices, hygiene and other home products has shaped its history of strong financial performance coupled with social responsibility. Benckiser acquires worldwide branded business of Beecham Household Products in US and Canada. RB announces new strategy for continued outperformance, along with a new vision and purpose. Our vision is a world where people are healthier and live better. Our purpose is to make a difference by giving people innovative solutions for healthier lives and happier homes. Consumer-led research lies at the heart of the success of the company. RB acquires nutritional supplement and vitamin company Schiff Nutrition, strengthening its position in the growing health and wellness market.

2.3.9.1 DETTOL

As the world's leading brand of antiseptics and a trusted champion of family health, Dettol products offer a high standard of germ kill and are recommended by healthcare professionals for their proven ability to keep families healthy.

2.3.9.2 HARPIC

Launched in England in the 1920s, Harpic toilet bowl cleaner has been successfully extended to 47 countries on a platform of powerful cleaning. Harpic provides a full range of liquid toilet bowl cleaners, tablets, wipes, toilet bowl blocks, cisternblocks.

2.3.9.3 MORTEIN

Mortein was first launched in the 1880s in Australia. It has been successfully launched throughout New Zealand, South Asia and the South Pacific Region.

3. PRODUCTION CAPACITY & UTILIZATION

Production capacity and utilization are given in the following Table-I. A wide array of goods is produced by the local cosmetics and toiletries industry. These include: facial cream, talcum powder, baby powder, hair oil, hair dye, shaving cream, after-shave lotion, shampoo, nail polish, beauty soap, laundry soap, detergent, hand wash, shower gel, olive oil, perfume etc. It is not feasible to study all items. The following more commonly produced cosmetics and toiletries items were selected for study: Talcum powder, facial cream, hair oil, petroleum jelly, body lotion, beauty soap, detergent, laundry soap, toothpaste and shampoo.

Table I: Production Capacity & Utilization

Production Capacity and utilization				
Company Name	Products Name	Capacity (Yearly M.T.)	Utilization (2014)	Utility (%)
Keya Cosmetics Ltd.	Keya Super beauty Soap	5085	3492	68.67
Kohinoor Chemical Co. Ltd.	Washing Soap	14500	5048.9	34.82
	Toilet Soap	20500	7356.15	35.88
	Snow & Cream	500	147.43	29.49
	Toothpaste	125	45.32	36.26
	Talcum Powder	400	150.98	37.75
	Hair oil	175	64.36	36.78
	Shaving Cream	110	39.19	35.63
	Coconut Oil	100	33.96	33.96
	Detergent	19000	6653.28	35.02
	ACI	Detergent	7200	209.33
Savlon Bar Soap		3360	1680.13	50.00

Source: Company provided & Field visit (2015).

In the above figure show that most of the industries cannot use their capacity according to their installed capacity. Keya cosmetics ltd. use 68.67 percent of their production capacity in the product of Keya super beauty soap. Kohinoor chemical co ltd. use less than forty percent of their production capacity in all the products like washing shop, toilet soap, snow & cream, tooth paste, talcum powder, hair oil, shaving cream, detergent etc. Advanced Chemical Industries can use about fifty percent in Savlon Bar Soap and about three percent in detergent of the production capacity.

3.1 IMPORT & EXPORT FIGURE OF FINISHED PRODUCTS AND DUTY STRUCTURE

3.1.1 IMPORT FIGURE OF FINISHED PRODUCTS

Table I: Import figure of finished products in last three fiscal years

Hscode	Description	2013-14		2012-13		2011-12	
		Net_Mass (M.T.)	Custom_Value (Tk. In Lakh)	Net_Mass (M.T.)	Custom_Value (Tk. In Lakh)	Net_Mass (M.T.)	Custom_Value (Tk. In Lakh)
1513.1100	Crude Coconut (Copra) Oil	2616.94	1905.85	4408.02	3521.14	2731.71	3453.17
1513.1900	Coconut (copra) oil (excl. crude) & its	1464.47	1252.26	2190.36	2064.19	597.19	724.89
2712.1000	Petroleum Jelly	881.62	1054.59	2079.85	26891.44	994.63	1323.27
3304.9100	Powders, Whether Or Not Compressed, For	143.21	273.44	558.48	1219.47	290.35	664.43
3305.1000	Shampoos	420.58	800.83	2668.42	4954.94	1963.01	3749.19
3306.1000	Dentifrices	891.81	2030.79	918.47	2071.87	883.64	1890.56
3401.1100	Soap And Organic Surface-Active Products I	486.77	1021.41	1392.02	2934.27	1357.43	2881.19
3401.1900	Soap And Organic Surface-Active Products I	114.37	319.53	217.58	276.29	158.36	185.62
3401.2000	SOAP IN OTHER FORMS	254.09	308.68	194.39	250.86	165.96	212.83
3401.3000	Organic surface-active products and	835.10	2617.50	1148.42	4898.24	833.08	3298.29
3402.9010	Detergents	2543.85	5008.15	4401.02	9212.66	3476.04	7024.16
3402.9010	Washing and cleaning preparations, not put	12.32	23.56	0.00	0.00	0.00	0.00

Source: National Board of Revenue (NBR) Database, Bangladesh.

According to the table - 2 import level of most products decreased in recent years from the last two fiscal years of 2011-12 and 2012-2013. Crude coconut Copra oil is imported 2616.94 MT in the fiscal year 2013-14 but 4408.02 MT in 2012-13. Coconut oil excluding crude is imported 1464.47 MT in 2013-14 but 2190.36 MT in 2012-13. Import level is decreased in very much of the products of Petroleum Jelly, Shampoos and detergent. Petroleum Jelly is imported 881.62 MT in 2013-14 but 2079.85 MT in 2012-13 and Shampoos is imported 420.58 MT in 2013-14 but 2668.42 MT in 2012-13. These import figures show strong positions of our local industries

3.1.2 EXPORT FIGURE OF FINISHED PRODUCTS

Table 3: Export figure of finished products in last three fiscal years

Hscode	Description	2013-14		2012-13		2011-12	
		Net_Mass (M.T.)	Assessable Value (Tk. In Lakh)	Net_Mass (M.T.)	Assessable Value (Tk. In Lakh)	Net_Mass (M.T.)	Assessable Value (Tk. In Lakh)
1513.1100	Crude Coconut (Copra) Oil	0	0	0	0	26.20	39.30
1513.1900	Coconut (copra) oil (excl. crude) & its	0.59	0.42	17.91	21.80	19.10	22.86
2712.1000	Petroleum Jelly	0	0	0	0	0	0
3304.9100	Powders, Whether Or Not Compressed, For	3.196	10.213	5.811	4.349	5.811	4.349
3305.1000	Shampoos	0	0	0.041	0.217	0.041	0.217
3306.1000	Dentifrices	0	0	0.063	0.228	0.063	0.228
3401.1100	Soap And Organic Surface-Active Products I	542.33	806.50	1029.93	1644.50	1029.93	1644.50
3401.1900	Soap And Organic Surface-Active Products I	11.50	18.16	44.39	37.11	44.39	37.11
3401.2000	SOAP IN OTHER FORMS	8.08	9.36	8.32	22.99	8.32	22.99
3401.3000	Organic surface-active products and	0	0	0.43	1.23	0.00	0.03
3402.9010	Detergents	0	0	14.67	10.94	18.50	10.06
3402.9010	Washing and cleaning preparations, not put	0	0	0	0	0	0
3405.9090	Other polishes, creams and similar	0	0	0	0	0	0

Source: National Board of Revenue (NBR) Database, Bangladesh.

Table 3 shows that export position of cosmetics and toiletries products is very vulnerable. A small level of coconut oil, powders and soap in other forms is exported in various fiscal years. Among this exported figures the condition of soap export is very strong and prospective.

3.1.3 DUTY STRUCTURE OF IMPORT AND EXPORT FINISHED PRODUCTS

Table 4: Duty structure

Duty Structure of import and Export Finished Products										
Sl.	HSCODE	DESCRIPTION	CD	SD	VAT	ATT	RD	ATV	TTI	EXD
1	3402.9010	Detergents	25.00	20.00	15.00	5.00	5.00	4.00	92.30	0.00
2	3401.1100	Soap And Organic Surface-Active Products In Bars, Etc, For Toilet Use	25.00	20.00	15.00	5.00	5.00	4.00	92.30	0.00
	3401.1900	Soap And Organic Surface-Active Products In Bars, Etc, Nes	25.00	20.00	15.00	5.00	5.00	4.00	92.30	0.00
	3401.2000	SOAP IN OTHER FORMS	25.00	20.00	15.00	5.00	5.00	4.00	92.30	0.00
3	3401.3000	ORGNC.SRFC.ACTIVE PROD.&PREPARATION FOR WASHING THE SKIN.IN THE FORM OF ..	25.00	20.00	15.00	5.00	5.00	4.00	92.30	0.00
4	3304.9100	Powders, Whether Or Not Compressed, For Beauty/Makeup/Skin Care/Preparation	25.00	45.00	15.00	5.00	5.00	4.00	131.33	0.00
5	1513.1100	Crude Coconut (Copra) Oil	25.00	0.00	15.00	5.00	5.00	4.00	61.09	0.00
	1513.1900	Coconut (copra) oil (excl. crude) & its fractions, refined or not but not chem. modified	25.00	30.00	15.00	5.00	5.00	4.00	107.91	0.00
6	2712.1000	Petroleum Jelly	25.00	0.00	15.00	5.00	5.00	4.00	61.09	0.00
7	3305.1000	Shampoos	25.00	60.00	15.00	5.00	5.00	4.00	154.74	0.00
8	3306.1000	Dentifrices	25.00	20.00	15.00	5.00	5.00	4.00	92.30	0.00

Source: National Board of Revenue (NBR) Database, Bangladesh.

Above this figure all finished cosmetics and toiletries products is protected by high customs duty. Not only customs duty but also supplementary duty and regulatory duty is imposed on all finished cosmetics and toiletries products. On other hand there is no export duty on cosmetics and toiletries products.

3.1.4 DUTY STRUCTURE OF IMPORTED RAW MATERIALS IN VARIOUS ITEMS

Table 5: Duty Structure of imported raw materials

Product Name	Hscode	Description1	CD	SD	VAT	AIT	RD	ATV	TTI
Tibet Ball Soap	38231900	OTH.INDUST. MONOCARBOXYLIC FATTY ACIDS..., EXCL.ST.ACID,OLEIC ACID,TALL OIL FATTY ACIDS	10	0	15	5	0	4	37.07
	34021110	Anionic surface-active agents, (excl. soap)	10	0	15	5	0	4	37.07
	28230000	Titanium Oxides	10	0	15	5	5	4	43.08
	29093000	Aromatic Ethers And Their Halogenated... Derivatives, Nes	5	0	15	5	0	4	31.07
	29153900	Other Esters Of Acetic Acids, Nes	10	0	15	5	0	4	37.07
Tibet 570 w.soap	38231900	OTH.INDUST. MONOCARBOXYLIC FATTY ACIDS..., EXCL.ST.ACID,OLEIC ACID,TALL OIL FATTY ACIDS	10	0	15	5	0	4	37.07
	34021110	Anionic surface-active agents, (excl. soap)	10	0	15	5	0	4	37.07
	34021110	Anionic surface-active agents, (excl. soap)	10	0	15	5	5	4	43.08
	29093000	Aromatic Ethers And Their Halogenated... Derivatives, Nes	5	0	15	5	0	4	31.07
	29153900	Other Esters Of Acetic Acids, Nes	10	0	15	5	0	4	37.07
Tibet beauty care	15099000	Olive Oil And Fractions (Excl. Virgin)	10	0	15	5	0	4	37.07
	28230000	Titanium Oxides	10	0	15	5	0	4	37.07
	32042000	Synthetic Organic Products Used As Fluorescent Brightening Agents	5	0	15	5	0	4	31.07
Sandalina Sandal Soap	29157031	Soap noodle imported by VAT registered soap manufacturers	25	0	15	5	5	4	61.09
	15132900	Refined Palm Kernel/Babassu Oil & Fractions,Not Chem.Modifd	25	0	15	5	0	4	61.09
	28421010	Aluminium sodium silicate; Zeolite	5	0	15	5	0	4	31.07
	29054500	Glycerol	10	0	15	5	0	4	37.07
	32042000	Synthetic Organic Products Used As Fluorescent Brightening Agents	5	0	15	5	0	4	31.07
	28230000	Titanium Oxides	10	0	15	5	0	4	37.07
Toothpaste	28365000	Calcium Carbonate	10	0	15	5	0	4	37.07
	28112200	Silicon Dioxide	10	0	15	5	0	4	37.07
	38246000	Sorbitol (Excl. That Of 2905.44)	10	0	15	5	0	4	37.07
	39123100	Carboxymethylcellulose And Its Salts, In Primary Forms	5	0	15	5	0	4	31.07
	28269000	Fluorosilicates Nes;Fluoroaluminates And Other Complex Fluorine Salts,Nes	10	0	15	5	0	4	37.07
	29095000	Ether-Phenols, Ether-Alcohol-Phenols And Halogenated... Derivatives, Nes	5	0	15	5	0	4	31.07
	25262000	Natural Steatite, Talc, Crushed Or Powdered	5	0	15	5	0	4	31.07
Luxury Talcum Powder	28100010	Boric Acid	0	0	15	5	0	4	25.07
	28170000	Zinc Oxide; Zinc Peroxide	5	0	15	5	0	4	31.07
Petroleum Jelly	27121000	Petroleum Jelly	25	0	15	5	0	4	61.09
	27101936	LIQUID PARAFFIN, TV	10	0	15	5	0	4	37.07
Tibet detergent powder	34021110	Anionic surface-active agents, (excl. soap)	10	0	15	5	5	4	43.08
	28421010	Aluminium sodium silicate; Zeolite	5	0	15	5	0	4	31.07

Source: National Board of Revenue (NBR) Database, Bangladesh.

In this above table shows that most of the raw materials of cosmetics and toiletries products are imported by mid level of duty paid. Some raw materials are imported in highly paid duty because of these raw materials is available in locally produced and it has alternative use.

3.1.5 LANDED COST OF SOME FINISHED PRODUCTS

Table 6: Landed Cost

Hs-code	Product Name	Quantity	Assessable Value (Tk.)	Total Tax (%)	Landed Cost (Tk.)
15131100	Crude Coconut (Copra) Oil	(200g)	14.57	61.09	23.46
15131900	Coconut (copra) oil (excl. crude) & its	(200g)	17.10	107.91	35.56
27121000	Petroleum Jelly	(100g)	11.96	61.09	19.27
33049100	Powders, Whether Or Not Compressed, For	(200g)	38.19	131.33	88.34
33051000	Shampoos	(200g)	38.08	154.74	97.01
33061000	Dentifrices	(100g)	22.77	92.30	43.79
34011100	Soap And Organic Surface-Active Products I	(100g)	20.98	92.30	40.35
34011900	Soap And Organic Surface-Active Products I	(100g)	27.94	92.30	53.73
34012000	SOAP IN OTHER FORMS	(100g)	12.15	92.30	23.36
34013000	Organic surface-active products and	(100g)	31.34	92.30	60.27
34029010	Detergents	(500g)	98.44	92.30	189.29

Source: National Board of Revenue (NBR) Database, Bangladesh.

In this above table shows landed cost of some finished products.

3.1.6 NON-TARIFF BARRIERS

- ▶ Packaging & Labeling requirements: The Legal Metrology (Packaged Commodities) Rule 2011 has been implemented on imported goods only, but local industries are not following own country rule in India
- ▶ Entry of Beauty Soap fallen under Drugs & Cosmetics Act 1940. Our domestic producers are able to use 4 LCS, i.e. Petra pole (Pashchimbanga), Sutarkandi (Assam), Agartala (Tripura) & Old Regna (Tripura) Land ports only to export toiletries & cosmetic products into India.
- ▶ Documentation: India Custom asks for different H. S. Code at different border for the same product.
- ▶ Difficult to get Business Visa.
- ▶ Indian trucks enter into Bangladesh up to Jessore through Petra pole – Beanpole border even for 3 days; but Bangladeshi trucks cannot go beyond loading-unloading area at zero-point at Petra pole.

3.1.7 EXPORT PROSPECTS

Major Export destination to India, Australia, United States, Singapore, Thailand, Turkey, China, Japan, Canada, Malaysia, South Africa, Oman etc. Day by day demand is increasing in that States. A large scale of cosmetics & toiletries product is imported by African Countries. African Countries can be emerged for exporting in the near future.

4. PROTECTION ANALYSIS

4.1 ANALYSIS OF ASSISTANCE

4.1.1 ERP, DRC AND NRP

Nominal Rate of Protection (NRP), Effective Rate of Protection (ERP) and Domestic Resource Cost (DRC).

4.1.1.1 NOMINAL RATE OF PROTECTION (NRP)

It is the proportion by which the gross value of output, or the producer's gross return on it, is raised by non-prohibitive tariffs or other assistance measures.

4.1.1.2 EFFECTIVE RATE OF PROTECTION (ERP)

It is defined as the percentage increase in Value added at domestic prices over what it would be at world prices. Negative ERP means that the industry is taxed rather than protected.

4.1.1.3 DOMESTIC RESOURCE COST (DRC)

It is the country's cost of producing a unit of output which can either save foreign exchange by substituting imports or earn foreign exchange by directly importing it. The simple consideration of efficiency dictates that the country needs to compare the costs of these resources in producing an output domestically with what it would have cost if it purchased the product from abroad. If the cost of producing the output is higher than that of purchasing it from abroad then it is obvious that it would be inefficient for the country to use those resources for producing it at home. It is this concept of comparative costs in the use of resources for domestic production versus buying from abroad that is the heart of the problem of analyzing DRC.

From the above it can easily be seen that DRC is a cost benefit ratio; the Numerator of the ratio representing the domestic costs of producing a unit of output while the denominator representing the benefits of buying it from abroad.

The ERP and DRC have been calculated on the basis of data provided from Kohinoor Chemicals Ltd. The result found like the following: Result of ERP and DRC:

Name of the Product	ERP	DRC
Talcum Powder	114%	0.99
Toilet Soap	20%	0.60

Results of ERP prove that the industries are protected and no further protection is required. Results of DRC prove that the industries are efficiently utilizing the domestic resources.

4.2 PROBLEMS AND COMMENTS MAY BE BROUGHT UNDER CONSIDERATION

With a view to fulfill the objectives of the study the questionnaires were sent to Kohinoor Chemicals. Keya cosmetics, ACI, Millat Chemicals, Square toiletries, Mousumi industries, Lalbagg chemical, Unilever, Reckitt etc. and discussions were made among them. Maximum of them opined the following:

- 1) At present there is no major problem to run the industries.
- 2) Multinational industries occupied almost 60% share of the market and it is the main problem to the other domestic industries.
- 3) Due to lower supplementary duty imposed on imported luxurious soap, landed cost becomes lower and as a result they are unable to compete with the imported soap.
- 4) Un-authorized industries are marketing inferior products and selling at lower price, which is threat for them.
- 5) Production cost of Sanitary Napkin is higher than that of imported finished Sanitary Napkin. As result local producers are facing un-even competition with imported Napkin.

4.3 THE INDUSTRY HAS REQUESTED THE FOLLOWING TO OVERCOME THESE PROBLEMS

- 1) Special measures may be taken for the local industries to compete with Multinational industries.
- 2) Supplementary duty may be enhanced to imported luxurious soap like DOVE soap and other cosmetics.
- 3) The government should take initiatives to close Un-authorized industries.
- 4) Import duties of raw materials to prepare sanitary napkin like air laid paper, Tissue and adhesive Tape should be reduced.

5. KEY FINDINGS & RECOMMENDATIONS

5.1 SUMMARY OF FINDINGS

- Multinational companies occupied about 60% of the market share
- Unauthorized companies are marketing at lower price of inferior products
- Consumers may have the doubt about the quality of new products and new company
- Lack of Research and Development sections
- There are many non –tariff barrier to export
- Day by day demand is increasing
- In recent years male consumers are showing more interest in skin care and they are demanding more products appropriate for men skin type
- Raw materials are easily available in the current market
- Domestic companies are capable to export after meeting local demand
- Competitions between domestic firms has increased substantially
- Effective rate of protection is 114% and 20% that means the local industries are protected.
- Domestic Resource Cost is 0.99 and 0.60 that means the local industries are efficiently utilizing the domestic resources.

- Customs duties of Air laid paper, Tissues and Adhesive tape are 25%. These raw materials are used to prepare sanitary Napkin. Due to higher duty production cost becomes higher.

5.2 RECOMMENDATIONS

In the light of the above analyses and findings the following recommendations have been made:

- Domestic Industries of Cosmetics and Toiletries are protected
- Companies should take appropriate policy to increase market share by increasing efficiency
- Government should take necessary steps to control marketing of unauthorized products
- Steps should be taken to develop local branding (Like music concert, Quiz contest, model hunt contest, free advising campaign etc.)
- Proper and more investment to develop R&D sections
- Government should take steps to solve non-tariff barriers
- Local company should take initiatives to emerge new export market
- Quality and packaging should meet specific market standard locally and internationally
- BSTI should fix standard on:
 - 1) Baby grooming products, like, Baby lotion, Baby gel, Baby Olive oil, Baby soap, etc.
 - 2) Hygiene products like, Sanitary napkin, Baby diaper, etc.
- In case of sanitary napkin, as the manufacturers are capable of fulfilling the demand, 25% custom duty of raw materials like Air laid paper (HSCODE 48.23.90.94), Tissue (HSCODE 48.18.90.00 and 48.18.20.00) and adhesive tape (HSCODE 39.19.90.10) should be decreased to 5%.
- Domestic industries can fulfill the demand of toilet soap & talcum powder. So, supplementary duty of imported toilet soap & talcum powder may be increased as much as possible.

6. CONCLUSION

It is a great pleasure for us that the price of cosmetics and toiletries remaining same for quite a long time despite power failure and political unrest across the country. There is no crisis of this item in the market and overall factories are running well. The demand of the item is increasing gradually due to increase per capita income and living standard. So, much more attention is required to be given so that this sub-sector does not suffer. Undoubtedly domestic Cosmetics and Toiletries industries are playing vital role in an era of free market economy. The domestic industries have been starting export to the neighboring countries initially. Hopefully the sector would do well in future in the light of globalization

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Prospect of Rice Bran Oil Industries in Bangladesh

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Abstract

The Rice Bran industry of Bangladesh is a new and infant industry but it's a potential sector. This sector started its journey in our country since 2009. According to the definition of small, medium and large scale industry mentioned in industrial policy of Bangladesh, Rice Bran Oil Industry is a large Scale Industry. After which many company has gone through very interesting strategic moves to gain and maintain a good position in edible oil sector. Today, the industry has flourished considerably with a bunch of new enterprises and through the introduction of newer and more divers products. The main objective of this study was to assess the quantity of rice bran obtained in the country, to know the production capacity of the rice bran oil Industry, to gather information on the total production of rice bran oil, to determine the present consumption of rice bran oil; to examine the possibility of export, to examine the possibility of import of rice bran; to measure the trends of production and demand for the next 10 years and lastly review the policy of the Government on rice bran oil Industry.

Keyword: Edible Oil, Rice Bran, Rice Bran Oil, Tariff, Policy

1. INTRODUCTION

Edible oil is an essential commodity in our daily life. Most of the demand for edible oil is met by importing crude oil. But small part of the demand can be met by Rice Bran Oil (RBO).

Domestic Production of Edible Oil can now be obtained from three sources such as oil produced out of domestic seeds of all varieties, oil produced out of imported rape seed, mustard seed and last of all by refining imported crude oil. BTC in its research study seen that present per capita consumption of edible oil in Bangladesh is 26.57 gm per day or 9.70 kg per annum (Reference: An Analysis of Assistance to Edible Oil Manufacturing Industry and Examining Export Possibilities published by Bangladesh Tariff Commission in December, 2014). Therefore, the total requirement of oil becomes 15.09 Lac MT for the population of 15.56 crores. Since healthy produced seeds such as mustard seed, sesame seed, ground nut seed and lin seed provides about 2.19 Lac MT of oil, the country needs to import 13.44 Lac MT of crude oil for obtaining 12.90 MT of refined edible oil to meet the demand. In this respect, rice bran oil can be able to reduce the import of crude oil and thereby save foreign exchange. Rice bran oil is produced from indigenous raw materials. Quantity of production of RB increases with the increase of production of paddy. Therefore, raw material for RBO is obtained fully from domestic source. Rice Bran is a light red covering upper part of the rice under the husk of paddy.

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The Perspective Plan of Bangladesh (PPB) 2010-21 aimed at increasing the production of domestic seeds for providing the population with 40 gm per day or 14.6 kg per annum of edible oil in 2021. If population increases at the rate of 1.32%, population would become about 17.06 crore in 2021. At that time country's requirement would be 24.91 Lac MT of edible oil. Consequently more crude oil will have to be imported for meeting the demand of the country (idb). Rice Bran Oil can be taken place to lower down the import of crude oil. In accordance with PPB rice production would be increase to 3.68 crore MT in 2020-21. From that production of paddy 38.5 Lac MT of rice bran can be produced and about 7.96 Lac MT Rice Bran Oil can be obtained. Produced these Rice Bran Oil can meet about 31.95 % of the demand in 2020-21. Therefore, importance of Rice Bran Oil is too great. It may be noted here that conversion of entire manual rice mill in to semi auto and auto rice mill is the requirement to obtain rice bran fully.

On the basis of the above Bangladesh Tariff Commission (BTC) observed that there has been the prospect of rice bran oil industry in Bangladesh. Considering this aspect BTC thinks that in depth study on rice bran oil industry is necessary to develop this sector and thereby reduce the dependence on imported crude oil.

1.1 OBJECTIVE OF STUDY

Production of Rice Bran Oil fully depends on the indigenous raw material rice bran. Full utilization of rice bran can be able to meet about 30% of the demand for edible oil in the country. However, the objective of the study is given below:

- ❖ To assess the quantity of rice bran obtained in the country;
- ❖ To know the production capacity of the rice bran oil Industry;
- ❖ To gather information on the total production of rice bran oil;
- ❖ To determine the present consumption of rice bran oil;
- ❖ To examine the possibility of export;
- ❖ To examine the possibility of import of rice bran;
- ❖ To measure the trends of production and demand for the next 10 years;
- ❖ To review the policy of the Government on rice bran oil Industry.

1.2 STUDY LIMITATIONS

The extent and limit of the study were restricted due to some of the followings factors:

- ❖ The manufacturer did not agree to provide their official papers and documents;
- ❖ It took quite time to make them understand the reason and content of information.
- ❖ Research related equipment was limited;
- ❖ Limited exercise with Backward and Forward linkage;
- ❖ Demerits of Rice Bran are not considered.

2. LITERATURE REVIEW

2.1 GENERAL

The purpose of the chapter is to review literature having relevance to the present investigation. This study was undertaken to analyze over view of rice bran edible oil and De-oiled rice bran for its proper economic utilization.

2.2 WHAT IS RICE BRAN OIL?

Rice is one of the world's most important food crops and more than half of the people in the world eat rice as the main part of their diets. Young rice plants have a bright green color and

as the grain ripen the plants turn golden-yellow. A typical rice kernel is 1/4 to 3/8 inches long. The following is a brief explanation of the rice milling process (www.californiariceoil.com).



Photograph (1) is a picture of rice still in its hull, this is called paddy rice. The first stage of the milling process is to remove the tough outer hulls (2) and the result is brown rice (3), or rice with the bran coats still intact. The next stage is to remove the bran coats, and then rice is polished, graded and packaged for use (4). The resulting bran (5) is typically a by-product of the milling process and because of its very short shelf almost all of the 40 million metric tons of rice bran produced each year is discarded as unfit for human consumption (www.californiariceoil.com).

From the world's total production of bran, about 4 million tons of proteins, 5 million tons of edible oil and 75,00 billion calories, besides various quantities of vitamins and minerals can be produced (Barber and Benedito de Barber, 1977). But, at present bran is considered one of the most underutilized and frequently wasted commodities. A large quantity of bran is used as a cattle feed and as a fertilizer and a small portion is being used for the extraction of oil in Asia and far east countries except Japan where about 30-40% bran is used for oil extraction. Very little information is available on the nutritive value of rice bran and rice polish done at comparable dietary protein levels. Reported rate per values are 1.6-1.9% for rice bran, 1.8-1.9% for rice polish and 1.9% for rice germ at a dietary protein level of 8.0-9.0% (Barber and Benedito de Barber, 1977).

The energy content of rice bran was higher than that of polish, but digestible energy was lower for bran (Juliano, 1985). The direct use of bran and polish as food has been limited. Rice polish is used in breakfast cereals as source of dietary fiber, protein and minerals (Juliano, 1985). The supplementary feeds are made from locally available ingredients such as sesame oil cake, ground nut oil cake, coconut oil cake, and oiled and de-oiled rice bran. The rice bran exerted similar effects on the growth rate of fish reared under field condition (Krishnan, 2002).

Kim et al. (2001) observed that oxidative stability and vitamin E levels increased in restructured beef roasts with added rice bran oil. Crude rice bran oil 0, 1%, and 2% (w/w), was added to restructured beef roasts that were stored at 4°C and analyzed at 0, 7 and 14 days to determine nutritional properties and oxidative stability. The saturated fatty acid to unsaturated fatty acid (SFA/UFA) ratio and the content of 7-ketocholesterol decreased ($P < 0.05$), whereas vitamin E increased ($P < 0.05$) in the product with 2% rice bran oil. TBARs numbers were lower ($P < 0.05$) in roasts with rice bran oil after 7 days of storage. The addition of 2% rice bran oil (w/w) was effective in improving both oxidative stability and vitamin E levels.

Cicero et al. (2001) observed that the use of rice bran oil and gamma-oryzanol in the treatment of hypoproteinaemias and other condition. Rice bran oil and its main components (unsaturated fatty acids, triterpene alcohols, phytosterols, tocotrienols, and alpha-tocopherol) have demonstrated an ability to improve the plasma lipid pattern of rodents, rabbits, non-human primates and humans, reducing total plasma cholesterol and triglyceride concentration and increasing the high density lipoprotein cholesterol level. Other potential properties of rice bran oil and gamma-oryzanol, studied both in vitro and in animal models, include modulation of pituitary secretion, inhibition of gastric acid secretion, antioxidant action and inhibition of platelet aggregation. This paper reviews the available data on the pharmacology and toxicology of

rice bran oil and its main components with particular attention to those studies relating to plasma lipid altering effects.

Gopala-Krishna et al. (2001) studied on effect of refining of crude rice bran oil on the retention of oryzanol in the refined oil. The effect of different processing steps of refining on retention or the availability of oryzanol in refined oil and the oryzanol composition of 18 Indian paddy cultivars and commercial products of the rice bran oil (RBO) industry were investigated. Degumming and de-waxing of crude RBO removed only 1.1 and 5.9% of oryzanol while the alkali treatment removed 93.0 to 94.6% of oryzanol from the original crude oil.

Rahman (2009) studied on the prospect of rice bran oil production in Rangpur district. In Rangpur district, 0.23 million tons of rice bran can be obtained from 3 million tons of paddy. In Bangladesh context, the study observed that the potential bran oil production was found to be 0.134 million tonnes to 1.05 million tonnes rice bran. The number of rice bran oil mills that can be established in Bangladesh was estimated to be 35 with a minimum processing capacity of 100 tonnes bran per day with 300 days of operation per year. Such a rice bran oil mill can produce about 12.8 tones edible oil per day.

Sharif (2009) studied on rice industrial by products management for oil extraction and value added products. From the present investigation it was concluded that rice bran has a potential to be used for oil extraction and preparation of value added products like cookies, leavened pan bread. The author also analyzed and evaluated the physical and chemical characteristics of rice bran, fatty acid profile and antioxidants potential of rice bran sample etc.

2.3 DE-OILED RICE BRAN

After crude oil has been extracted from rice bran, De-Oiled Rice Bran (DORB) is obtained. It should be in the pellet form. After extraction DORB must contain 8% Protein, 28% Fiber, 14.50% Sand & Silica, 10% Moisture. DORB is one of the most important raw materials of feed production. Feed mills of Bangladesh mainly collect DORB from rice bran oil mills. Mahmud, 2010 worked on a project named an overview of a fish feed industry and it's operational & management approaches. The author observed that a field level study on fish feed industry operation (SHUSOMO feed limited) was carried out to know the feed formulation procedure and plant operation. During manufacture of feed meat and bone meal, de-oiled rice bran, dry fish, fish meal, rape seed, soybean meal having high content of protein are used as protein sources and rice polish, oil are used as lipid source and flour is used as binder. Different types of vitamin are used for example fish grower contains vitamin A, D, E, K, pantothenic acid, folic acid, biotin. The fish grower also contain mineral like copper, iron, manganese, zinc, amino acid like lysine, all are used for growth promoter of fish.

Sasithorn Sunphorka et al. (2012) studied on protein and sugar extraction from rice bran and de-oiled rice bran using subcritical water in a semi-continuous reactor: optimization by response surface methodology. The extraction of protein and sugar from rice bran and de-oiled rice bran using subcritical water was evaluated in a 30-ml semi-continuous reactor. The effects of the three main factors, operating temperature, time and pressure, on the total sugar and protein yields obtained were investigated using analysis of variance and response surface methodology. The developed models had a very high regression coefficient (R^2) value (0.94–0.98), and demonstrated that the three main factors investigated had a significant effect on the sugar yield, whilst only time and its interaction with temperature were significant factors controlling the extracted protein yield. Based on the response surface and contour plots, the

optimum conditions were evaluated for maximal extracted sugar and protein yields, which reached 100% for protein, from the two materials.

2.4 BENEFITS OF RICE BRAN OIL

Rice bran is an incredible source of the vitamins, minerals, amino acids, essential fatty acids and antioxidant nutrients that help fight disease and promote good health. It's no wonder the healthy oil that comes from rice bran is becoming so successful at replacing hydrogenated oils containing trans fat. Research is on-going with this invaluable food source and scientists have found components that may be extremely beneficial to human health (www.ricebranoil.info).

One of the advantages of using rice bran oil in cooking is that the oil has a high smoking point. This means that it is ideal for frying foods without running the risk of overheating and burning the food before the meat or coated vegetables are cooked all the way through. Many cooks prefer rice bran oil because the ability to achieve a crunchy texture and a uniform color to the coating enhance the visual appeal of the finished product (www.wisegeek.com).

A component of rice bran oil is the antioxidant γ -oryzanol, at around 2% of crude oil content. Thought to be a single compound when initially isolated, it is now known to be a mixture of sterol and other triterpenyl esters of ferulic acids (Orthoefer, F. T., 2005). Also significant is the relatively high fractions of tocopherols and tocotrienols, together as vitamin E. Rice bran oil is also rich in other phytosterols (Orthoefer, F. T., 2005).

2.4.1 CHOLESTEROL

Literature review shows rice bran oil and its active constituents improve blood cholesterol by reducing total plasma cholesterol and triglycerides, and increasing the proportion of HDL cholesterol (A.F. Cicero, A. Gaddi, 2001). Results of an animal study (Minhajuddin M, Beg ZH, Iqbal J., 2005) indicated a 42% decrease in total cholesterol with a 62% drop in LDL cholesterol, when researchers supplemented test subjects' diets with fractionated vitamin E obtained from rice bran oil (www.en.wikipedia.org).

2.4.2 MENOPAUSE

One small-scale study of γ -oryzanol, a mixture of chemicals found in rice bran oil, found that 90% of the women had some form of relief from hot flashes after taking a supplement of the purified concentrate for four to six weeks (Ishihara, M; Ito, Y; Nakakita, T; Maehama, T; Hieda, S; Yamamoto, K; Ueno, N., 1982).

2.4.3 ANTIOXIDANT STABILITY

The oryzanol content of the pan heated rice bran oil samples remains approximately the same even when heated at 180°C for 8 hours, while a decrease in oryzanol content was reported in the case of microwave heating at the same conditions (Paul, A.; Masih, D., Masih, J., Malik, P., 2012).

2.4.4 SKIN

Esquiline is a compound present in Rice Bran Oil which is easily absorbed by the skin and keeps it soft, supple and smooth (www.food.ndtv.com).

2.4.5 ANTI CANCER

It is rich in Vitamin E which is powerful antioxidant and has ant mutagenic properties which prevent from cancer. Vitamin E also helps in boosting your immunity (www.food.ndtv.com). Rice bran is used for treating diabetes, high blood pressure, high

cholesterol, alcoholism, obesity, and AIDS; for preventing stomach and colon cancer; for preventing heart and blood vessel (cardiovascular) disease; for strengthening the immune system; for increasing energy and improving athletic performance; for improving liver function; and as an antioxidant (www.webmd.com).

2.4.6 OMEGA FATTY ACIDS AND INFLAMMATION

Rice bran oil has more than 2% omega 3 fatty acids in it (more than olive oil) and a good amount of omega 6 too. Rice bran oil has been tested to reduce cholesterol levels. It is anti-inflammatory too and some studies have shown that its consumption can reduce the effects of menopause like hot flashes (www.food.ndtv.com).

2.4.7 ARSENIC

People talk about Rice bran itself is also potentially high in arsenic. But Rice bran oil has the same probability of having arsenic in it as any other edible oil as well as any cultivated food. If someone argues that Rice bran oil has arsenic, then he should know that the soil in which the rice has been cultivated, if free from arsenic, then the chance of rice bran importing arsenic into it arises. This chance is no more than any other oils including olive, canola, coconut, hazelnut, palm, grapefruit, sunflower or any other oil. So people shouldn't worry about it much, if they don't worry about other grains also (www.en.wikipedia.org).

2.4.8 CALCIUM ABSORPTION

Rice bran might help lower cholesterol because the oil it contains has substances that might decrease cholesterol absorption and increase cholesterol elimination. One of the substances in rice bran might decrease calcium absorption; this might help reduce the formation of certain types of kidney stones (www.webmd.com).

2.4.9 COMPARISON WITH OTHER OILS

The American Heart Association (AHA) recommends the average intake of fat should be 30% of Human Beings total caloric intake. This fat intake should consist of balanced fat, which provides nutrients that are essential to sustain life. A Balanced fat intake should contain approximately 30% saturated fat, 33% poly-unsaturated fat, (containing Essential Fatty Acids) and 37% mono-unsaturated fat (www.californiariceoil.com).

Oil Type	Smoke Point	Mono Unsaturated Fat	Poly Unsaturated Fat	Saturated Fat
Rice Bran Oil	490°	47%	33%	20%
Olive	360°	77%	0%	14%
Canola	450°	61%	33%	7%
Peanut	460°	48%	34%	18%
Soybean	440°	24%	61%	15%
Grape seed	485°	14%	77%	9%

Table 03: Comparison of smoke point and balance of fats in some commonly used oils (www.californiariceoil.com)

2.4.10 OLIVE OIL

High mono fat, able to lower cholesterol but deficient in poly fat, which contains Essential Fatty Acids (EFA). EFA's are truly essential to life as every metabolic process in your body depends on them. A low smoke point makes it a poor choice for frying, and its heavy taste makes it undesirable in many baked goods. Traditionally a good salad oil (www.californiariceoil.com).

2.4.11 CANOLA OIL

High mono fat with cholesterol lowering ability but there are concerns about the origin. “Canola oil” is a term coined by Canada to change the name of “rapeseed oil”. The rapeseed plant contains uric acid making it toxic and is used as an industrial lubricant. It has been genetically modified and hybrid to produce a low erucic acid version. Commonly hydrogenated, it is extensively used in the food industry because of its low price. The hybrid plant would be the best choice (www.californiariceoil.com).

2.4.12 PEANUT OIL

A good balanced oil. This oil has good cholesterol lowering ability and a high smoke point, making it good frying oil. It imparts a slightly earthy, nutty flavor. It lacks the anti-oxidants and micronutrients of Rice Bran Oil. A small percentage of people are allergic to nut oils (www.californiariceoil.com).

2.4.13 SOYBEAN OIL

This oil is a high poly fat. As recommended by the AHA your poly fat intake should be around 33% of your total fat intake. A high poly percentage is an aid to tumors and cancer and should be carefully watched. Up to 80% of the oil consumed in the U.S.A. today comes from soybeans. Soybean oil is commonly hydrogenated and used in many processed foods (www.californiariceoil.com).

2.4.14 GRAPE SEED OIL

A good frying and salad oil, but again high in poly fat. It does lower cholesterol because of the high unsaturated fat content but is way over the recommended 33% poly-unsaturated fat (www.californiariceoil.com).

2.4.15 RICE BRAN OIL

The most balanced and versatile oil on the market and closest to the AHA recommendations. Rice bran oil is a superior salad, cooking, and frying oil which leaves no lingering after taste. The high smoke point prevents fatty acid breakdown at high temperatures. Its light viscosity, allows less oil to be absorbed in cooking, reducing overall calories. It mixes better in salad dressings and improves the taste of baked goods, providing cholesterol reduction, nutritional and anti-oxidant value (www.californiariceoil.com).

Oil Type	Vitamin E Tocopherol (ppm*)	Vitamin E Tocotrienol (ppm*)	Oryzanol (ppm*)	Total Natural Antioxidants (ppm*)
Rice Bran Oil	81	336	2,000	2,417
Olive	51	0	0	51
Canola	650	0	0	650
Peanut	487	0	0	487
Soybean	1,000	0	0	1,000
Grape seed	256	149	0	405

* ppm stands for parts per million

Table 04: Comparison of Natural Antioxidants in Edible Oils (www.californiariceoil.com)

2.5 LOCATION OF THE INDUSTRIES IN BANGLADESH

2.5.1 LOCATION OF THE INDUSTRIES

Effort has been made to collect the list of the rice bran oil industries from Bangladesh Standards and Testing Institute (BSTI), Board of Investment (BOI) and Office of the Register of Joint Stock Company and Firms. However, finally factory visit and consult with BRBOMA it is found that there are 15 industries has already been established. But out of these, 13 industries are

now in operation. Other two (2) industries are yet to start production. Following Table-1 shows the location of these industries.

Table-01: Location of the Industries

Sl.	Name of The Industry	Office Address	Factory Address	Brand
1.	KBC Agro Products Pvt. Ltd.	63/C, Asad Avenue (4 th Floor), Mohammadpur, Dhaka-1207	Bathuli, Dhamrai, Savar, Dhaka	Health Care
2.	Rashid Oil Mills Ltd	B.S.E.C. Bhaban (1 st Floor), 102 Kazi Nazrul Islam Avenue, Karwanbazar, Dhaka-1215	Dashuria, Ishwardi, Pabna, Bangladesh	White Gold
3.	Emerald Oil Industries Ltd.	Saiham Sky View, Tower, Floor-15/A, 45, Bijoy Nagar, Dhaka.	Sheripara, Sherpur Town, Dist: Sherpur	Spondhon
4.	Mazumder Products Ltd.	Planars Tower, Sonargaon Road, Dhaka	Chanka, Sherpur, Bogra, Bangladesh	Shorna
5.	Green Oil & Poultry Feed Ind.	---	Rangpur	Basmati
6.	Ali Natural Oil Mills & Ind. Ltd.	Sonotia Bazar, Jamalpur, Bangladesh	Sonotia Bazar, Jamalpur, Bangladesh	Kollyani
7.	Mazumder Bran Oil Mills Ltd	---	Chengutia, Noapara, Avoynagar, Jessore.	Pure Gold
8.	Al Noor Oil Company Ltd.	---	Kahalua, Bogra	Al Noor
9.	Weaster Agro Ltd.	---	Sherpur, Bogra	Branola
10.	Jamuna Agro Products Ltd.	---	Rajshahi	Sera
11.	Agrotech International	House: 272 (1 st Floor), Lane:19, Lake Road, New DOHS Mohakhali, Dhaka-1206	Mymensingh	---
12.	Tamim Agro Ind. Ltd.		Bogra	
13.	Abdul Monem		Tangail	
14.	Roy Heart Oil Ltd.		Sherpur, Bogra	
15.	Prodhon Oil Mill		Mymensing	

Source: Factory visit and Bangladesh Rice Bran Oil Mills Association (BRBOMA) (2015)

From the above Table it has been observed that there is one industry in Dhaka and four industries are established in Bogra. Harvest Rice Bran Oil is another one marketing the RBO in Bangladesh, which is not mentioned in the table but most probably imported rice bran oil, is packaged only here and marketed later on.

2.5.2 LARGE MEDIUM INDUSTRY AND EMPLOYMENT

Industry invest on average about 100 crore taka and employee about 250 to 500 person, therefore it can be said that this category of industry is large. And 80% employs are non-technical remaining are technical. Out of technical there are more than 50% are foreigner. Moreover almost all the high skilled personnel are foreigner.

2.6 AVAILABILITY OF RICE BRAN AND RICE BRAN OIL PRODUCTION

2.6.1 AVAILABILITY OF RICE BRAN

Availability of Rice Bran depends on the production of paddy. If the production of paddy increases more rice bran is available. There is the direct relationship between paddy production and Rice Bran. It can be noted here that if all the Rice Mill is converted into auto and semi auto mill then it is possible to obtain exact quantity of Rice Bran. Therefore, the following Table-9 shows the availability of Rice Bran in the country.

Table-9: Availability of Rice Bran and Rice Bran Oil Production

Year	Yield	Qty. Lakh MT					
		2009-10	2010-11	2011-12	2012-13	2013-14	2014-15
Paddy	100%	498.6	500.6	505.8	505.0	512.8	516.4
Rice Production	67%	334.0	335.4	338.9	338.3	343.6	346.0
Husk	24%	119.7	120.1	121.4	121.2	123.1	123.9
Dust and Broken Rice	2%	10.0	10.0	10.1	10.1	10.3	10.3
Rice Bran	7%	34.9	35.04	35.41	35.35	35.90	36.15
Crude Rice Bran Oil (22% on RB)	22% on RB)	7.68	7.71	7.79	7.78	7.90	7.95
Rice Bran Oil	94% on CRB	6.91	6.94	7.01	7.00	7.11	7.16

Source: Ministry of Agriculture (MOA) (17/06/2015) and Rice Bran Oil (RBO) Mill owners (2015)

From the above table it is observed that there was the possibility of obtaining rice bran of 34.9 MT in 2009. Conversion of manual rice mill to auto and semi auto rice mill and processed paddy the quantity could have been 36.1 Lac in 2014-15.

2.6.2 PADDY UTILIZATION

From a presentation of BRRRI Gazipur it is found that in accordance with Rice Bran oil producer surveyed by them 1.18 MT of Bran Oil per year can be produced in the country. Based on this information BTC calculated that 80.86 MT of paddy is used for obtaining rice bran. This is shown in below Table-10.

Table-10: Utilization of Paddy

Paddy used	84.99 MT
Rice Bran	5.95 MT
Crude RBO	1.31 MT
Rice Bran RBO	1.18 MT

In Table-9, it has been observed that in the year 2014-15, 516.4 lac MT of paddy is produced in the country. These data shows only 16.46% of paddy is utilized for obtaining Rice bran.

2.6.3 MEDIUM AND LARGE RICE MILL

30% of the total produced paddy is processed by the family itself and remaining 70% is processed by about 1700 medium and large rice mill. It is assumed that these entire medium and large rice mills are auto and semi auto rice mill. It is known that auto and semi auto rice mill can only produce rice bran. If 70% of the paddy is processed in this rice mill, then it is found that 25.30 lac MT of rice bran can be obtained. This is shown in following Table-11.

Table- 11: Utilization of paddy and obtained rice bran

Paddy, RB, CRBO, RRBO	Qty in lac MT obtained
70% of the produced paddy 516.4 lac MT in 2014-15	361.48
Rice Bran	25.30
Crude Rice Bran Oil	5.56
Refined Rice Bran Oil	5.00

Source: Calculated by Bangladesh Tariff Commission (BTC) (2015)

From the above table it is observed that at present there is the possibility of obtaining 5.00 lac MT of Rice Bran Oil. But manufacturers are opined of that only 1.18 MT of Refined Rice Bran Oil can be produced in a year. On the contrary if 100% of the paddy production is processed by auto and semi auto rice mills then there is the possibility of obtaining 7.16 lac MT of Refined Rice Bran Oil. If compare is made between Table-10 and Table-11 it is observed that manufacturer of Rice Bran Oil is getting about 24% less rice bran.

2.6.4 BRAN PRESERVATION

Bran is preserved in open air at the rice mill. In the consequence of long time preservation the quantity of Fatty Acid increases. It is known that producer of Rice Bran Oil collected less than 13% Fatty Acid Rice Bran. After producing rice bran from rice mill, rice bran should be send to oil mill immediately. Otherwise, quality standard of the bran is lost at the consequence of hydrolysis reaction by the enzyme already exist in bran. 10-20% Free Fatty Acid (FFA) is produced by Enzyme and this is increased to 80% in a month. It should be noted here that quantity of FFA should not be more than 3% in edible oil and not more than 8% in Crude Oil. It is known that adulteration is being made by mixing the mustard oil with rice bran oil. This mixed rice bran oil is marketed in the country.

2.7 PRODUCTION CAPACITY, QUANTITY OF PRODUCTION AND UTILIZATION OF CAPACITY

2.7.1 PRODUCTION CAPACITY

There are thirteen industries producing the Rice Bran Oil in the Country. Another two are not in producing as which are mentioned in table-1.

It is observed from Table-1 that production capacity of Industry in 2.58 Lac MT at present and if another two start the production, production capacity will become 2.88 Lac MT. Therefore, it is needed to find out that how much rice bran is required to produce 2.58 Lac MT of Rice Bran Oil. This is given in following Table-13.

Table-13: Requirement of Rice Bran

Production	Quantity in lac MT	Quantity in Lac MT Actual Production RRBO
Paddy	185.70	64.28
Rice Bran	13.00	4.50
CRBO	2.86	0.99
RRBO	2.58	0.90

Source: Calculated by BTC (2015)

It is observed that in order to produce 2.58 Lac MT of Refined Rice Bran Oil, 13.00 Lac MT of Rice Bran is required. At present domestic source can supply 36.15 Lac MT of Rice Bran. But it is seen that about 36% of paddy is utilized. Table 11 shows that 70% of the produced paddy brings 25 lac MT of rice bran. Out of these, available 25 lac MT of rice bran, 13 lac MT of rice bran is required by RBO industries to produce 2.58 lac MT of rice bran oil. But they get only 4.50 lac MT of rice bran. It is understood that rice bran either used by poultry firm or fish feed industries or exported. Therefore, it is needed to know how much Rice Bran is imported or exported. Last column of the above table indicate the actual production of RBO. It is shown these industries can only utilize 4.5 Lac Mt. of Rice Bran for the production of about 0.90 Lac Mt. of Rice Bran Oil.

2.7.2 RICE BRAN IMPORT AND EXPORT

Table-14: Import and Export of Rice Bran (HS Code 2302.40.10 and 2302.40.00)

Year	Import				Export			
	Qty in MT	Value in Crore	Price/KG	Exporting Country	Qty in MT	Value in Crore	Price/KG	Importing Country
2010-11	13446	16.93	12.59	India	NA	NA	NA	NA
2011-12	1475	1.87	12.70	Pakistan, India	49922	70.65	14.15	India
2012-13	882	1.13	29.71	India	90781	129.63	14.28	India
2013-14	1611	2.71	16.82	India	27076	37.15	13.72	India

Source: National Board of Revenue (NBR), Bangladesh Data Base

Above table shows that in the year 2013-14, 1611 MT of Rice Bran imported at price 16.82/Kg and 27076 MT of Rice Bran is exported at 13.72/kg. It has been observed from the Table that very negligible quantity of rice bran is exported.

2.7.3 QUANTITY OF PRODUCTION AND UTILIZATION OF PRODUCTION CAPACITY

The following table shows the quantity of production and utilization of production capacity.

Table-15: Quantity of production and Utilization of production capacity

SL	Rice Bran oil Industries	Production Capacity/Year	2011-12	% of Capacity Utilization	2012-13	% of Capacity Utilization	2013-14	% of Capacity Utilization	2014-15 (Up to December)	% of Capacity Utilization
1.	KBC Agro Products Pvt. Ltd.	30000	13156	44%	13952	47%	12890	43%	15560	52%
2.	Rashid Oil Mills Ltd	18000	10800	60%	14400	80%	15400	86%	15800	88%
3.	Emerald Oil Industries Ltd.	18000	6528	36%	4585	25%	5413	30%	3956	22%
4.	Mazumder Products Ltd.	48000	0	0%	25000	52%	31000	65%	41000	85%
5.	Green Oil & Poultry Feed Ind.	15000	0	0%	0	0%	0	0%	0	0%
6.	Ali Natural Oil Mills & Ind. Ltd.	18000	0	0%	0	0%	0	0%	10000	56%
7.	Mazumder Bran Oil Mills Ltd	18000	0	0%	0	0%	0	0%	0	0%

SL	Rice Bran oil Industries	Production Capacity/Year	2011-12	% of Capacity Utilization	2012-13	% of Capacity Utilization	2013-14	% of Capacity Utilization	2014-15 (Up to December)	% of Capacity Utilization
8.	Al Noor Oil Company Ltd.	15000	0	0%	0	0%	0	0%	0	0%
9.	Weaster Agro Ltd.	15000	0	0%	0	0%	0	0%	0	0%
		195000								
10.	Jamuna Agro Products Ltd.	15000	0	0%	0	0%	0	0%	0	0%
11.	Agrotech International	12000	0	0%	0	0%	0	0%	3500	29%
12.	Tamim Agro Ind. Ltd.	15000	0	0%	0	0%	0	0%	0	0%
13.	Abdul Monem	21000	0	0%	0	0%	0	0%	0	0%
	Total :	2,58000	30,484	12%	57,937	22%	64,703	25%	89,856	35%
14.	Roy Heart Oil Ltd.	15000	0	0%	0	0%	0	0%	0	0%
15.	Prodhan Oil Mill	15000	0	0%	0	0%	0	0%	0	0%
		93000		0%						0%

Source: Rice Bangladesh Bran Oil Mills Association (BRBOMA) & Factory Visit (2015)

Above table shows that capacity utilization of Rice Bran Oil industry is 35% and production of RBO is increasing gradually.

2.7.4 INDUSTRY STARTING PRODUCTION

All the RBO industries started trial production from 2009 to 2014 as it is observed in FGD. Most of the machineries are imported from India for the production of rice Bran Oil, though some are imported from China. Besides, it is observed that most of the technical persons are foreigners.

2.7.5 IMPORT OF RICE BRAN OIL

Rice Bran Oil is imported from United Arab Emirates, Switzerland, India and other countries. This is shown in following Table-16.

Table-16: Import of Rice Bran Oil (HS Code-1515.90.00)

Quantity in MT

Year		Year		Year		Year		Year	
2011-12	Country of origin	Price/kg	2012-13	Country of origin	Price/kg	2013-14	Country of origin	Price/kg	
0.83	UAE	126	3.03	UAE	168	0.002	Korea	250	
1.32	Australia	89	0.04	Switzerland	2394	0.01	Italy	16040	
0.30	China	1511	3.87	China	1185	0.405	India	1132	
1.13	Spain	1141	5.11	Spain	541	0.237	Germany	350	
55.95	India	175	0.15	Great Britain	3026	0.13	Great Britain	48	
0.666	Korea	137	1.03	India	250	0.3	Spain	3195	
0.03	Thailand	511	6.93	Italy	158	0.307	Indonesia	220	
1.5	Thailand	4615	0.24	Korea	192	1.17	China	1203	
0.95174	US	145	1.92	Singapore	111	0.79	US	48	
			0.04	Thailand	229	1.83	Malaysia	80	
			0.017	Turkui	81	4.78	Great Britan	9998	
			0.05	Thaiwan	5292				
			4.50	US	96.50				
62.67		829	26.92		1056	9.661		2060	

Source: NBR Database

From above table it is observed that 62.67 MT in fy2011-12, 26.92 MT in fy2012-13 and 9.66 MT of Rice Bran Oil imported from different countries in fy2013-14.

2.7.6. EXPORT OF RICE BRAN OIL

Rice Bran Oil has also been exported to different countries. This is shown in following Table-17.

Table-17: Export of Rice Bran Oil (1515.90.00)

Quantity in MT

Year			Year			Year		
2011-12	Country of Import	Price/kg	2012-13	Country of Import	Price/kg	2013-14	Country of Import	Price/kg
1115.00	India	74	0.003	Spain	32.32	0.018	Spain	39.20
2.61	Malaysia	117	1700	India	77	390	India	60.12

Year			Year			Year		
2011-12	Country of Import	Price/kg	2012-13	Country of Import	Price/kg	2013-14	Country of Import	Price/kg
100	US	123	0.15	Mouritious	171	0.384	Singapore	129.37
			1.20	Malaysia	60.37	-	-	-
			2	US	888	-	-	-
11207.61		104.67	1703.35		245.74	390.40	-	76.23

Source: NBR Database

Above table shows that 11207.61 MT in year 2011-12, 1703.35 MT in year 2012-13 and 390.40 MT of Rice Bran Oil has been exported to different countries. But whether crude or refined oil exported is not clear. Because Rice Bran Oil producers mentioned that they exported crude Rice Bran Oil and this is shown in Table-3.

2.7.7 IMPORT OF DE-OILED RICE BRAN

While oil extracting from Rice Bran. De-Oiled Rice Bran is produced as by-product. But this De-Oiled Rice Bran is also imported into country shows in Table-18.

Table-18: Import of De-Oiled Rice Bran (HS Code-2306.90.00)

Qty in MT								
2011-12	Country of origin	Price/kg	2012-13	Country of origin	Price /kg	2013-14	Country of origin	Price/kg
19495	India	15	7614	India	28	4773	India	26
0.102	Pakistan	156						
19495.102		85.5	7614		28	4773		26

Source: NBR Database

Above table shows that de-oiled Rice Bran has been imported from India mostly. In the year 2011-12, 1945 MT, in the year 2012-13, 7614 MT and in this year 2013-14, 4773 MT of De-Oiled Rice Bran has been imported.

3. RESEARCH METHODOLOGY

3.1 INTRODUCTION

Rice bran, the byproduct of paddy is used to produce rice bran oil and based on this by product a number of industries have been established in the country. De-Oiled Rice Bran (DORB) is obtained while making extraction of oil from rice bran. DORB is used in fish feed industry, poultry Industry and used as cattle feed as well. In this study attempts were made to gather information about the availability of rice bran in the country, identify the how much rice bran obtain in the country, know the production capacity of rice bran oil, determine the total production of rice bran oil, present consumption of rice bran oil, export possibility, bran import possibility and measure the trend of production.

3.2 SELECTION OF RICE BRAN OIL MILL

Keeping in mind the objectives of the study, six rice bran oil mills is selected located at different places in the country and Research Team visited the mill for collecting the relevant primary data.

3.3 SAMPLE SIZE

Effort has been made to collect the number of Rice Bran Oil industries registered with Government organization. Bangladesh Standard and Testing Institute (BSTI) provided the information that eight industries are registered whereas Board of Investment (BOI) provided the information that six industries are registered. On the other hand, Office of the Joint Stock Company and Firms informed that there are ten industries are registered. Different information relating to number of industry operating has been received from different organization. But rice Bran oil mill owner associations' information seems to be up to date and therefore follows that information. They informed that there are fifteen RBO industries are operating in the country and

out of this thirteen are in operating. From this information it is understood that six are in full operation. Therefore, these six industries have been selected for visit.

3.4 SURVEY QUESTIONNAIRE

Semi-structured questionnaires were prepared according to the objectives of the study with active consultation with key informants, experts from the relevant fields and secondary information. The questionnaires were developed to assess the selected rice bran oil mill and milled rice byproducts. Furthermore, a check list was developed for Key Informants (KIs). The draft questionnaires and check list were pre-tested and necessary corrections, modification and alterations were made accordingly.

3.3 FOCUS GROUP DISCUSSION (FGD)

This information collected during the focus group discussion to be summarized and it would be used to prepare final report on Prospect of Rice Bran Oil industries in Bangladesh.

3.4 METHODOLOGY

The focus group was conducted using traditional qualitative methods. It was a single moderator focus group, consisting of 8 to 15 people of each group. Focus group moderator used a note book to write up and summarize the key ideas for participants to see so they could use it as a reference. Moderator also wrote down notes during the discussion. Focus group discussion was recorded using a voice recording device. Some basic ground rules were established. During the discussion certain methods were used to maintain and focus discussion into desired direction, such as free associations, imagining the hypothetical situations, pretense of being clueless and misconception.

3.5 FOCUS GROUP DISCUSSION GUIDE

The guiding questions for the discussion were derived from the initial briefing for every group and from the discussions with partners. Focus group participants essentially were asked pre structured questions.

3.6 PARTICIPANT RECRUITMENT

First of all we have selected five group like Farmers, Rice Mill Owner (Automatic & Semi Automatic), Rice Bran Oil Mill/ Industries Owner, Consumer. Participants were recruited by mill owner from near mill side.

3.7 DATA COLLECTION METHOD

3.7.1 PRIMARY SOURCES

Data were collected by personal interview through semi-structured questionnaires and Key Informant Interview (KII). During interview each question was explained to the respondent clearly and tried to find out fact as much as possible.

3.7.2 SECONDARY SOURCES

Data has been collected as a secondary source from Ministry of Agriculture, Bangladesh Bureau of Statistics, National Board of Revenue, Chittagong Customs House, Export Promotion Bureau, BOI, RJSC, BRRI, BCSIR and Bangladesh Bank and Internet also.

4. DATA ANALYSIS

A lot of data have been collected from visiting six (6) Rice Bran Oil Industries by using questionnaire and focus group discussion. The data provided in the questionnaire and obtained through Focus Group Discussion are given below:

4.1 DATA ANALYSIS (QUESTIONNAIRE)

There was a Semi-structured questionnaire for collecting relevant data.

4.1.1 INFORMATION ABOUT ESTABLISHMENT OF RICE BRAN OIL INDUSTRY

Research Team of Bangladesh Tariff Commission (BTC) visited six RBO industries for collecting the information about the interest of establishing rice bran oil industries by the owner, establishing year and country of origin of using machinery. Following table shows the owners name, interest to establishing the rice bran oil industries etc.

The table shows there are fifteen (15) RBO industries have been established. But according to BRBOMA actually thirteen (13) industries have started the production and no brand name is given by five industries. Production capacity of the thirteen industries is 2.50 lac MT per annum. Majumdar Product Limited has highest production capacity among these thirteen operating Industries. Their yearly production capacity is 48000 MT. KBC Agro Products private Ltd has placed in second in respect of production capacity is 30000 MT, production Capacity of Rashid Oil Mills Ltd, Ali Natural Ltd, Emerald Oil Industries Ltd and Majumdar bran oil mills Ltd's Production capacity are 18000 MT. Green Oil and poultry feed Industry, Wester Agro Ltd, Jamuna Agro products Ltd and Tamim Agro Industries Ltd's production capacity 15000 MT. and rest of Agro tech International's production capacity is 12000 MT. There are another three mill are yet to start production.

4.1.2 DATE OF TRIAL AND COMMERCIAL PRODUCTION

Research Team of Bangladesh Tariff Commission visited six industries and collected the information on date of trial production and commercial production. Following table shows the date of trial production and commercial production.

Table 2: Date of Trial and Commercial Production

SL.	Name of Company	Trial Production Date	Commercial Production Date
1	Majumdar Product Limited	Jun-09	Dec-12
2	Rashid Oil Mills Ltd	Jan-10	Jul-10
3	Ali Natural Oil Industries Ltd	20-Jul-14	14-Aug-14
4	KBC Agro Products private Ltd	10-Jul-10	14-Oct-10
5	Emerald Oil Industries Ltd	13-Mar-11	1 st December 2012
6	Agrotech Int. Ltd	15-Dec-14	Jan-15

Above table, shows the date of trial and commercial production. Out of these six RBO industries, Majumdar Product Limited 1st starts their production. Their trial production and commercial production date is subsequently June 2009 and December 2012. If Majumdar Product Limited first starts their production but Rashid Oil Mills Ltd 1st starts their commercial production in July 2010 and same year KBC Agro Products private Ltd starts their trial production and commercial production respectively date is 10 July 2010 and 14 October 2010. Ali Natural Ltd and Agrotech Int. Ltd have started their trial production in 2014. Both of these industries have started their commercial production in 14 August 2014 and January 2015 respectively.

4.1.3 INFORMATION ABOUT EXPORT

Research Team also wanted to know Quantity and Value of Sale in export market, if any, for the last five years. Following Table shows the Quantity and Value of Sale in export market.

Table 3: Quantity and Value of Sale in export market for the last five years

Sl.	Name of Company	Brand Name	Export Country	Quantity of Export Thousand In (M.T)										
				2010/11		2011/12		2012/13		2013/14		2014/15		
				Qt	USD	Qt	USD	Qt	USD	Qt	USD	Qt	USD	
1.	Majumdar Product Limited	Sorna	India	-	-	-	-	-	-	-	-	-	6	945
2.	Rashid Oil Mills Ltd	White Gold	N/A	-	-	-	-	-	-	-	-	-	-	-
3.	Ali Natural Oil mills Industries Ltd	Kollany	N/A	-	-	-	-	-	-	-	-	-	-	-
4.	KBC Agro Products private Ltd	Health Care	India	2	1864	12	12019	13	12834	17	1,333	0.9	720	
5.	Emerald Oil Industries Ltd	Spondon	N/A	-	-	-	-	-	-	-	-	-	-	-
6.	Agrotech Int. Ltd	N/A	Thailand	-	-	-	-	-	-	-	-	0.5	409	
Total				2	1864	12	12,019	13	12,834	17	1,333	8	2074	

The Table presents Quantity and Value of Sale in export market for the last five years. Majumdar Product Limited and KBC Agro Products private Ltd exported RBO to India whereas Agrotech Int. Ltd. exported RBO to Thailand. Whenever started production in 2011, KBC Agro Products Private Ltd exported RBO to India and continued till 2015. Their export volume is fluctuated year by year. In fiscal year 2012/13, highest amount of RBO exported the volume and value is 13 MT and 12834 USD respectively. However, KBC Agro Products Ltd. exported a small volume of RBO that is 0.9 MT and Value of which is 720 US\$ in fiscal year 2014-15. Moreover Majumdar Product Limited as well as Agrotech Int. Ltd starts their export in 2014/15 with volume of 6.3MT value of which is 945USD and with volume of 0.5 MT amounting 409 USD respectively. From the table it is observed that Rashid Oil Mills Ltd, Ali Natural Ltd as well as Emerald Oil Industries Ltd yet to start export. Exporter of the RBO informed that they are exporting Crude RBO.

4.1.4 INFORMATION ABOUT TARIFF VALUE ON IMPOSING VAT ON PRODUCTION AND SD

Research Team of Bangladesh Tariff Commission visited six industries asked whether there is Supplementary Duty (SD), Value Added Tax (VAT) on producing RBO, every industry replies that there is no Tariff Value, VAT and SD on producing RBO.

4.1.5 INFORMATION ABOUT GOVERNMENT INCENTIVE IN RBO SECTOR

Every manufacturer has been asked by Research Team to gather information regarding the Government incentive. They replied that tax exemption and VAT exemption in producing RBO are the Government incentive to establish the RBO industry.

4.2 DATA ANALYSIS (FOCUS GROUP DISCUSSION)

Data analysis was built based on methodology. Researcher approached data analysis using framework analysis method. This stage is followed by familiarization with the data, which can be achieved by listening to tapes, reading the transcripts in their entirety several times and reading the observational notes taken during interview and summary notes written immediately after the interview. The criteria, after which the data was analyzed are words, context, Internal Consistency, Frequency and Extensiveness, Intensity of comments, Specificity of responses, Big Ideas.

The analysis was conducted while trying to systematically answer these questions:

- What was known and then confirmed or rejected by the data collected during the focus group?
- What was suspected and then confirmed or rejected by the data collected during the focus group?
- What was new and wasn't suspected before?

4.2.1 FOCUS GROUP DISCUSSION RESULTS

The main objective of the Focus Group was to find out Farmers, Rice Mill Owner (Automatic & Semi Automatic), Rice Bran Oil Mill/ Industries Owner, Business Body (Retailer/Wholesaler), Consumer. Question for the FGD is prepared and discussed with Focus Group. Some key findings appear which are given below:

- ❖ Shortage of auto Rice Mill
- ❖ Multi use of By-Product
- ❖ Misuse of bran at fish mill Industry
- ❖ There is 15 RBO industry and 10 in now operations
- ❖ 3.5 Lakh MT production capacity and 30% utilization
- ❖ Lack of Consumers Awareness
- ❖ MRP is higher than other Edible Oil
- ❖ Farmer misuse their Bran
- ❖ Farmer not aware about rice bran

5. POLICY ISSUES, FINDINGS AND RECOMMENDATION

5.1 POLICY ISSUES

Present Production Capacity of the Rice Bran Oil industry is 2.58 Lac MT of Rice Bran Oil. In order to utilize production capacity fully, industry need about 13 Lac MT of Rice Bran. But in our country 70% of the total Rice Mill are Semi-Auto and Auto. They produce only 25.31 Lac MT of Rice Bran. But 36.15 Lac MT of Rice Bran is available if whole quantity of the produced paddy could have processed by semi-auto or auto rice mill. Since it depend on the conversion of manual rice mill to semi auto or auto rice mill, it is not desirable to provide permission to set up this industry before conversion to semi auto and auto rice mill.

In spite of obtaining 25.30 Lac MT of Rice Bran established Rice Bran Oil industry can obtain only 5.95 MT of Rice Bran to produce 1.18 Lac MT of Rice Bran Oil. Only 16.46% of paddy is utilized for obtaining Rice Bran .Industry get 24% less Rice Bran form available 25.30 Lac MT of Rice Bran. It may due to export of rice bran or supply to fish feed industry and poultry industry. Hence export of Rice Bran or uses by fish and poultry industry should be discouraged.

Utilization of production capacity in respect of Rice Bran Oil Industry is low. This may be due to the non-availability of Rice Bran. In this respect effort should be made to obtain avail the rice bran by the industry smoothly and make awareness of the customer about the Rice Bran Oil. Besides, Government can take action to supply the rice bran oil to hospital, Army, BGB and Jail just as Soybean Oil at subsidies price.

HS. Code of Rice Bran Oil is 1515.90.00. But producer of Rice Bran oil informed that they exported the crude rice bran oil. Therefore, it is necessary to create HS Code for crude Rice Bran Oil and Refined Rice Bran Oil as well.

At the processing of Rice Bran, De-oiled Rice Bran & Crude Rice Bran Oil is produced. Therefore, Poultry fish and fishing industry can be encouraged to use De-oiled Rice Bran rather than Rice Bran but it is shown that country get about 25 Lac mt. of Rice Bran of which RBO industries can utilize only 4.50 Lac mt of Rice Bran. It should be noted; here that possibility of obtaining rice bran is 36 lac mt. but it depends on processing produced paddy fully by semi auto or auto rice mill. From this about 29 lac mt. of DORB is obtain. Most of the bran is imported from India at high price. But Bangladesh exported rice barn at lower price. In this connection Government impose 10% duty on export in the year 2014-25. This export duty can be further increased.

Semi and Auto Rice Mill provides Rice Bran. Therefore, it is necessary to convert the manual rice mill to Semi (Installed Rubber Roll Hullar in place of Angle Burg Hullar) or Auto Rice Mill.

Shifted of Rice Bran is hampered due to the scattered location of rice mill in the country. It may take six or seven days to reach the bran to oil industry. More time preservation of bran leads to produce more Free Fatty Acid (FFA). Oil industry preserved this in open air at the mill. Consequently, Free Fatty Acid (FFA) is produced. Therefore, quality of bran would be deteriorated. FFA should not be more than 3% in edible oil and not more than 8% FFA in crude oil. Import price of Rice Bran Oil is more than that of export by Bangladesh. But it is not needed to export the Rice Bran Oil. Because it is sufficient if this oil can meet the most of demand for edible oil.

Under utilization of capacity leads to the increase the cost for producing Rice Bran Oil. Consequently, price of Rice Bran Oil is more than that of other edible oil. In this case awareness for using the Rice Bran Oil can create demand of this oil. If demands increases than it would be possible to increase the production of this oil by producer. More utilization of capacity can reduce the cost for producing this oil and there by price can also be decrease. It is observed that manufacturer provide more benefit to the retailer for making demand of the product. It is known that adulterated Rice Bran Oil is marketed. Adulterated has been made by mixing mustard oil with Rice Bran Oil. This should be looked by BSTI.

Bangladesh Rice Bran Oil Mills Association (BRBOMA) provided information that there are fifteen RBO industries are established now. But in accordance with BSTI eight are registered there. BSTI only consider the quality of the product. List of the BRBOMA shows that out of fifteen only seven are registered with BSTI. Permission to set up industry provided by BOI. On the other hand, in accordance with RJSCF there are ten (10) companies have been registered with them. Therefore, it is needed to make coordination between these organizations.

To ensure the rapid industrialization and long lasting investment, separate investment incentive will be provided to prioritized sector and subsectors suitable for present days. It is mentioned in the industrial policy that necessary action will be taken by NBR, BOI and Bangladesh Bank. Therefore, it is necessary to include this industry at annex after mustard oil manufacturing industry in industrial policy. It is mentioned in the Bangladesh Bank circular that 20% subsidy would be provided to export of processed agricultural goods. If, this is included in industrial policy, then they may be received the subsidy from the government.

ERP on producing the RBO is low and DRC is also low. Therefore, it can be said that industry is efficient. Besides, due to under utilization cost become high and thereby price of RBO is more than that of other edible oil. It is known that some chemicals are used in refining the crude rice bran oil. Tariff rate on these chemicals are 5% to 10%. Manufacturers inform that they purchase this chemical at high price from market. Therefore, it is needed to encourage them to import chemicals directly through lowering tariff rate on Hexane (HS Code: 2901.10.00), Carbon (HS Code: 3802.10.00) and Phosphoric Acid (HS Code: 2809.20.00).

5.2 FINDINGS

- Increase production of paddy increase the availability of bran and full utilization bran can lead to increase RBO production.
- 16.46% of paddy is utilized for obtaining bran to produce Rice Bran Oil.
- Multi uses of by-Product.
- Export possibility of Crude Rice Bran Oil.

- Custom Tariff Schedule does not closing HS Code clearly define Crude Oil and Refined Rice Bran oil.
- Lack of Customer awareness.
- High Bank Interest
- MRP is higher than other Edible Oil
- Weak Branding.
- A significant number of technical people are foreigners
- Shortage of Technical Personnel
- Most of the machineries are imported from India.
- No coordination between BSTI, BOI, RJSCF and BRBOMA
- Present capacity of RBO 2.58 lac MT New industry can be permitted on the condition that manual rice mill will have to be converted to semi or auto rice mill.
- High Tariff on chemicals has been imposed and used by manufacturers.

5.4 RECOMMENDATIONS

1. Effort can be made to conversion the manual rice mill to semi-auto (Installed rubber role huller mill instead of angle brug huller mill) and auto rice mill;
2. Include Rice Bran Oil in Govt. Rationing System;
3. To ensure the obtained rice bran should be utilized fully;
5. To take initiative to aware the consumers about the RBO to increase demand;
6. To examine the quality of the RBO;
7. Effort can be made to ensure the maximum utilization of the production capacity and thereby decrease of cost for producing rice bran oil;
8. Initiative to train the person technically in RBO production so that foreigner can be replaced by them;
9. Initiative can be taken to develop infrastructure;
10. NBR can take to step to reduce the tariff on Hexane(HS code: 2901.20.00)Carbon (HS Code: 3802.10.00) and phosphoric (HS Code: 2809.20.00);
11. NBR can take Step to separate HS Code for RBO and CRBO;
12. To include Rice Bran Oil into the annex in respect of agriculture processing industry after mustered oil in industrial policy;
13. Facilities provided by Government should be extended to the district where no RBO industry is established till now;
14. BSTI should fixed the standard of RBO and accordingly look after the quality of RBO;
15. Initiative can be taken by the manufacturer to increase the demand by advertisement to aware consumer and fix up reasonable price;
16. Board of Investment must consider the production capacity before permit the new industry to be established ;
17. Encourage owner of poultry and fish feed industry to use of DORB instead of Rice Bran;
18. Manufacturer take initiative to create strong brand image;
19. Special emphasize should be given to develop this sector.

6. CONCLUSION

Availability of rice bran depends on quantity of paddy production. With the increase of production of paddy, availability of rice bran increases. But not only depends on paddy production, it also depends on the rice mill. If all rice mill in the country is semi auto or auto than those mill can provided the quantity of Rice Bran of 7% of paddy. Therefore, effort should be made to convert manual rice mill to semi auto or auto rice mill. Because, this rice bran can be able to meet about 15% of the demand at present and 30% of the demand in 2021 thereby save

the foreign exchange. Free Fatty Acid on rice bran leads to lowering quality. This should be removed. This can be done by lowering the time of preservation of rice bran. Due to the scattered location of rice mill it takes about seven days to reach the rice bran to oil mill. Present production capacity of the industry is 2.58 Lac MT. But due to dearth of Rice Bran, they can only produce about 0.898 Lac Mt of RBO. They are able to utilize only 35% of the production capacity. In order to utilize full capacity, they require 13 Lac MT of Rice Bran. Considering the importance of rice bran oil Government provide different incentive to the producer of rice bran oil. If all the problems related to the producing of rice bran oil can be solved, than it can save foreign exchange through reducing the import of crude edible oil. Hence Rice Bran Oil industry can play a very important role in the economic development of the country.

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Problems and Prospects of IT and IT Enabled Services Outsourcing in Bangladesh

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Abstract

IT and IT Enabled Services Outsourcing in Bangladesh is a comparatively new business sector in Bangladesh. IT Enabled Services (ITES) is a sector of Information Technology (IT) Industry. ITES means production and delivery of services involving IT. In broad category, Major IT Enabled Services include Web, Mobile & Software Development, IT & Networking, Data Science & Analytics, Engineering & Architecture, Design & Creative, Writing, Translation, Legal, Admin Support, Customer Services, Sales & Marketing, Accounting & Consulting etc. The term "outsourcing" dates back to at least 1981. Outsourcing means a practice to reduce costs by transferring portions of work to outside suppliers. Sometimes outsourcing involves transferring employees and assets from one firm to another. In Bangladesh, Graphics design, Website development, Product development, Mobile application development, Software development, Back office administrative work, 2D/3D animation, Desktop publications, Call centers are prominent IT/ITES services outsourced from Bangladesh to many foreign countries. The core strength of Bangladesh in outsourcing these services is the people or workforce. The educated, trainable and young workforce creates Bangladesh as lucrative places through acquiring the necessary skill sets to compete in the global scenario. On the other hand the government of Bangladesh has declared the ICT sector as 'thrust' sector. In this context, Bangladesh Tariff Commission has undertaken the study on "Problems and Prospects of IT and IT Enabled Services Outsourcing in Bangladesh".

1. INTRODUCTION

1.1 BACKGROUND

The term "outsourcing" dates back to at least 1981. Outsourcing means a practice to reduce costs by transferring portions of work to outside suppliers. Sometimes outsourcing involves transferring employees and assets from one firm to another. IT Enabled Services (ITES) is a sector of Information Technology (IT) Industry. ITES means production and delivery of services involving IT. In broad category, Major IT Enabled Services include Web, Mobile & Software Development, IT & Networking, Data Science & Analytics, Engineering & Architecture, Design & Creative, Writing, Translation, Legal, Admin Support, Customer Services, Sales & Marketing, and Accounting & Consulting etc. All these category are not outsourced from Bangladesh. Graphics design, Website development, Product development, Mobile application development, Software development, Back office administrative work, 2D/3D animation, Desktop publications, Call centers are prominent IT/ITES services have been outsourced from Bangladesh to many foreign countries.

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IT and IT Enabled Services Outsourcing in Bangladesh is a comparatively new business sectors in Bangladesh. A rapid growth in this sector has been witnessed over the last few years. This happens due to the result of the steady growth of global IT outsourcing industry. The global economic crisis has led to shrinking IT budgets for corporate industries. Though there has been a continual growth in demand for global sourcing of IT services, with cost optimization being the primary driver for such urge. The increasing cost pressures, with new service delivery paradigms like cloud computing and multiple sourcing, is set to transform the outsourcing industry globally. In this circumstance the ICT sector, as a whole, shows a gradual growth in Bangladesh where the hardware segment dominates the market share (65 per cent) while the relatively late entrant, software segments command about 15 per cent of the total market. The ITES segment (15 per cent) and Internet and Network Services (5 percent) make up the remaining part of the market. According to Bangladesh Bank sources, export earnings from Software and ITES was USD 27.01 million in 2005-06, registering a growth of 113 per cent from the previous year. Software companies in Bangladesh concentrate on the IT/ITES needs of the local leading sectors like Garments, Banks and Government. At the same time, leveraging the global nature of the IT business the local entrepreneurs are always looking for international opportunities. In this circumstances Bangladesh now has become one of the most potential outsourcing destinations in the world.

The core strength of Bangladesh in outsourcing these services is the skilled workforce. The educated, trainable and young workforce creates Bangladesh as lucrative places through acquiring the necessary skill sets to compete in the global scenario. On the other hand the government of Bangladesh has declared the ICT sector as ‘thrust sector’. The creation of a separate Ministry for ICT (Ministry of Science and Information & Communication Technology), formulating favorable laws and initiating government IT projects are encouraging steps for the local/international investors in the Bangladesh ICT industry. In addition to the policy development, the government is keeping close interactions with various industry associations like BASIS, BCS, BCC and ISPAB are some of the apex bodies working for the improvement of the ICT industry in Bangladesh. No doubt all these initiatives in together generate and develop a more friendly environment to explore the existing potential of IT and IT Enabled Services Outsourcing in Bangladesh.

In this context Bangladesh Tariff Commission has decided to conduct a comprehensive study on “Problems and Prospects of IT and IT Enabled Services Outsourcing in Bangladesh” keeping in mind the importance of its impact in the socio-economic development of Bangladesh.

1.2 OBJECTIVES OF THE STUDY

Considering the existing scenario described above, the overall objectives of the present study was- to evaluate present status and trends, to analysis related Acts, Rules and Policies, to explore potentials and export opportunities, to assess possibility of employment generation, to identify constraints and opportunities, to prepare policy recommendations

1.3 METHODOLOGY

The Study started with review of existing literature. Primary data was collected from 25 IT/ITES firms through structured questionnaire which was finalized by a workshop. Besides, Primary data was collected from 15 freelancers by another questionnaire. (See annex 1 and annex 2 for details of two questionnaires). Interviews of 5 freelancers and 5 IT/ITES entrepreneurs were taken. Discussion meetings were constituted with BASIS, Bangladesh Bank, Bureau of Statistics, Dhaka Chamber of Commerce and Industries and some other firms. Secondary Data were taken from published articles, journals, legal & policy related papers, different sources database of

BASIS, BBS, NBR, EPB etc. Tabular and Graphical analyses were made in order to reach the findings and make recommendations accordingly.

1.4 LIMITATION OF THE STUDY

During the whole period of the study the researchers had to face a few challenges. The most important limitation is the unavailability of complete national statistics. Different statistics have been found from different sources. There is also dissimilarity in those statistics due to the use of different methodology of collecting data. Needless to say that there is no single source for collecting those statistics. Several attempts were made to collect those data and information from different sources but all attempts were in vain. To overcome this limitation, different sources are used. Therefore, there may be some discrepancy in those statistics. Another important limitation was limited budget for the study. Due to budget constraint the study team had to recruit only three data collectors. It was not possible for them to cover all the districts of Bangladesh for collecting data. Within three months the team had to complete this study which was another limitation. For this time constraint the team had to reduce the sample size of data collection. Reluctance of providing financial statement from the entrepreneurs was also a limitation.

2. REVIEW OF LITERATURE

There are different types of studies, reports and analysis about IT and ITES services as well as outsourcing in Bangladesh. These studies with different agenda and perspective revealed outsourcing as a potential area for Bangladesh to explore. These studies cover issues like global trend of outsourcing, position of Bangladesh in this market, existing potential and threats for Bangladesh etc. These papers basically provide with a strong background to understand this sector for an in depth analysis for policy recommendation to government.

2.1 OUTSOURCING AT A GLANCE

The back office business service evolved over the passage of time which is deeply integrated with three basic trends: off shoring, outsourcing and automation. Outsourcing refers to back office operation performed by a third country under a contractual arrangement. Geographical difference and distance is minimized through the development of technology and communication. There are different terminological explanations of outsourcing. “Outsourcing can be described as the contracting out of the company’s major functions and activities to an external service or goods provider.”¹ Besides outsourcing can also be defined as “transferring various operations to outside suppliers rather than completing them internally. Outsourcing can be done in both domestic and foreign markets and always involves a third party.”² When it comes to the term of IT and ITES outsourcing it basically indicates to outsourcing of processes that can be enabled with information technology and covers diverse areas like finance, Human Resources, administration, health care, telecommunication, manufacturing etc. With the support of technology and manpower, these services are provided from e-enabled locations. This radically reduces costs and improves service standards. According to Gartner “IT outsourcing (as a part of an outsourcing definition) is the use of external service providers to effectively deliver IT-enabled business process, application service and infrastructure solutions for business outcomes. Outsourcing, also includes utility services, software as a service and cloud-enabled outsourcing, helps clients to develop the right sourcing strategies and vision, select the right IT service providers, structure the best possible contracts, and govern deals for sustainable win-win relationships with external providers. Outsourcing can enable enterprises to reduce costs,

¹ Pankaj M. Madhani, “Global Hub: IT and ITES Outsourcing”,
http://www.researchgate.net/publication/228234326_Global_Hub_IT_and_ITES_Outsourcing
² “ICT Sector Study Bangladesh: Bridging the Gap between Dutch and Bangladeshi ICT Sector” available at
<http://www.basis.org.bd/resource/ICT%20Sector%20Study%20Bangladesh.pdf>

accelerate time to market, and take advantage of external expertise, assets and/or intellectual property.”³

2.2 GLOBAL TREND OF IT OUTSOURCING INDUSTRY

Global IT outsourcing industry shows a steady and sharp growth in the last decade. The mostly mentioned reason in existing and available literature is the technological development, cost optimization as well as strong base of young people. As mentioned by the International Trade Center “the current global economic crisis has led to shrinking IT budgets for corporate, but there has been a continual growth in demand for global sourcing of IT services, with cost optimization being the primary driver for off shoring services. The increasing cost pressures, with new service delivery paradigms like cloud computing and multiple sourcing, is set to transform the outsourcing industry globally.”⁴ The similar growth trend is found in the report of Gartner. According to Gartner “the IT outsourcing market is forecast to grow by 5.2% (5.5% in constant currency) in 2014. We forecast spending to grow by a 5.9% compound annual growth rate from 2013 through 2018”.⁵

2.3 STATUS OF BANGLADESH

Different types of outsourcing services have been provided worldwide in IT and IT Enabled services category. According to Business Promotion Council, among those different categories “Bangladesh exports and provides the services mentioned below:

- Multimedia products development
- Digital Brochure & Digital Magazine
- 2D/3D Presentation and Animation
- Audio and Video Editing
- Cartoon Animation
- Customized Database Application
- Enterprise Resource Solutions
- Legacy Application development
- Banking and Financial Solutions
- Device Driver development
- Smart Card Solutions
- Web Programming
- Web Content Writing
- Web update & related services
- Pre-press Graphics Design
- CAD/GIS Services
- Architectural Design
- Data Entry services
- Medical transcription processing (All types)
- Bank Officer Services or Call centre services”⁶

Bangladesh has the prospect and potential of becoming a leading outsourcing destination due to cost competitiveness and scope for capacity development. There are different reports and studies regarding the status of Bangladesh in the existing outsourcing market where IT and ITES is considered as a potential sector for Bangladesh to be explored.

³ Gartner IT Glossary at <http://www.gartner.com/it-glossary/it-outsourcing>

⁴ “Bangladesh Beckons-An Emerging Destination For IT/ITeS Outsourcing”;2012; at: <http://www.intracen.org/news/New-report-Bangladesh-beckons---an-emerging-destination-for-ITITeS-outsourcing/>

⁵ “Forecast Analysis: IT Outsourcing, Worldwide, 1Q14 Update” at <https://www.gartner.com/doc/2707918/forecast-analysis-it-outsourcing-worldwide>

⁶ “Why Bangladesh” , Business Promotion Council at http://bpc.org.bd/ibpc_whybd.php

In Crain's New York Business, a front page article titled "Outsourcing Moves to Bangladesh" discusses how Bangladesh is a rising star in the international economy with industrial analysts from Goldman Sachs to Cisco Systems predicting that it has high potential to follow in the successful economic steps of the giant next door- India. According to this article "as wages and other costs in India continue to escalate at rates as high as 15% a year, more New York companies are going next door to Bangladesh."⁷ The reasons behind it were identified as: relatively high number of educated, skilled workers who speak English, work long hours and can design a lucrative web page.

Over recent years, Bangladesh has made major pace in laying the groundwork for a successful and potential outsourcing market. The IT services industry within Bangladesh has been growing serving international clients and domestic clients in the banking and telecom sectors. The industry "now employs over 20,000 people, and is exporting services to European, North American and East Asian clients. Bangladesh's emerging outsourcing players already have strong credentials."⁸ For outsourcing purpose oDesk and eLance remains as the mostly used work location in Bangladesh. According to the KPMG report (2012):

- Bangladesh offers a group of young, skilled and English speaking human resources at a comparatively lower cost. Considering the existing global outsourcing market Bangladesh is a lucrative option to be chosen as it offers a group of human resources at costs almost 40% lower than established destinations like India and Philippines.
- Government has demonstrated and expressed a determination to promote IT services industry in the country. Different initiatives like –cheaper bandwidth and alternate international cables, establishing Technology parks and providing tax holidays for export oriented industries- are taken to encourage this sector.
- The "Digital Bangladesh" initiative of the government is helping setup infrastructure for enhanced connectivity, ICT based citizen service delivery and ICT based education system.
- Different prominent global players like Samsung, AMD, VizRT, WorldBridge Global starting to operate in Bangladesh which creates opportunity for the young human resources to be familiar with the international standard.

As an emerging Information Technology (IT) and Information Technology Enabled Services (ITES) outsourcing destination, Bangladesh endorsed by international renowned bodies like Goldman Sachs, JP Morgan, Gartner etc. The main reason is that Bangladesh offers lower cost than that of India and the Philippines an additional advantage, is that a pool of 7 million human resources who are able to speak in English as a second language. According to Md. Mahfuzul Quader (2013) the major reasons to choose Bangladesh as a prime exporter of outsourcing of IT and ITES are low labor cost and commercial rent. "Bangladesh has a competitive advantage compared to some of the leading outsourcing countries like the Philippines, India, Brazil, China, Russia etc. As per KPMG Pay Scale Analysis report, the entry level IT personnel average salary is over 50% cheaper than that of other Asia-Pacific countries like India, the Philippines, Malaysia, Sri Lanka, Thailand and Vietnam etc. Moreover, the salary is even cheaper by 75% to 80% than that of Eastern European countries like Poland, Hungary, Russia, Ukraine, Czech, Romania and Latin American countries like Brazil, Chile, Mexico etc. Most importantly, the average inflation rate in Bangladesh has been ranging from 6% to 8% for

⁷Samantha Marshall, "Outsourcing moves to Bangladesh" ;December 16, 2007 available at <http://www.crainnewyork.com/article/20071216/SUB/312160001/outsourcing-moves-to-bangladesh>

⁸"Bangladesh Beckons - An Emerging Destination For IT/ITeS Outsourcing"(2012); at: <http://www.intracen.org/news/New-report-Bangladesh-beckons---an-emerging-destination-for-ITITeS-outsourcing/>

the last decade which is quite steady in nature”⁹. Besides “the infrastructure cost which is an important factor prior to setting up any business also gives Bangladesh an advantage. Most of the IT firms are based in the capital city Dhaka where rental cost is relatively higher than other parts of the country. But still the commercial rental in business zone, like Motijheel, Gulshan, Banani etc., is cheaper than that of Delhi by 20% and Manila by 40% (Source: Crushman & Wakefield Research, 2011). It is reported that some IT firms already decentralized their setup at surroundings of Dhaka city to optimize their operation cost even more”¹⁰.

The Business Promotion Council (BPC), Bangladesh depicts the situation in a little bit different way. According to BPC Bangladesh is on the course to prove itself in the growing IT sectors all over the world. A large part of IT graduates prove them in different multinational workplace. Over 10,000 IT professional from Bangladesh are working successfully in various IT companies in USA including Microsoft, Intel, IBM, Sun, Oracle, Texas Instruments, Cisco, Nortel and Lucent-to name a few. A large part of these IT graduates also possess global IT vendor certifications (e.g. from Microsoft, Cisco Oracle, Sun) on top of their academic degrees. In this situation the large pool of younger people with productive age group between 16 to 35 years create demographic dividend for Bangladesh. Because:

- These people “traditionally have higher mathematical aptitude and superior logical & analytical abilities.”¹¹
- This group of people has opportunities to develop expertise and knowledge in IT related field through universities, colleges, institutes and training centers providing IT related education. Different educational institutions in Bangladesh now provide specialized IT education at the graduation and post graduation levels. Beside there are about 300 training/education centers that provide IT technology and technique, which contribute to develop human resources for software and ITES industries in Bangladesh. “Bangladesh now confers academic degrees including postgraduate and doctoral degrees in the ICT subjects in more than 100 institutions including universities, colleges and institutes. According to the Ministry of Education, there are 73 universities in Bangladesh and more than 60 universities offer IT-related courses. These universities, colleges and institutes yearly produce more than 6,000 graduates major in IT related fields. About 2,500 among them are students who majored in computer science or software engineering.”¹²
- These people have the option to better utilize the Government initiatives of building an ICT-driven nation and knowledge-based society.

Internet speed, cost of internet connection, inadequate talent pool or skilled manpower compared to other market competitors(India, Phillipines), problem of money transaction, infrastructural problem, inadequate language skill etc are the in general impediments in this sector as observed from the available literatures. According to the Netherlands Trust Fund Phase II team “For all the progress that has been made, this report illustrates some of the key challenges that still lie ahead. Many domestic business leaders recognize that the Bangladeshi outsourcing industry could better market its strengths to the international community.”¹³ According to this report there are still areas need proper considerations. Threats like negative perception about Bangladesh, inadequate/ absence of holistic approach towards promoting the IT/ITES industry –

⁹ Md Mahfuzul Quader, “Why Bangladesh is right choice for IT outsourcing”; Financial Express; 31 October 2013

¹⁰ ibid

¹¹ “Why Bangladesh” , Business Promotion Council at http://bpc.org.bd/ibpc_whybd.php

¹² ibid

¹³ “Bangladesh Beckons - An Emerging Destination For IT/ITES Outsourcing” by Netherlands Trust Fund Phase II team at: <http://www.intracen.org/news/New-report-Bangladesh-beckons---an-emerging-destination-for-ITITES-outsourcing/>

including investment climate, taxation, remittances, legal framework and flexible working hours, challenging economic conditions need to be addressed properly.

The study of Miller and Atkinson (2014) identified high tax as a major challenge for this sector. “Of the 125 countries examined in this report, over 10 percent have raised ICT taxes and tariffs to very high levels. Bangladesh has drastically inflated the price of ICT goods and services, adding close to 60 percent to their cost above the basic price. Turkey and the Congo add around 25 percent to the price.”¹⁴

According to BASIS survey, there are over 800 registered software and ITES (IT Enabled Service) companies in Bangladesh. There are another few hundred of unregistered small and home-based software and IT ventures doing business for both local and international markets.

2.4 INSTITUTIONAL AND REGULATORY FRAMEWORK

2.4.1 GATS PERSPECTIVE

Trade in Services refers to the sale and delivery of an intangible product, called a service, between a producer and consumer. Trade in services takes place between a producer and consumer that are, in legal terms, based in different countries, or economies, this is called International Trade in Services. Since 90s trade in services came under the auspices of WTO as a tradable area like goods. The General Agreement on Trade in Services (GATS) came into effect as an outcome of the Uruguay Round of trade negotiations from 1986 to 1993. The major objective was to ensure transparency of relevant rules and regulations as well as to secure and promote a progressive liberalization of this sector. In the way to do so the WTO members have identified 12 core service sectors which are further subdivided into a total of 160 sub sectors. The sectoral coverage of the IT-ITES industry maintains a major coverage under Other professional, technical and business service (CPC 83).

2.4.2 REGULATORY BODIES IN BANGLADESH

The responsibilities for ICT activities are fragmented across three ministries: Ministry of Post and Telecommunications (MoPT), Ministry of Science and Information & Communication Technology (MoSICT) and Ministry of Information (MoI). MoPT is responsible for telecommunication infrastructure; MoSICT through its ICT Division (ICTD) is responsible for e-Government and IT/ITES business promotion while MoI is responsible for Broadcasting. ICTD conducts its activities through its 3 organizations: Bangladesh Computer Council (BCC), Office of the Controller of the Certifying Authority and High Tech Park Authority. The country's lone ICT Incubator is operating at Karwan Bazar and the 12 storied building Janata Tower is now being renovated to establish the IT/ITES Technology Park in Karwan Bazar. The ICT Division through High Tech Park Authority is in the process of appointing Park Operator for the Kaliakoir High Tech Park and has also initiated the process of acquiring lands outside Dhaka for the establishment of IT/ITES Technology Parks. Various e-governance implementations are now being implemented by Access to Information Program (A2I) under Prime Minister's Office and Bangladesh Computer Council (BCC) under ICT Division. Bangladesh Computer Council (BCC) is a statutory body under the Ministry of Information & Communication Technology, Government of Bangladesh for encouraging and providing support for ICT related activities in Bangladesh. It is established by Act No IX of 1990 passed by the Parliament. Though

¹⁴ Ben Miller And Robert D. Atkinson ; “Digital Drag: Ranking 125 Nations by Taxes and Tariffs on ICT Goods and Services” , October , 2014 at <http://www2.itif.org/2014-ict-taxes-tariffs.pdf>

lack of coordination among various agencies in implementation of ICT project is one of the challenges but the situation is improving. Ministry of Local Government and Rural Development, Bangladesh Computer Council and A2I Program have successfully implemented 4501 Union Information Service Centers and more collaboration at various levels is taking place. Another ICT village is being planned to be implemented, at Mohakhali of the Capital City of Dhaka with the public-private partnership. More ICT villages and Special Economic Zones are also planned. One of the proposed ICT villages is to be located at Khulna, which is a divisional city in the western part of the country.

2.4.3 GOVERNMENT INITIATIVES, POLICIES, ACTS AND PROGRAMS

2.4.3.1 STRATEGIC PRIORITIES OF DIGITAL BANGLADESH

Digital Bangladesh is a concept which refers to the use of Information Technology for management, administration and governance to ensure transparency, accountability and answerability at all levels of society and state. It is an integral part of the government's Vision 2021 promising a prosperous and equitable middle-income Bangladesh. In the Background paper for the 7th Five Year Plan (7FYP) it is mentioned "The Digital Bangladesh vision, arguably, runs parallel to the Information Society vision advocated by the World Summit on Information Society (WSIS). The Honorable Finance Minister of Bangladesh elaborated on the concept in his budget 2009-10 speech as a socio-economic transformation process, enabled by information and communication technologies (ICTs). In the same year, the Honorable Prime Minister outlined the Digital Bangladesh having four key priorities – (a) developing human resources ready for the 21st century; (b) connecting citizens in ways most meaningful to them; (c) taking services to citizens' doorsteps; and, (d) making the private sector and market more productive and competitive through the use of digital technology. Hence, it was only natural that the 6th Five Year Plan (6FYP) places an equal importance to Digital Bangladesh as part of the nation's development strategy."¹⁵

In this connection Govt. has taken important strides in utilizing technology to bring in tangible transformation in all four areas mentioned by the Prime Minister. There has already been made some progress in bringing government services to the doorsteps of citizen. Several acts, policies and guidelines are in place, some are more robust than the others, which is guiding the nation towards the realization of Digital Bangladesh (see box 1). Two of the documents, the ICT Policy 2009 and the 'Strategic Priorities for Digital Bangladesh' (A2I, 2011) also contain elaborate work plans. Because of the cross-cutting nature of the vision, these work plans encompass priorities in almost all development sectors. Hence, the 7th Five Year Plan (7FYP) needs to consult and align with those—at the same time, it also needs to identify scope for revising those documents in light of changes in the national priorities set in the 6FYP as stated in that report.

This report recognizes the potential of Bangladesh in outsourcing through mentioning about the outsourcing index by AT Kearney. According to this report though AT Kearney ranked Bangladesh between 60-70 and it has the potential to be within 20-30. It needs to develop the confidence of client and investor as Bangladesh has untapped human capital to capture. Business process outsourcing has the potential to generate and create new job opportunities for educated youth. It recognized that the export market is critical through mentioning as follows:

“For success in export, market access is very critical. There are number of competent and capable companies in the country who have not been so far achieved to their potential

¹⁵ ACHIEVING DIGITAL BANGLADESH BY 2021 AND BEYOND, Background paper for the 7th Five Year Plan (7FYP)

because of the lack in market linkage. Since Bangladesh is still not regarded as a major software/IT service exporting countries (like India), the buyers worldwide are still not proactively looking (like in the Garments Industry where buyers find out suppliers from Bangladesh) for competent service providers from Bangladesh. It is interesting to note that none of the globally reputed outsourcing/off-shoring index/ranking list Bangladesh as a potential IT outsourcing countries while some countries which have much less favorable conditions (in HR, Infrastructure, or business climate etc.) are listed.....However, in the coming years, if Bangladesh can rightly brand itself and arrange target market specific business linkage programs, there are possibilities that buyers will seriously look at Bangladesh as an outsourcing option. This is because the costs in other major outsourcing destinations (India and China) are getting very high. Also, there are not many countries in the world today that have the demographic and functional advantage of having a large pool of educated and trainable youth who, if groomed properly, can offer the unique combination of IT skill and English Language skill at a very competitive rate. For North American and a number of European countries (where English is either first or second language), this is quite an attractive proposition.”

In this situation to capture the market of outsourcing through potential utilization of resources it demands government initiatives and measures to develop and increase country branding. To increase the country branding of Bangladesh different types of initiatives are suggested. It includes policy initiative like the plan for a 10 year master plan by the Ministry of Commerce/ Ministry of Science and ICT in collaboration with all ICT-related business associations. Besides action plan for brand image creation includes consciousness generation through road shows, and targeted marketing efforts.

2.4.3.2 ICT ACT 2006 AS WELL AS ICT ACT 2013(AMENDMENT)

The summary of the Bangladesh Information and Communication Technology Act 2006 can be seen in the following:

The ICT Law of Bangladesh styled "Information and Communication Technology Act, 2006" provides or Digital Certificates to be used for signing of Documents. The law provided setting up of the Controller of Certifying Authorities and the licensing of the Certifying Authorities. The procedures to be followed by Certifying Authorities are provided for in the ICT Law. The legal enforcement and the appropriate jurisdiction is given in the Act. There is provision for constitution of special tribunal for handling litigation in this domain. The validity of the Digital Certificates is apportioned by this law. The Rules under the Act pertaining to Certifying Authorities have been framed and are known as "Information Technology(Certifying Authorities) Rules, 2010". This provides guidelines, advice and information about the factors which the CCA will take into account in its operation and the functioning of the Certifying Authorities. The ICT law provides legal recognition to electronic documents and a framework to support e-filing, e-commerce and m-commerce transactions and also provides a legal framework to mitigate, check cyber-crimes.

The Trust Chain for the public key infrastructure is facilitated by the ICT Act. The Law allows for the setting up of digital certificate infrastructure and its control by the Controller of Certifying Authorities (CCA) including conducting audits.

The ICT law has been formulated to support the development of information and communication technologies in Bangladesh. It is intended to facilitate the application of information and communication technologies for building information society.

Where the information contained in a document is declared by law to be confidential, confidentiality must be protected by means appropriate to the mode of transmission, including on a communication network. Documentation explaining the agreed mode of transmission,

including the means used to protect the confidentiality of the transmitted document as evidence.

The Act was enacted to establish a legal validity and security for information and communication technology and for formulation of Rules in this regard.

The purpose of this Act is to guarantee the legal security of documentary communications between persons, partnerships and the State, regardless of the medium used ; the consistency of legal rules and their application to documentary communications using media based on information technology, whether electronic, magnetic, optical, wireless or other, or based on a combination of technologies; the functional equivalence and legal value of documents, regardless of the medium used, and the interchangeability of media and technologies; the linking of a person, a partnership or the State with a technology-based document, by allowing them to be identified by certification; and for the harmonization of the technical systems, norms and standards involved by means of technology-based documents and interoperability between different media and information technologies.

The Ministry of Information and Communication Technology, Government of the People's Republic of Bangladesh is charged with the administration of this Act. There have been two amendments to the Information and Communication Technology Act, 2006 namely ICT ACT 2008 (amendment) and ICT ACT 2009 (amendment).

Source: <http://www.dohatec-ca.com.bd/DohatecCA/ICTAct.jsp>

Usage of ICT in e-transactions, e-commerce and e-procurement have been made possible through the amended ICT Act 2009 (amendment) which has applied the provision for digital signature certificate through appointing the 6 certified Controller of Certifying Authority, (CCAP) organizations. 3 CAs have developed the capacity to provide digital signature certificates to government and private organizations and individuals. Nothing specific about outsourcing is mentioned in this act.

2.4.3.3 NATIONAL ICT POLICY 2009

There are ten Strategic Themes mentioned under the National ICT Policy 2009. These are: social equity; productivity; integrity; education and research; employment generation; strengthening export; healthcare; universal access; environment, climate and disaster management; support to ICTs. It is well recognized that Bangladesh has potential to explore the outsourcing of ICT. In this context the issue of image generation as well as branding of Bangladesh remains one of the priorities. Considering all these for strengthening export the strategies are:

- Strong and well planned initiatives for marketing and branding of ICT products and services from Bangladesh;
- Ensure secure source of finance for potential software and IT companies;
- Develop and secure ICT infrastructure;
- Develop industry friendly policies and facilitate necessary environment as well as securing special facilities to increase export;
- Facilitate inventiveness through research and development regarding the development of the quality of information technology, process, technology, workplace, value chain and niche market

The cabinet on February 2015 approved the draft of the 'National Information and Communication Technology (ICT) Policy-2015'. This policy has been updated in line with the ICT Policy-2009 and has been revised in consultation with the stakeholders. It was aimed to develop and promote ICT sector to ensure its effective use to achieve development goals. The policy covers ten special objectives, 56 strategic themes and 306 action programmes which will

be implemented by different organizations under short, medium and long term timeframe by 2016, 2018 and 2021. It can be expected that this policy would be a guideline for ICT sector to ensure comprehensive and effective use of ICT, transparency, accountability, human resources development through materializing national development goals by 2021.

2.4.3.4 SIXTH FIVE YEAR PLAN (SFYP-2010-2015)

Government recognized the high export potential of software and ICT products. ICT is mentioned as thrust sector based on its performance and potential. The major targets of the ICT sector in the Sixth Five Year Plan will be broadly as follows:

- Expansion of infrastructure facilities for development of ICT sector for transforming the country into Digital Bangladesh.
- Development of ICT skills in public and private sectors for ensuring productivity and efficiency of the economy and using ICT for good governance.
- Ensure women participation in all professional trainings.
- Development of national network for establishing connectivity in all government offices and public key infrastructure for electronic transactions.
- Encouragement of IT enabled services and establishment of ICT incubator, Software Technology Park and IT Village in suitable locations of the country.

The main policies and actions to be taken for achieving the ICT targets in SFYP will be as follows:

- Increasing public sector allocation for the advancement of ICT in Bangladesh.
- Developing ICT infrastructure facilities and expansion of connectivity even to the remote places of Bangladesh.
- Transforming traditional file-based administrative work in the public sector into e-government/ digital government for better and efficient services to the people.
- Expanding education in ICT to cover at least 80 percent of enrolment at secondary and higher secondary levels and 60 percent at graduate levels.
- Training would be women friendly and less expensive.
- Training of ICT personnel in selected fields at post graduate levels on a massive scale.
- Effectively linking entrepreneurs within the country with the available ICT both at home and abroad through a national network.
- Exposing the country as a whole to the process of change and progress at the frontiers of production, development, knowledge and the market through ICT.
- Establishment of IT incubator, Software Park, IT village and community e-centre at suitable locations of the country.
- Assessing the need for focusing research in computer software development in the public and private sectors.

2.4.3.5 PERSPECTIVE PLAN 2010-2021

In keeping with the aspirations and with the spirit of the liberation war, the Government of Bangladesh prepared Vision 2021 where this nation needs to be in 2021 the year which marks the 50th anniversary of Bangladesh's independence. This "Perspective Plan of Bangladesh (2010-2021): Marking vision 2021 a Reality" is a strategic articulation of the development vision, mission, and goals of the Bangladesh Government in achieving a prosperous Sonar Bangla, a dream of the Father of the nation, Bangabandhu Sheikh Mujibur Rahman grounded in political and economic freedoms a reality in 2021. The Perspective Plan provides the road map for

accelerated growth and lays down broad approaches for eradication of poverty, inequality, and human deprivation. Specific strategies and the task of implementation will be articulated through the two five-year plan: Sixth Five Year Plan (2011-2015) and the Seventh Five Year Plan (2016-2020). The expectation is that by 2021, the war against poverty will have been won, the country will have crossed the middle income threshold, with the basic needs of the population ensured, and their basic rights respected, when everyone is adequately fed, clothed and housed, and have access to health care. And all this is achieved on a sustainable basis without damaging the environment. Furthermore, this progress will be ensured in an environment where every citizen has the opportunity fully and positively to contribute to the economy and society and equitably share the benefits from progresses achieved.

2.4.3.6 FOREIGN EXCHANGE RULES AND REGULATIONS OF IT/IT BASED OUTSOURCING IN BANGLADESH

Bangladesh Bank (BB) has made available an online payment service by the Online Payment Gateway Service Providers (OPGSPs) to facilitate receiving of small value service exporters' overseas payments, via the Bangladesh Bank online payment service. To do so Bangladesh Bank allows the Authorized Dealers to offer the facility of repatriation of remittances through standing arrangements with internationally recognized Online Payment Gateway Service Providers (OPGSPs). The OPGSPs such as Paypal, Money bookers, Best Payment Gateway and Virtual Pay act as online platforms through which the exporters will be able to receive their overseas payments. According to FE Circular No. 15 Date: August 07, 2011 (Repatriation of Export Proceeds Through Online Payment Gateway Service Providers) the online payment capability will be available only for service export in non-physical form which does not exceed USD 500. Therefore, the authorized dealers (ADs) will be able to offer the facility of repatriation of remittances against small value service exports in non-physical form such as data entry, data process, off-shore IT service, business process outsourcing through the OPGSPs. Through another circular titled FE Circular No .08, date August 07, 2012 the limit has been extended from USD 500 to USD 2,000. According to FE Circular No .08, date August 07, 2012 “.....to facilitate inward remittance against service export, it has been decided to raise the maximum limit per transaction from USD 500 to USD 2,000 for service export related payments received through OPGSPs.”

Bangladesh Bank has circular related to foreign exchange transaction for IT/Software firms. It has a limitation in financial transaction regarding utilization of balances held in Exporters Retention Quota (ERQ) accounts without prior approval of Bangladesh Bank. It allows the ADs to remit up to USD 10,000 on behalf of IT/ Software firms in a calendar year for bonafide business purposes such as business visits abroad, participation in export fairs and seminars, establishment and maintenance of offices abroad, import of raw materials, machineries and spares etc. without reference to Bangladesh Bank.

2.4.3.7 TAX STRUCTURE

National Board of Revenue has it's own service codes to impose tax. The tax structure comprises of Value Added Tax (VAT) and Supplementary duty as the Income Tax is exempted up to 2024. The details of tax structure is shown in the table below:

Table1: Tax structure in Bangladesh

Service Code	Service	VAT	SD	Comments
\$012.10	Telephone	15.0%	5.0%	Service provided Only through Mobile RIM & SIM Card
\$012.20	SIM Card Provider	15.0%	35.0%	
\$099.10	Information Technology Enabled Services	4.5%	0.0%	AT- 4.5% of 30% of total receipt by service provider
\$099.50	Online product & Service	4.0%	0.0%	4.0 of 26.67% of total receipt by service and provider
\$074.00	Rent of Place & Establishment	9.0%	0.0%	Exemption Withdrawn

Source: National Board of Revenue, June 2015

It is mentioned in the literature review that the study of Miller and Atkinson (2014) identified high tax as a major challenge for this sector in some Asian countries including Bangladesh. In his study he has claimed that Bangladesh has drastically inflated the price of ICT goods and services, adding close to 60 percent to their cost above the basic price. He has examined 125 countries in his report and showed that over 10 percent have raised ICT taxes and tariffs to very high levels. The following figure shows the comparison of tax structure in the Asia. Sadiq Ahmed, Vice Chairman of the Policy Research Institute of Bangladesh has also shown in his report Strengthening the ICT Revolution in Bangladesh “*China imposes the lowest taxation (3%) while Bangladesh the highest (an astounding 58%). The second highest taxation is in Turkey, at 26%. Taxes in 40 of the countries in the study are in the low range of 3-5% and taxes in the remaining others are mostly in the 5-20% range. In the global context, Bangladesh is clearly an outlier in the matter of high ICT taxation.*”¹⁶

3. OUTSOURCING AND FREELANCING

Outsourcing is practice used by different companies to reduce costs by transferring portions of work to outside suppliers rather than completing it internally. It is an effective cost-saving strategy when used properly. It is sometimes more affordable to purchase a good from companies with comparative advantages than it is to produce the good internally. An example of a manufacturing company outsourcing would be Dell buying some of its computer components from another manufacturer in order to save on production costs. Alternatively, businesses may decide to outsource book-keeping duties to independent accounting firms, as it may be cheaper than retaining an in-house accountant.

According to business dictionary freelance means working on a contract basis for a variety of companies, as opposed to working as an employee for a single company.¹⁷ On the other hand a freelancer or freelance worker is a term commonly used for a person who is self-employed and is not necessarily committed to a particular employer long-term.¹⁸ So a freelancer works as self-employed from anywhere using Internet. A freelancer works whenever she/he wishes without a long-term commitment. In this case clients are the whole world of freelancing. It is the best opportunity to utilize one’s talent. Robert Benchley rightly commented “*A freelance gets paid per word, per piece or perhaps.*”

Now-a-days many young Bangladeshis especially students from colleges and universities are earning from freelancing. According to the people engaged IT related industries freelancers might earn about \$100 million a year by 2020 working as a freelancer which is five times what the freelancers now earn from jobs outsourced by companies abroad. A young population base, coupled with advances in technology and good pay, is said to be the reason for more and more Bangladeshis taking the freelance route, and the flexible working hours is a bonus.

Due to high income and flexible working hours many people are interested in freelance work in the country. Inadequate opportunity for quality jobs, especially for young graduates, is another reason for the increasing popularity of freelance jobs. Freelance jobs includes software development, customer service, data entry, writing, editing, blogging, accounting, mobile apps development, web development, search engine optimization, graphic design and translations.

¹⁶ Strengthening the ICT Revolution in Bangladesh, Sadiq Ahmed, Vice Chairman, the Policy Research Institute, Bangladesh.

¹⁷ <http://www.businessdictionary.com/definition/freelance.html#ixzz3gP1obuZX>

¹⁸ <https://en.wikipedia.org/wiki/Freelancer>

According to the data from Elance-oDesk, businesses spent around \$930 million on hiring remote independent workers around the globe in 2014, up from \$750 million of 2013 which amount is expected to reach \$10 billion by 2020. In terms of earnings, Bangladesh is ranked 7th among 186 countries from where online jobs are outsourced. Currently, the country has around 5.5 lakh freelancers registered with different freelance marketplaces. Elance-oDesk has 4.5 lakh registered users in Bangladesh.

Recent statistics show that the number of registered users in the outsourcing market place freelancer.com is 16,087,399 and the number of projects is 8,106,884. It can be seen from the website (<https://www.freelancer.com/freelancers/>) that number of freelancers from all countries are 79,710 of them Bangladesh has 3802 while India 18004 and Philippines has - 2196 freelancers. Another most popular marketplace oDESK which has started new journey with Elance (<https://www.elance.com/>) shows that 102,016 Jobs has been posted in last 30 days \$1,541,623,177 earned through Elance to date. They have 325,400 Programmers, 44,500 Mobile Developers, 236,500 Designers, 368,600 Writers and 74,300 Marketers and the number is increasing tremendously in every seconds. According to their data it can be seen that they have 1,479,314 numbers of Freelancers of which Bangladesh 41,560, India 280,783 and Philippines 71,914.

4. FINDINGS

4.1 PRESENT STATUS AND TREND OF IT& ITES INDUSTRY IN BANGLADESH

We were facing difficulties in assessing the size of the international market, due to non-availability of primary data, and hence it had to depend heavily on the secondary sources.

4.1.1 BANGLADESH SOFTWARE AND ITES INDUSTRY

According to BASIS survey, there are over 800 registered software and ITES (IT Enabled Service) companies in Bangladesh. There are another few hundred of unregistered small and home-based software and IT ventures doing business for both local and international markets. Figure 2 shows number of enterprise, revenue, total human resource employed in the industry and industry revenue proportion of Bangladeshi Software and ITES Industry.

The total industry size is estimated to be around Tk. 1,800 crore (US\$ 250 million). Approximately 30,000 professionals, majority IT and other graduates, are employed in the industry. Though, compared to other traditional mainstream industry, the contribution for overall employment creation is not significantly high, but if considered in terms of creating high quality employment (average monthly compensation over Tk. 15,000 per month), software and IT service industry is surely one of the top graduate employment sectors in the country.

According to a recent survey carried out by BASIS on three hundred of its member companies. Analysis has been done on business nature, business volume and size of companies. Over 70% of the companies (Figure 5) are found to be involved in development and maintenance of software for their clients. A number of those are simultaneously engaged in providing different IT enabled services for their clients as well. In total, almost half of the surveyed companies are involved in providing range of IT enabled services (data/form processing, graphic/web design, content management etc.).

Interestingly, a significant number of companies (18%) have developed software products or productized services; most of those have been developed over time after repeated installations for multiple clients. A number of companies are in digital content development and delivery business, mainly providing content services through mobile platform.

Though from existing literature it is observed that services like Multimedia products development, Digital Brochure & Digital Magazine, 2D/3D Presentation and Animation, Audio and Video Editing, Cartoon Animation, Customized Database Application., Enterprise Resource Solutions, Legacy Application development, Banking and Financial Solutions., Device Driver development, Smart Card Solutions., Web Programming., Web Content Writing., Web update & Related services, Pre-press Graphics Design, CAD/GIS Services., Architectural Design, Data Entry services, Medical transcription processing (All types), Bank, Call centre services are outsourced from Bangladesh to foreign countries, there is no national level data available in these services. Yet, Bangladesh Bank processes some data generated through banking channel. Bangladesh Bank processes data as per International Monetary Fund (IMF) 6th Manual of Balance of Payments. A discussion meeting was constituted at Statistics division of Bangladesh Bank where it was agreed that BB statistics may be understated if the payments are not made through proper banking channel, especially through International Credit Cards. Yet since most of the enterprises uses banking channels, it could be safely argued that receipts earned from exports by enterprises are covered service BB statistics in most part.

4.1.2 GLOBAL TRADE OF BANGLADESH

Following table shows the total export of IT/ITES Services under the heading of Computer Services which includes total receipt of foreign currency (equivalent to Bangladesh's export) was US\$ 125.54 Million in FY 2013-14 out of which computer software was US\$ 69.41 Million while Computer data processing and computer consultancy services were exported US\$ 47.56 million and US\$ 8.57 million respectively. Bangladesh has maintained an excellent growth rate in this sector.

Table2: Total Export of IT/ITES Services

	2009 - 2010	2010 - 2011	2011 - 2012	2012 - 2013	2013 - 2014
Computer services	35.35	45.31	70.33	101.63	125.54
Growth		28.16%	55.23%	44.50%	23.53%
1. Export of computer software	25.66	31.38	43.51	63.24	69.41
2.. Computer data processing	6.54	8.81	21.97	32.89	47.56
3. Computer consultancy services	3.15	5.12	4.85	5.50	8.57

Source: Bangladesh Bank

The country wise export of IT/ITES Services from FY 2009-10 to FY 2013-14. Under the heading of Computer software which includes total receipt of foreign currency (equivalent to Bangladesh's export) was US\$ 69.409 Million in FY 2013-14 out of which US\$ 20.069 Million received from United States of America (USA), US\$ 15.746 Million from Hong Kong and US\$ 15.746 million from Republic of Korea. Moreover Bangladesh also exports to Singapore, Germany, Norway, Denmark, Canada, United Kingdom (UK), Ireland and some other countries. From the above data, Bangladesh has maintained an excellent growth in those countries. In case of Computer data processing Bangladesh's total export amounted US\$ 47.564 Million in FY 2013-14 and top four destinations are USA(US\$ 22.930 Million), Singapore(US\$ 6.747 Million), UK(US\$ 4.746 Million) and Denmark (US\$ 2.699 Million). Total export under the heading Computer consultancy services amounted US\$ 8.571 Million and the main export destination is the USA.

4.1.3 PERFORMANCE OF IT ENABLED SERVICES OUTSOURCING IN BANGLADESH

Following table shows the country wise payments made by Bangladesh (Import) for Computer Consultancy Services from FY 2009-10 to FY 2013-2014. It is evident from the table that the total import is US\$ 4.53 Million in FY 2013 – 2014 while it was US\$ 3.47 Million in FY 2009-2010. The main import destinations are India, Malaysia, UK, Singapore, USA but the imported amount is too small.

Table 3: Country Wise Payments Made by Bangladesh for Computer Consultancy Services

(Million US\$)

	2009 - 2010	2010 - 2011	2011 - 2012	2012 - 2013	2013 - 2014
Computer Consultancy Services	3.47	4.18	2.90	0.77	4.53
India	1.09	1.54	0.74	0.24	1.01
Malaysia	0.48	0.51	0.07	0.04	0.93
United Kingdom (UK)	0.26	0.75	0.44	0.02	0.56
Singapore	0.26	0.16	0.23	0.18	0.48
United States of America (USA)	0.15	0.10	0.14	0.00	0.40
Switzerland	0.56	0.44	0.30	-	0.36
South Africa	-	-	0.46	-	0.29
Ukraine	0.13	0.22	0.16	0.01	0.12
Sri Lanka	0.19	0.11	0.02	0.26	0.12
Hong Kong	0.00	-	0.04	0.02	0.09
Other Countries	0.35	0.34	0.29	0.01	0.20

Source: Statistics Division Bangladesh Bank

Following table shows the country wise payments made by Bangladesh (Import) for Computer Data Processing Services from FY 2009-10 to FY 2013-2014. It can be seen from the table that total import of Computer Data Processing services is US\$ 1.72 Million in FY 2013–2014 which is very small.

TABLE4: COUNTRY WISE PAYMENTS MADE BY BANGLADESH FOR COMPUTER DATA PROCESSING SERVICES
(Million US\$)

	2009 - 2010	2010 - 2011	2011 - 2012	2012 - 2013	2013 - 2014
Computer Data Processing	0.21	0.37	0.44	3.73	1.72
Singapore	0.01	0.10	0.01	2.63	0.56
India	0.00	0.09	0.03	0.17	0.55
United States of America (USA)	0.08	0.13	0.10	0.14	0.20
United Kingdom (UK)	0.03	0.03	0.02	0.16	0.14
Denmark	-	-	-	0.00	0.06
China, peoples' republic of	-	-	-	-	0.04
United Arab Emirates (UAE)	-	-	-	0.01	0.02
Italy	-	-	-	-	0.02
Hong Kong	0.01	-	0.01	0.00	0.00
Canada	-	-	0.25	0.00	0.00
Other Countries	0.08	0.01	0.02	0.62	0.14

Source: Statistics Division Bangladesh Bank

Following table shows the country wise payments made by Bangladesh (Import) for Import of Computer Software from FY 2009-10 to FY 2013-2014. From the table it is observed that Country wise total payments made by Bangladesh (Import) for Computer Software is US\$ 3.06 Million in FY 2013–2014 which is relatively higher than other services. The main import destinations are Singapore, Sweden and Switzerland but the amount is still not that much significant.

Table5: Country Wise Payments Made by Bangladesh for Computer Software
(Million US\$)

	2009 - 2010	2010 - 2011	2011 - 2012	2012 - 2013	2013 - 2014
Import of Computer Software	0.01	0.02	0.76	0.63	3.06
Singapore	-	-	0.18	0.03	1.80
Sweden	-	-	-	-	0.58
United Kingdom (UK)	-	-	0.28	0.04	0.00
India	-	-	0.04	0.07	0.09
United States of America	-	0.00	0.09	0.00	0.00
Switzerland	-	-	-	-	0.26
Hong Kong	0.01	-	0.00	0.00	0.00
Germany	-	-	0.00	0.36	0.01
Sri Lanka	-	-	0.17	0.02	0.00
Other Countries	-	0.02	0.00	0.12	0.32

Source: Statistics Division Bangladesh Bank

4.1.4 BUSINESS SPECIALIZATION OF BASIS MEMBER COMPANIES

One of the most encouraging recent trends in the industry is that, leveraging on recent positive changes like larger Internet user-base, better connectivity as well as introduction of new payment methods (online payment – through credit card and mobile payment), a good number of

companies (around 45%; some dedicatedly and some along with their core software or IT service business) are focusing or diversifying on different web based services that include specialized portals, listing services, e-Commerce, e-Learning, payment intermediary services etc.

A number of these ventures have done quite well in terms of popularity as well as financial viability. Off late, some companies are also developing web applications based on cloud/SaaS delivery model. These emerging new business and service delivery models might define the new wave in the coming years for Bangladesh IT industry.

With regard to average size of enterprises within the industry, it is interesting to note that, the distribution is quite spread with respect to both revenue size and employment number. Majority of the companies are in the range between 10 to 50 people in employee size. Similar pattern can be found in revenue size of the companies. However, there are few product companies who have relatively less number of people for significant revenue.

4.1.5 IT RELATED ASSOCIATIONS IN BANGLADESH

4.1.5.1 BASIS

Bangladesh Association of Software and Information Services (BASIS) is the national trade body for Software & IT Enabled Service industry of Bangladesh. Established in 1997, the association has been working with a vision of developing vibrant software & IT service industry in the country. BASIS started its journey with only 17 charter members. Today the membership stands at more than 450. Members of BASIS account for the lion share of the total software & IT services revenue of the country.

4.1.5.2 CYBER CAFE OWNERS ASSOCIATION OF BANGLADESH

An association established for taking action for preservation of rights and interests of the members of the association and generally for the development of the business/services related to Information Technology of Bangladesh with special reference to Cyber Cafes

4.1.5.3 BCS

Bangladesh Computer Samity is the voice of ICT industry of Bangladesh. It is the national association of the ICT companies in Bangladesh. BCS was established in 1987 with eleven members. The ICT industries of Bangladesh comprises distributors, dealers, resellers of computer and allied products, locally assembled computer vendors, software developers and exporters, internet service providers, ICT based educational institutions and training houses, ICT embedded services providers etc. The total number of members stands 1028 at present. The body is run by a 7-number executive committee elected every two years.

4.2 POTENTIAL AND EXPORT OPPORTUNITIES

4.2.1 POTENTIAL SECTORS FOR BANGLADESH

There are many sectors where Bangladesh can develop. Considering the resource endowment of raw unskilled but moderately educated population, Design and Creative sub sector is likely to be the most potential area for Bangladesh. More specifically, Prepress Graphic Design where minimum educational requirement is low, H.S.C. with moderate command in English is suitable and training is comparatively cheap and available. Besides, Animation, Illustration, Presentations etc are amongst the potential jobs in Design & Creative sub sector. Information on 15 freelancers suggests that 7 of them involve this sector. Admin Support is another very potential sub sector, especially for freelancing. Six (6) enterprises out of twenty six (26) took this sector as their main line of business. Admin Support is very potential especially for freelancing. Web, Mobile & Software Development is another category where Bangladesh has higher

potential as the number of IT experts is increasing. However, since this category, especially software development is highly a skill based category, low level of salary and other benefits may lead to create propensity among the experts to migrate abroad. Twelve (12) enterprises out of twenty six (26) use this sector as main Business area. So at intuitional level this sector has high importance. Besides, this sector has high promise for freelancing as well as 8 out of 15 freelancers performs this work along with other works. Desktop Software Development, Ecommerce Development, Game Development, Mobile Development, Product Management, QA & Testing Scripts & Utilities, Web Development, Web & Mobile Design are also some potential sub-sectors for Bangladesh. Besides, Admin Support such as data entry, Sales and Marketing like Search Engine Optimization, Writing, IT and Networking are amongst potential IT/ITeS outsourcing Services.

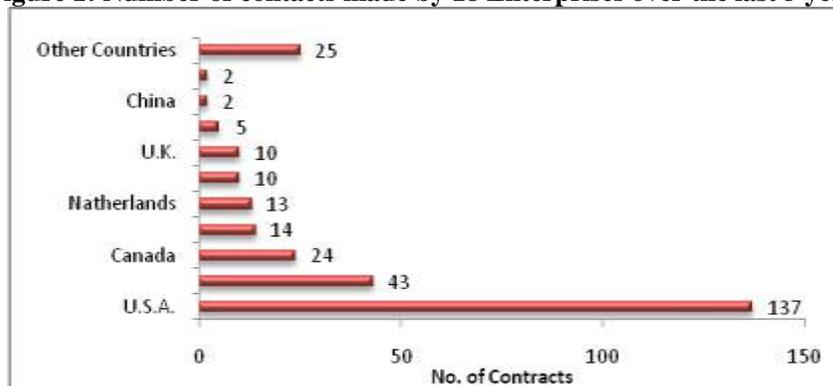
4.2.2 POTENTIAL EXPORT DESTINATIONS

Findings from Enterprise level is consistent with the statistics shown earlier by Bangladesh Bank Information from 14 enterprises shows that 11 of them were engaged exporting in U.S.A, the major export destination of Bangladesh in IT/ITES sector. Australia, Canada and a few EU countries were the other potential export destinations by most firms among these 14 firms.

4.2.3 PROSPECTS

Following figure shows the number of contacts made by 18 Enterprises over the last 5 years with foreign clients to work on regular basis. Information from 18 enterprises shows that they concluded 285 contacts with foreign clients to work on regular basis over the last 5 years. The most prominent countries are U.S.A. Australia, Canada, Denmark, Netherlands, Sweden, U.K. etc are. These countries are very potential for Bangladesh.

Figure 1: Number of contacts made by 18 Enterprises over the last 5 years



4.3 POTENTIAL OF EMPLOYMENT GENERATION

The following table shows Information Technology Workforce in Bangladesh at a glance. According to the table, number of IT professionals working within the IT Industry is more than 20,000, number of IT professionals working outside IT Industry (including business enterprises, govt. telecom, NGOs etc.) is more than 35,000 and number of graduates produced yearly from IT related subjects is more than 5,500. In addition to the registered workforce, a large number of independent freelancers (both students and professionals) have been working in this sector. Moreover, annually on an average 5,500 students graduate from ICT related courses from more than 80 public and private universities. This number is increasing day by day.

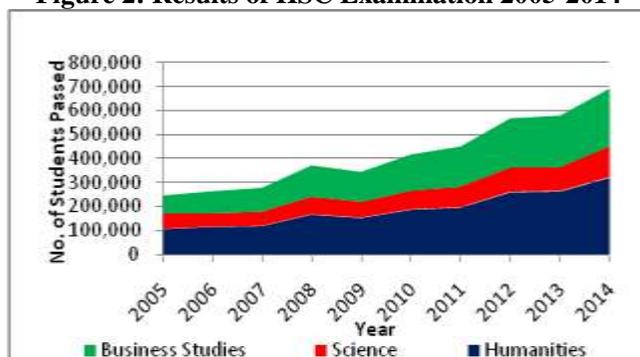
Table 6: Information Technology Workforce in Bangladesh

No. of IT professionals working within the IT Industry	20,000 +
No. of IT professionals working outside IT Industry (including business enterprises, govt. telecom, NGOs etc.)	35,000 +
Yearly no. of graduates from IT related subjects	5,500+

Source: BASIS

Following figure shows an analysis on HSC examination result with a view to exploring the potential for future employment generation for this sector. There is no denying the fact that higher secondary level is that stage of education where one decides his future career. For that reason we have chosen to analyze HSC result. In this figure we have analyzed HSC examination result for general education from 2005 to 2014. We have tried to compare the examination result of Business Studies, Science and Humanities group. It is observed that in 2005 the number of students passed from Humanities (1,05,843), Science(64,589), Business Studies (75,104). These number rapidly increased and becomes Humanities (3,21,770), Science(1,29,167), Business Studies (2,41,753) in 2014. These increasing trend shows that there is a huge scope for future employment generation for this sector. Unfortunately, the number of students passed from science group is comparatively less than those of Humanities and Business Studies group. In this connection, Govt. may take initiatives to attract students to study science because students passed from science group have more potential than other two groups to work for this sector as traditionally they have higher mathematical aptitude and superior logical & analytical abilities.

Figure 2: Results of HSC Examination 2005-2014



Source: Own analysis from BANBEIS Statistics

4.4 STATUS OF ITES TRAINING IN BANGLADESH

A variety of ICT training institutions are available at present in Bangladesh. They are providing with various issues covering ICT. In 2005 Bangladesh Bureau of Education Information and Statistics (BANBEIS) of the Ministry of Education in collaboration with Korea International Cooperation Agency (KOICA) initiated a project titled ‘Establishment of Bangladesh- Korea ICT Training Center for Education (BKITCE)’ with a view to improving the capacity of Bangladesh ICT human resources through providing ICT application training to citizens. Government also established “National Academy for Computer Training And Research” (NACTAR) by the act 12 of 2005. NACTAR has been providing practical and pragmatic training of ICT since its inception.

The Small and Medium Enterprise Foundation (SMEF) started a training programme for developing 3,000 women across the country as grassroots ICT entrepreneurs and freelancers. The SMEF, the Access to Information (a2i) Programme of Prime Minister’s Office (PMO) and Bangladesh Women in Technology (BWIT) jointly took up the initiative titled ‘Female ICT Freelancer and Entrepreneur Development Programme’. In addition to that government recently launched a training program to develop 30,000 IT professionals for the IT and ITES sectors within the next three years. Bangladesh Association of Software and

Information Services (BASIS), Access to Information (A2I) Programme jointly and individually also organizes different national and international level training programmes through different projects. Moreover ICT short courses at different universities, institutions and training centers are frequently offered.

Some freelancers expressed their disappointment regarding training facilities offered by different institutions and training centers. New freelancers also fail to receive proper training. Freelancers, especially those who live outside of Dhaka city, suffer badly due to this problem. Although there are many training institutions but a few of them are the need based and specialized. Very few quality institutions offer ITES outsourcing related training.

5. CHALLENGES FACED BY BANGLADESH

5.1 CHALLENGES AT FIRM LEVEL

In order to find out the degree of different issues that hinders the progress of IT/ITES enterprises. Likert type scaling technique is used and obstacles are arranged on the basis of ranking of average scores. A 5 (five) scale Likert scale is used where score 1 is assigned for if the respondent feels that there is no obstacles, 2 for moderate obstacle, 3 for moderate obstacle, 4 for major obstacle, 5 for severe obstacle. It is important to note that many issues may not be respondent for many reasons, for example lack availability of time of the respondent, individual idiosyncrasies to skim through the questionnaire etc In these cases, missing value on some issues may lead to underestimate by the actual total score. To avoid such problem average score for any particular issue is calculated by replacing the missing values by the mean value of scores of respondents for that particular issue. Thus the average score is calculated using the following formula

$$\text{Average Score} = \frac{\sum_{i=1}^5 L_i \cdot f_i + M \frac{\sum_{i=1}^5 L_i}{5}}{N}$$

Where,

L_i = Scale point ($i= 1,2,\dots,5$)

f_i = Frequency for particular scale point i

M =Number of missing value(s)

n =Total number of actual respondent for particular issue

N = Total Number of Observations (In this study $N=26$) for all issue

Table 7: Likert scale analysis

Obstacle Issues	Scale Points***					No. of Non Respondent (M)	Actual Score*	Projected Score**	Average Projected Score
	1	2	3	4	5				
	Frequency								
Electricity load shedding	1	0	9	11	5	0	97	97.00	3.73
Foreign Exchange Policy	0	6	5	9	4	3	83	93.83	3.61
Cost of obtaining internet bandwidth	2	4	6	10	4	1	88	91.52	3.52
Country Image or Branding	2	0	5	6	2	11	51	88.40	3.40
Access to Finance	1	7	8	7	3	1	82	85.28	3.28
Shortage of Skilled Manpower	5	2	7	10	2	1	80	83.20	3.20
Lack of proper infrastructure	5	3	6	9	1	3	70	79.13	3.04
Lack of capital	4	5	7	7	3	0	78	78.00	3.00
Obtaining permits (if any)	5	5	7	3	3	4	63	74.45	2.86
Smooth transaction of payments	5	4	8	8	1	0	74	74.00	2.85
Rules and regulations of government	3	7	10	3	3	0	74	74.00	2.85
Internet bandwidth (speed)	2	12	5	4	3	0	72	72.00	2.77
Access to market information	7	7	4	7	1	0	66	66.00	2.54
Tax Policy	12	2	5	4	3	1	62	64.48	2.48
Enforcing contract with the client	8	6	7	5	0	1	61	63.44	2.44
Loyalty of staffs	7	8	6	4	1	0	62	62.00	2.38
Obtaining quality certification	7	8	6	5	0	0	61	61.00	2.35
Obtaining work order	8	8	7	2	1	0	58	58.00	2.23
Obtaining recognition from the clients	11	8	6	1	0	0	49	49.00	1.88
Communication (language)	12	9	2	3	0	0	48	48.00	1.85

*Actual Scores, **Sum of Actual Scores plus replacement scores for missing value

Note: N/A means non response ***Scale Points: 1= No Obstacle 2= Minor Obstacle 3= Moderate Obstacle 4= Major Obstacle 5= Severe Obstacle

Electricity Load shedding ranked as topmost obstacle. As the sector is highly computer oriented, the operation of business requires uninterrupted supply of electricity. Electricity load shedding is a common constraint for all industries. However, high electricity load shedding force enterprises to use alternative power supply like generators which increases costs.

Foreign Exchange policy is another major problem. This policy hinders business when it is required to make payment for import of software, books etc. Enterprises also worry about the cost of internet. Many entrepreneurs feel that the cost of internet is much higher than other competing countries.

Lack of Promotion of Country Image or Branding is one of the major problems that many entrepreneurs feel to be fixed out. The issue is not responded by many entrepreneurs, the problems ranked highly if picked by the respondent. As our average score compensates the missing values or by the mean score of respondents and the mean of respondents is high, the averages score gets high. It is important to note that the slogan of “Digital Bangladesh” has promoted the country image in IT sector by a great deal. Now some more Branding Campaign needed.

Access to finance is another significant problem. It is hard to get loans from banks. Information on 17 enterprises shows that only one of them took bank loan at the beginning of business. As a service sector, the output is not as visible as goods sector which is a real problem. Besides, Enterprises also lack proper financial reporting which further discourages bankers to provide loan. Information of yearly investment flow from 11 enterprises shows that there is great disparity in investment though total investment accounted for 14.25 Crore in FY 2013-14. Only two of them invested in more than 4 Crore in 2013-14 while the others are making very small amount of investment not exceeding BDT 90 lacs Even few others did not invested more than BDT 10 lacs. However, total investment of these 11 firms grew by 68.36% compared to preveous year which is a pleasing sign. Hardly any firm made business expansion from Bank loans.

Skilled Manpower is another problem especially for services that require advanced skills. Many enterprises think that they could not make expansion for lack of capital. One of the Key challenges of the IT/ITES sectors in Bangladesh is the employee turnover which is high especially in high skilled sectors like software development. There is increased and consistent demand for IT/ITES experts in developed countries. The visa requirements in countries like Canada, USA, UK etc is much easier. So, experts are migrating from Bangladesh to developed countries for higher education, better earnings as well as standards of living. Interviews with many entrepreneurs revealed that each year such migration is up to 5% of total employees. This is a constant threat for the development of this sector. Government and Private sector should work together to fix the problem. Government may provide few incentives for export oriented IT Professionals. For example, government may rebate income tax up to some percentage point. Government can afford this as the number of IT/ITES professionals is relatively low.

Private sector also needs to play their role to retain their skilled employees by better working environment. Introduction of post retirement benefits like provident funds, standard salaries and other compensation packages like profit bonus, lunch, medical allowance etc.

There is also lack of proper infrastructure. Although government is making high-tech park and other facilities, enterprises needs to get proper incentives and support socio economic

environment around such parks so that experts may lead sound and healthy livelihood around the park.

Needless to mention that the IT is a sector for entrepreneurship predominantly by IT professionals, not by traditional millionaires. So initial investment, IT professionals lack capital needed and in the absence of knowledge by Banks, the problem is vital.

Business related rules and regulations also hinder to some extent the business, licensing procedure, import procedure needs to be much easier. However, other obstacles listed in the table above are minor. While opening a business key licenses/permits required by an entrepreneur include Trade License, Certificate of incorporation, Memorandum of Association, VAT Registration Certificate, Tax Identification Number which different departments of the government. Besides, Export registration certificate is required for export purpose and perdition from Board of investment is required from Board of Investment for forming joint venture companies. Enterprises require simplification of procedures in obtaining those certificates and procedure.

Lack of capital at initial level is barrier for new entrepreneurs. The IT & ITES enterprises so far have progressed by self entrepreneurship. Data on 18 enterprises shows that 77.62% of total initial investment made by 18 firms came from self financing while only 2.53% came from banks. Among these 18 enterprises, only one could get loans from Banks.

5.2 REASONS FOR ENTREPRENEURS FOR CHOOSING THIS SECTOR FOR INVESTMENT

Information from 25 entrepreneurs showed that most of the entrepreneurs chosen this sector for investment for having a prior experience in this sector (32%) and passion (24%). The other reasons were High rate of return (16%). Market Access of the industry (16%), low capital requirement (8%) and low risk (4%).

Following table shows the source of initial investment funds by type of 18 enterprises. It is observed from the table that Self Financing is higher (1,535.24 Lac Taka) than other source of initial investment. This sector needs to attract more domestic and Foreign Direct Investment.

Table 8: Source of initial investment funds by type of enterprise (18 Enterprises)
(Lac Taka)

Row Labels	Partnership	Private Limited	Sole Proprietorship	Total
Banks	-	50.00	-	50.00
Friends & Relatives	-	250.00	12.00	262.00
Non Bank Financial Institutions	-	-	30.00	30.00
Other	-	100.00	-	100.00
Self Financing	50.80	1,453.25	31.19	1,535.24
Total	50.80	1,853.25	73.19	1,977.24

Source: Own Calculation from Survey Data (18 Enterprises)

5.3 CHALLENGES FOR FREELANCING

Information on 15 freelancers showed that the cost of obtaining internet bandwidth, smooth transaction of payments, Lack of proper infrastructure, Foreign Exchange Policy, Electricity load shedding, Internet bandwidth (speed), Business related rules and regulations of government, Access to Finance are founded as key problems. As the government is working with internet bandwidth, the major concern for freelancers is the smooth transaction of payments, that is the delay or hassles traditional banking system makes in receipt of payment which discourages both market places and freelancers. Introduction of PayPal is the key solution as the freelancers thought. Another important problem for the freelancers is the proper recognition. Freelancers also are now getting industry recognition in Bangladesh. Bangladesh Association of Software &

Information Services (BASIS), has introduced Best Freelancer Award from 2011 (Now BASIS Outsourcing Award 2015). This award is recognition for the successful freelancers in the society. But this is not enough; they should be recognized by the Govt. so that they feel more encouraged to work for the betterment of this sector.

6. RECOMMENDATIONS

i. Within the framework of Digital Bangladesh, access to internet should be citizen right as it is the main communication medium. In Bangladesh, the cost of internet is high enough for the mass people. The number of broadband internet users is still low as the cost of internet is high. The majority of internet users in Bangladesh have access to internet through modem. Freelancing is not possible with limited mobile internet connections as stated by a freelancer *“Mostly I face problem with bad and expensive internet connection. You know broadband internet connection is not available to all district or Upazilla level. There are one mobile internet available which actually very expensive and limited. Freelancing is not possible with those limited mobile internet connections. I think, it is the only way to expand freelancing profession to everywhere in Bangladesh is to make mobile internet unlimited and lower cost with minimum 2mbps speed”*. Enterprises as well as the freelancers of this sector are also worry about the cost of internet. Many entrepreneurs and freelancers feel that the cost of internet is much higher than other competitor countries like India and Philippines. Although Govt. is gradually reducing the cost of internet still it is a big issue for the end users especially at the district level. Different districts of Bangladesh are not getting access to the internet at the same price as Dhaka. To protect this sector Govt. should ensure the cost of internet at reduced price and available to all districts. Govt. may take initiative to ensure high speed internet at lesser cost at the user level. Besides, BASIS or similar concerns may identify the real Online Professionals and recommend to the Government to provide them with high speed internet at a lower price.

ii. The course curriculum in Bangladesh has already been providing due importance to ICT sector. Such curriculum should be much more practical than theoretical. For example, it is necessary to know the history of computer, but it is more important to know how to use it, where and how to get skills necessary to use computer to manage self employment. In this context Govt. may take necessary steps to include more hands on ICT related topics like success stories of the freelancers in the children’s books so that the students from the very beginning realize the importance of IT and ITES in professional life.

iii. To get benefit for Bangladesh from outsourcing of IT/ITES services in large scale, it is necessary to bring upcoming young educated human resources into the coverage area of outsourcing. To do that it is necessary to classify the services as per the skill and educational qualification of the students. Some hands on exercise could be included at the secondary and higher secondary syllabus with a view to providing some practical knowledge on Outsourcing. Young age is the best time to learn and produce novel ideas. However, as IT/ITES outsourcing is more skill oriented than other jobs, professional training is more important than general education. However, much online training is free and course curriculum may preclude information on such trainings. Free e-learning resources of outsourcing and freelancing should be available for all so that the interested persons can be get easy access to those information and motivate themselves for working in this sector.

iv. To fasten up the economic development of the country, Bangladesh Hi-Tech Park Authority (BHTPA) was established in 2010. As ICT has been considered as a thrust sector, the Government has taken various initiatives to achieve the target. Among them conducive business environment for Hi-Tech industries is mentionable. Information and Technology (IT) Village/Software Technology Park (STP) in divisional level would be one of the important and priority projects which would be the milestone for the development of IT sector as well as industrialization in Bangladesh. But it needs to be addressed properly that the absence of socio

economic infrastructure may put the initiatives of High-Tec Park questionable. No IT and ITES firm would be interested to shift in such a location where it would be quite difficult to afford all these.

v. IT sector shows a gradual growth in recent years. But the imposition of 4% VAT on e-commerce is really an obstacle to the growth of e-commerce as well as other IT business. Imposition of 4% value added tax on e-commerce for the fiscal year 2015-16 may hinder the growth of the this sector. Exemption from this would facilitate the continuous growth of this sector.

vi. Different countries use different terms to mean IT/ITES outsourcing services. Business Process Outsourcing involves the contracting of the operations and responsibilities of a specific business process to a third-party service provider. BPO is typically categorized into back office outsourcing, which includes internal business functions such as human resources or finance and accounting, and front office outsourcing, which includes customer-related services such as contact centre services. On the other hand Business Process Management is a subset of infrastructure management, where maintaining and optimizing an organization's equipment are to be managed. The goal of BPM is to reduce the errors which are made by humans and focus on stakeholders. Knowledge process outsourcing refers to outsourcing of core information-related business activities which are competitively important or form an integral part of a company's value chain. Knowledge Process Outsourcing requires advanced analytical and technical skills as well as a high degree of specialist expertise. Legal Process Outsourcing which is also familiar as legal outsourcing under which the most commonly offered services are agency work, document review, legal research and writing, drafting of pleadings and briefs, and patent services. In this context, the jargons like Business Process Outsourcing (BPO), Business Process Management (BPM), Knowledge Process Outsourcing (KPO), Knowledge Process Management (KPM), Legal Process Outsourcing (LPO) etc. needs to be introduced in addition to ITES to make the nature of service more visible to the foreign clients. These terminologies are internationally recognized to understand the nature of the services provided world-wide. In this connection, Govt. as well as business associations may take initiatives for building awareness among the stakeholders.

vii. PayPal is a worldwide online payments system through which Online money transfers appeared as electronic alternatives to traditional paper methods like cheques and money orders. PayPal is now available in 56 countries and allows sending and receiving funds in 6 currencies. It would make the payment system smoother and outsourcers from Bangladesh would get rid of the problems associated with online transaction through initiatives taken by Govt. to attract Pay Pal in Bangladesh.

viii. For the identification of the real freelancers among different Banks Officials, they should be trained about the basic concept of freelancing, outsourcing, marketplaces, online payment gateways (payoneer, skrill etc), blogging, affiliate channels (Amazon, clickbank, Commission Junctions etc) to identify the real freelancers to ensure a smooth transaction. BASIS, BCS, BCC or similar concerns including Government may organize such awareness building programs.

ix. Most of the IT/ITeS enterprises use rented office premises. Information on 26 IT/ITeS firms finds that only 3 of them the owner uses own office building. Now, if on an average each of 800 IT/ITES firms BDT 5 to 7 lac per year and provides 9% VAT on house rent, then the government will get BDT 3.60 Crore to BDT 5.04 Crore. At national Perspective, the value is negligible. In order to provide incentive to the IT/ITES enterprises and encourage new entrepreneurship, VAT on house rent for IT/ITES enterprises might be rebated.

x. Many Bangladeshi skilled professionals are working abroad. They can be encouraged to return Bangladesh or collaborate with Bangladeshi entrepreneurs. Govt. may take initiatives to provide proper environment for them.

xi. Bangladeshi university graduates in IT related subjects have been increasing every year, although the number is much less than the requirement. On the other hand the number of HSC passed students having GPA 4 and above has been increasing. These students may be encouraged to work for this sector. In this connection Govt. may reform education policy to attract more students to study science as they have the potential to be the future workforce for this sector. Almost all the Bangladeshi universities and institutes are traditional which conduct IT related courses. Moreover at present Bangladesh does not have any advanced Science and Technology Institute adopt the new science and technology. So, Govt. may take initiative to establish some advanced Science and Technology Institute which would guide the nation for adopting such technology and make more workforces for this sector.

xii. Investing in Research and Development is very crucial for this sector to be emerged. This may help in innovating new services and new export destinations by way of diversification in services and diversification in destinations which could help in the growth of the industry as well as economy as a whole. Govt. may invest more for Research and Development in this sector and conduct studies time to time in collaboration with other associations and research organizations for policy reforms and new policy recommendations.

xiii. Knowledge management is a technique which helps in retaining the knowledge in the company, even when these knowledgeable persons leave the organization. This is an import factor for this sector to survive in this competitive edge. The industry faces a high attrition rate which deprives the company of its talents. It is a technique of assembly, preservation, transfer and management of data and knowledge in companies. Our companies and associations may take initiatives regarding Knowledge management.

xiv. A boost in the domestic sales can occur with more favourable government policies and also improvement in the infrastructure which is a pre requisite for the growth of IT industry as a whole. Friendly policies are also good for attracting FDI. In this context Govt. should consult with all the stakeholders before recommending new or reforming existing acts, rules and policies.

xv. Govt. should focus on professional training as it is more important than traditional education. So, Govt. may establish need based specialized training centers and institutes to generate more workforces for this sector.

xvi. Highly qualified talent pool of technical graduates and freelancers are the future workforces as well as future entrepreneurs for high end service providers which has high demand in the foreign IT and ITES outsourcing market. Highly qualified talent pool of technical graduates and freelancers should be constructed and trained for working with this sector.

xvii. We have seen many freelancers' success stories in this study and various other studies. They are the pioneers for this sector. They must be attracted for becoming as an entrepreneur. All kind of facilities should be provided for them so that they are attracted to be a successful entrepreneur. Entrepreneurship should be encouraged for future employment generation. Freelancers are now getting recognition (Best Freelancer Award) declared by BASIS. They should also be recognized by the Govt. as well as other associated organization's awards so that they feel more encouraged to work for the betterment of this sector.

xviii. Image building and branding is a continuous process. To increase the country image and branding of Bangladesh different types of initiatives have been taken which includes policy initiatives, master plan, and action plan etc. As lack of promotion of the country image or branding is one of the major challenges for this sector that many entrepreneurs feel to be fixed out, Govt. may take more initiatives together with the business IT related organizations for creating image and branding. The slogan of "Digital Bangladesh" has promoted the country image in IT sector by a great deal. In this connection some more Branding Campaign needed. In this case Govt. may utilize the Bangladesh's foreign mission abroad. In consultation with the

Bangladesh's foreign mission abroad BASIS may start taking such initiatives for creating image and branding.

7. CONCLUDING REMARKS

As an emerging source for IT and ITES outsourcing destination and as a developing market, Bangladesh has a fair set of weaknesses. Most of them come from lack of skills, know-how and adequate investment in the country. Keeping these weaknesses in mind Government has taken different plans, strategies, and projects to facilitate IT sectors. Government's "thrust sector" initiatives for ICT include exemption of income tax, value-added tax, and customs duty for ICT industry establishment of national ICT policy, organizing the ICT National Taskforce (the chair is the Prime Minister) establishment of ICT incubation center, long-term equity fund and short term working capital financing, enactment & Copyright Law etc. Several pilot initiatives are being formulated and implemented under intense supervision of respective Government agencies. Special Hi-Tech and Software Technology Parks are being built by the government to facilitate all the infrastructural supports needed by outsourcing companies. The future of the IT and ITES outsourcing industry is very bright provided it overcomes the challenges, weaknesses and threats cited above. To make all these plans, policies and initiatives to be a successful one, government needs a collaborative action plan to prioritize the impediments faced by this sector as identified in this study and various others study and undertake concrete follow up actions.

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An Assessment of Industrial Relations & Labor Dissatisfaction at RMG Sector in Bangladesh

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Abstract

Readymade Garments (RMG) is the main foreign exchange earning sector of Bangladesh. At the same time this labor intensive sector is very important to address the demands of occupation of a huge population. Reputation of this sector is high which underpins the success of this sector. But in recent times the growth and existence of this sector came under threat just because of the bad Industrial Relationship between the stakeholders of the RMG sectors which cause severe labor unrest in recent days. Due to the labor unrest there has been huge loss of production, and some of the factories were ruined by protesters, several laborers were killed, and lot of labors were injured and arrested. It is said that there were legitimate demand of the laborers which should have been addressed by the owners. But these demands were not addressed which created the grievance of the laborers. In course of time these grievance bolstered the unrest. On the other hand, some laborers were not sincere and honest to their job and responsibilities. These laborers involved themselves in the destruction of their own industries. While most of the researchers addressed the reasons of that unrest, in this research the probable solution of that problem has been addressed by collecting stakeholders' perceptions through questionnaires. Because of the stipulated time schedule, this seminar paper has prepared by secondary survey data which were made by different researchers. This Paper found that to avoid the labor unrest Minimum wage for the garment workers should be regularized and implemented properly, the labor-force needs to avoid the path of violence and vandalism, the factory owners can hear and address the problems of the labor-force, both public and private sector should work together to solve the problem of labor unrest and so on to mitigate the risks of labor unrest in RMG sector of Bangladesh.

Keywords: Industry, Industrial Relations, Labor Unrest, Policy

1. PREAMBLE

Industrial relations is a multidisciplinary field that studies the employment relationship (Ackers, P., 2002). Industrial relations is increasingly being called employment relations or employee relations because of the importance of non-industrial employment relationships (Philip L., Adrian T., Mark S., 2003); this move is sometimes seen as further broadening of the human resource management trend (Paul B., Rebecca K., 2008). Indeed, some authors now define human resource management as synonymous with employee relations (Ed R., 2008). Other authors see employee relations as dealing only with non-unionized workers, whereas labor relations is seen as dealing with unionized workers (John R O., Susan T C., 2005). Industrial relations studies examine various employment situations, not just ones with a unionized workforce. However, according to Bruce E. Kaufman "To a large degree, most scholars regard trade unionism, collective bargaining and labor-management relations, and the national labor policy and labor law within which they are embedded, as the core subjects of the field" (Bruce E. K., 2008).

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Initiated in the United States at end of the 19th century, it took off as a field in conjunction with the New Deal. However, it is generally a separate field of study only in English-speaking countries, having no direct equivalent in continental Europe (Ackers, P., 2002). In recent times, industrial relations has been in decline as a field, in correlation with the decline in importance of trade unions (Bruce E. K., 2008), and also with the increasing preference of business schools for the human resource management paradigm (Daphne T., 2008).

1.1 BACKGROUND

Industrial relations have its roots in the industrial revolution which created the modern employment relationship by spawning free labor markets and large-scale industrial organizations with thousands of wage workers (Bruce E. K., 2008). As society wrestled with these massive economic and social changes, labor problems arose. Low wages, long working hours, monotonous and dangerous work, and abusive supervisory practices led to high employee turnover, violent strikes, and the threat of social instability. Intellectually, industrial relations was formed at the end of the 19th century as a middle ground between classical economics and Marxism, with Sidney Webb and Beatrice Webb's *Industrial Democracy* (1897) being the key intellectual work. Industrial relations thus rejected the classical econ (www.en.wikipedia.org).

Institutionally, industrial relations was founded by John R. Commons when he created the first academic industrial relations program at the University of Wisconsin in 1920. Another scholarly pioneer in industrial relations and labor research was Robert F. Hoxie (Kuhn, James W., Lewin, D., and McNulty, Paul J., 1983). Early financial support for the field came from John D. Rockefeller, Jr. who supported progressive labor-management relations in the aftermath of the bloody strike at a Rockefeller-owned coal mine in Colorado. In Britain, another progressive industrialist, Montague Burton, endowed chairs in industrial relations at Leeds, Cardiff and Cambridge in 1930 (Ackers, P. and Wilkinson, A., 2005).

Beginning in the early 1930s there was a rapid increase in membership of labor unions in America, and with that came frequent and sometimes violent labor-management conflict (Kaufman, Bruce E., 1993). During World War II these were suppressed by the arbitration powers of the National War Labor Board (Kaufman, Bruce E., 1993). However, as World War II drew to a close and in anticipation of a renewal of labor-management conflict after the war, there was a wave of creations of new academic institutes and degree programs that sought to analyze such conflicts and the role of collective bargaining (Kaufman, Bruce E., 1993). The most known of these was the Cornell University School of Industrial and Labor Relations, founded in 1945 (Fine, B., February 9, 1947). But counting various forms, there were over seventy-five others (Fine, B., February 9, 1947). These included the Yale Labor and Management Center, directed by E. Wight Bakke, which began in 1945 (Porter, R., July 15, 1946). An influential industrial relations scholar in the 1940s and 1950s was Neil W. Chamberlain at Yale and Columbia Universities (Kuhn, James W., Lewin, D., and McNulty, Paul J., 1983). The discipline was formalized in the 1950s with the formation of the Oxford School by Allan Flanders and Hugh Clegg (Ackers, P. and Wilkinson, A., 2005).

Industrial relations was formed with a strong problem-solving orientation that rejected both the classical economists' laissez faire solutions to labor problems and the Marxist solution of class revolution. It is this approach that underlies the New Deal legislation in the United States, such as the National Labor Relations Act and the Fair Labor Standards Act (www.en.wikipedia.org).

The export-oriented apparel industry of Bangladesh, popularly known as readymade garment (RMG) or simply the garment industry occupies a unique position in economy of Bangladesh. It is the largest exporting industry, which experienced a phenomenal growth during the last three decades. By taking advantage of cheap labor and quota-based market in the USA and EU under the provision of Multi Fiber Arrangement (MFA) of GATT, it attained a high profile in terms of economic growth of the country. The industry started its modest journey in late 1970s and enjoyed a meteoric rise from 30 enterprises in 1980 increased to 4825 in 2008. Average growth rate of this sector was over 20% per over the last two decades. This single sector alone earns about 80% of yearly foreign exchange of the country. Its contribution to GDP reaches 13% in fiscal year 2009-2010. Since independence, no single sector could accelerate the industrialization process in the country as the RMG sector could do. It has created employment opportunity for about 3.5 million people. Most of them are uneducated and unskilled. About 80% of them are women. To a creditable extent, it has been able to relieve the country from the burden of unemployment and at the same time contribute to the empowerment of women. Thus this sector is playing a vital role in socio-economic development of the country.

But this sector is struggling with a number of problems. Conflict between owners and workers, labor unrest, shortage of gas and electricity, poor infrastructure, poor port facility, lead time complexities, conspiracy of home and abroad, advancing competitors in the quota free international market are some of them which are posing a great threat to its survival. In recent time, labor unrest in the RMG sector has been a matter of serious concern. Almost every day electronic and print media cover news of labor unrest in RMG sector in one place or another across the country. Fixing new minimum wage for the garment workers and issue of implementing the new wage structure have been the prime causes of recent labor unrests across the country. The unrest takes shape of violence and vandalism. The agitated workers come to the street and go storming on vehicles and garment factories. The attacked factory is declared closed; many labor leaders are arrested, many workers lose jobs or suffer from uncertainty; losing interest in the uncertainty, the international buyers cancel their orders and divert to another market. The industry comes to a deadlock situation.

1.2 STATEMENT OF THE PROBLEM

There are, mainly, four parties involved in apparel industry: government, factory owners, international buyers of finished garments, and workers. Of four parties, the first three are immense beneficiaries, while workers remain deprived. Government receives a handsome amount of revenue from this sector. Buyers, who get garment products at the cheapest possible price, make huge profits in international markets. Most of the local factory owners make adequate money out of this business. But garment workers, who make all these profits and benefits possible for other three parties, are to live a sub-standard life for years. The wage they get is low. Very often they do not get their salary, overtime bills and bonus in time. Their recruitment system is hiring and firing as they do not get any appointment letter and at any time they can be dismissed by owners for any reason. Being maltreated by owners and mid-level officers, working long hours in a congested room without sufficient rest, lack of recreational opportunity, nutritious foods, medicine, right to legitimate protest against exploitations, etc are their daily destiny. They don't have any access to the decision making process. Factory building collapse, fire accident, stampede render many dead and injured. Nevertheless, if any worker protests against owners or management, he/she is threatened by various types of harassment such as dismissal, arrest or even physical assault by the hired hooligans of owners (Khan, Mohammad A. I., 2011).

There are allegations that a vested group is behind the violence in garments industry. Some Human-right-based NGOs are alleged to instigate the work-force in the name of their rights

and privileges without knowing the actual capacity of the owners. Very often, agitating workers are aided by outsiders. Nowhere in the world is labor as cheap as in Bangladesh. It is one of the main factors for flourishing of this sector in Bangladesh. Therefore, foreign conspiracies in instigating labor unrest in garment sector of Bangladesh cannot be ruled out as history records hundreds of wars to capture another market. At every incidence of labor unrest, police is deployed to disperse agitators. The coercive measures of the forces rather deteriorate the situation. Concerned groups engage themselves in blame game and do not waste time to put their readymade comments. Very often, after some violent unrest, an inquiry committee is formed to look into the fact. But the fact is that, hardly people come across the investigation report. After some days people forget the issue and things go on as usual (Khan, Mohammad A. I., 2011).

Solving labor unrest in the RMG sector and improve the IR situation at RMG sectors requires a collective effort. The root causes of unrest are to be explored. If private sectors (garment factory owners, managers, workers, BGMEA, workers' association, members of civil society organizations, NGO activists) with their firsthand knowledge and experience work together with the public bodies, solution of this problem is possible (Khan, Mohammad A. I., 2011).

1.3 SIGNIFICANCE OF THE STUDY

Bangladesh is well known across the globe for its stunning success in the arena of readymade garment industry. It constitutes about 80% of total export of Bangladesh. It has been able to create employment opportunity for millions, alleviate poverty, accelerate industrialization, attract foreign direct investment, mobilize business and create a positive image of Bangladesh abroad. But these achievements are going to be shattered due to labor unrest in this sector. If labor unrest is not addressed, Bangladesh will have to count a heavy loss. The affected garment factories will be declared closed. Production will be hampered. The foreign investors will close their business here. The foreign buyers will cancel their order and divert to other countries. Government will lose huge revenue. Thousands of garment workers will lose their job. After all, it will create an adverse impact on the socio-economic condition of the country (Khan, Mohammad A. I., 2011).

The present study aims to find out the causes of labor unrest in the RMG sector of Bangladesh and possible solution of the problem. Before venturing to solve any problem, it is wise to explore the root causes of the problem and diagnose them. Accordingly, the causes of labor unrest have been explored and areas where public and private sector can work to address the problem are identified. The RMG industry involves various stakeholders covering from public, private and international organizations (Khan, Mohammad A. I., 2011). Ministry of Labor and Employment and its sub-ordinate offices, Ministry of Home Affairs and various law enforcing agencies, political leaders of central and local government, local administration comprise the public side whereas factory owners, managers, officers, garment workers, BGMEA, workers' association, member of civil society organizations, NGO activists fall in private sector. Public-Private Cooperation is an agreement between government and private for bringing together social priorities with the managerial skill of private sector, relieving government of the burden of large capital expenditure, and transferring the cost overruns to the private sector. The success rate of public-private cooperation is high in western world. It is relatively new in Bangladesh and other South Asian countries. For the successful implementation of PPP in solving labor unrest in the RMG sector of Bangladesh, the level of trust, communication and co-operation between public and private sectors needs to be enhanced (Khan, Mohammad A. I., 2011).

1.4 RATIONALE OF THE STUDY

Readymade garments, for the last couple of decades, have been the lifeline of Bangladesh's economy (Uddin, M. S. and Jahed, M. A., 2007). At the last count, the sector accounted for nearly 80 percent of export earning that drives the economy further forward and it also provides jobs for hundreds of thousands of semi-skilled workers, mostly, who in turn provide livelihood for millions (Uddin, M. S. and Jahed, M. A., 2007). But the alarming fact is that, Bangladesh's garments exports were down as political turmoil and labor unrest wreaked havoc on the sector, which is crucial to the impoverished nation's economy. The industry's immediate response was to allege instigation by political conspiracy or international competition. The answer does not lie in merely apportioning blame to the external actors or seeking hidden clues, but the reason may be deeply routed in the owner-labor relations. It was assumed that the negotiating agents could not reduce the gaps between the workers and the owners in most of the affected industries as trade unionism was virtually absent (Tamanna, U., 2010). None of the studies has been done so far about the issue. So it is very important to find out the real fact behind the role of labor union in the recent labor unrest to evaluate the necessity of labor union to reduce the risk of labor unrest (Tamanna, U., 2010).

1.5 OBJECTIVES OF THE STUDY

- I) To find out the Industrial Relations Situation in RMG sector of Bangladesh
- II) To recommend some existing problems' solutions

1.6 METHODOLOGY

There is an extensive literature on the RMG industry in Bangladesh. Key features of the industry are that the garments workers are grossly unskilled; they have very limited knowledge of human rights, working conditions and labor standards (Ahamed, F., 2014). Most of the garments factories owners maintain good links with political parties and maintain a regimented environment in the factory through an alliance between the police force and their own security personnel (Ahamed, F., 2014). In most cases, researchers were prevented from visiting the factory to monitor the working conditions and make survey/s. Consequently the research technique has relied on secondary data, collected through Literature review, Case studies in other countries, Journals, Research articles, Thesis papers, Newspapers, Online news and survey reports, Garments Manufacturing Industries Annual reports, BGMEA Yearly report and Files and Focus group discussions. Apparently secondary data often runs the risk of being journalistic with the potential of being superficial and can be difficult to analyze. However, the research attempts to provide an insight into condition in the industry that avoids this difficulty.

1.7 LIMITATIONS

The following limitations were faced during the preparation of this paper.

- 1) Limited access into factory information
- 2) Difficulties to communicate with factory owners
- 3) Time constraint
- 4) Unwillingness of Company owner & other respondent to disclose their identities

2. LITERATURE REVIEW

Industrial relations scholars have described three major theoretical perspectives or frameworks, that contrast in their understanding and analysis of workplace relations. The three views are generally known as unitarism, pluralist and radical. Moreover, there are two new modern perspectives-Dunlop and Gandhi. Each offers a particular perception of workplace relations and will therefore interpret such events as workplace conflict, the role of unions and job regulation differently. The radical perspective is sometimes referred to as the "conflict model",

although this is somewhat ambiguous, as pluralism also tends to see conflict as inherent in workplaces. Radical theories are strongly identified with Marxist theories, although they are not limited to these (www.en.wikipedia.org).

2.1 THEORETICAL PERSPECTIVES

2.1.1 PLURALIST PERSPECTIVE

In pluralism, the organization is perceived as being made up of powerful and divergent sub-groups, each with its own legitimate loyalties and with their own set of objectives and leaders. In particular, the two predominant sub-groups in the pluralist perspective are the management and trade unions (www.en.wikipedia.org).

Consequently, the role of management would lean less towards enforcing and controlling and more toward persuasion and co-ordination. Trade unions are deemed as legitimate representatives of employees, conflict is dealt by collective bargaining and is viewed not necessarily as a bad thing and, if managed, could in fact be channeled towards evolution and positive change (www.en.wikipedia.org).

2.1.2 UNITARIST PERSPECTIVE

In unitarism, the organization is perceived as an integrated and harmonious whole with the ideal of "one happy family", where management and other members of the staff all share a common purpose, emphasizing mutual cooperation. Furthermore, unitarism has a paternalistic approach where it demands loyalty of all employees, being predominantly managerial in its emphasis and application (www.en.wikipedia.org).

Consequently, trade unions are deemed as unnecessary since the loyalty between employees and organizations are considered mutually exclusive, where there can't be two sides of industry. Conflict is perceived destructive and result as poor management (www.en.wikipedia.org).

2.1.3 MARXIST/RADICAL PERSPECTIVE

This view of industrial relations looks at the nature of the capitalist society, where there is a fundamental division of interest between capital and labor, and sees workplace relations against this background. This perspective sees inequalities of power and economic wealth as having their roots in the nature of the capitalist economic system. Conflict is therefore seen as inevitable and trade unions are a natural response of workers to their exploitation by capital. Whilst there may be periods of acquiescence, the Marxist view would be that institutions of joint regulation would enhance rather than limit management's position as they presume the continuation of capitalism rather than challenge it (www.en.wikipedia.org).

2.1.4 DUNLOP'S SYSTEMS THEORY/MODEL

The dominant paradigm or conceptual framework for the study of industrial relations is the "Industrial Relations Systems" model advanced by Dunlop in his book of the same name. The concept of a system is applied in the sense that industrial relations, according to Daniel Quinn Mills, author of *Labor-Management Relations*, consists of the "processes by which human beings and organizations interact at the workplace and, more broadly, in society as a whole to establish the terms and conditions of employment." In other words, certain inputs (e.g., human labor, capital, managerial skill) from the environment are combined via alternative processes (e.g., collective bargaining, unilateral management decisions, legislation) to produce certain outcomes (e.g., production, job satisfaction, wage rates). Consistent with the definitions of industrial relations noted above, the study of industrial relations and the systems model focus on outcomes

most closely related to the interaction of employees and employers and the "web of rules" concerning employment that they and their organizations, along with government, establish to govern employer-employee relations. Thus production per se is a system outcome, but not a principal focus of industrial relations. It has been noted that the industrial relations system concept may fall short of the definition of a system in the physical or biological sciences, but nonetheless the concept has proved useful and endured. Dunlop, in *Industrial Relations Systems*, noted that industrial relations systems can be thought of as being embedded in broader social systems. In *Collective Bargaining and Industrial Relations*, Kochan observed that like any complex social system, industrial relations systems are best understood by identifying and analyzing their various components and how they interact with one another to produce certain outcomes (www.referenceforbusiness.com).

The major components of the industrial relations system are:

1. The actors (workers and their organizations, management, and government).
2. Contextual or environmental factors (labor and product markets, technology, and community or "the locus and distribution of power in the larger society" [from Dunlop's *Industrial Relations Systems*]).
3. Processes for determining the terms and conditions of employment (collective bargaining, legislation, judicial processes, and unilateral management decisions, among others).
4. Ideology, or a minimal set of shared beliefs, such as the actors' mutual acceptance of the legitimacy of other actors and their roles, which enhance system stability.
5. Outcomes, including wages and benefits, rules about work relations (e.g., standards for disciplinary action against workers), job satisfaction, employment security, productive efficiency, industrial peace and conflict, and industrial democracy.

The basic purposes of the industrial relations systems concept are to provide a conceptual framework for organizing knowledge about industrial relations and for understanding how various components of an industrial relations system combine to produce particular outcomes (and hence why outcomes vary from one setting to another or over time). Thus for example, wage rates for a particular group of workers might be understood as reflecting the interactions of their unions with management via collective bargaining within the constraints of a particular market, technological, and community environment (www.referenceforbusiness.com).

The precise specification of system components may vary with the level of analysis and from one system to another. For example, when applied to a particular work site, legislation may be best understood as an environmental constraint upon the immediate parties to the employment relationship (workers, management, and possibly unions). But when speaking of a nation's industrial relations system or systems, legislation can be viewed as a process by which the parties (via government) establish terms and conditions of employment or the rules workers and management must follow in establishing those terms and conditions. As another example, when comparing industrial relations systems at a given level of analysis, the roles of the various actors may differ. Unions may play a critical role in one system, and virtually no role in another. In some national systems (e.g., within certain Latin American countries), other actors such as the military or organized religious institutions may play influential roles. The nature of actor roles may also vary across industries within a nation, perhaps as best illustrated by public sector employment, where government is also the employer (www.referenceforbusiness.com).

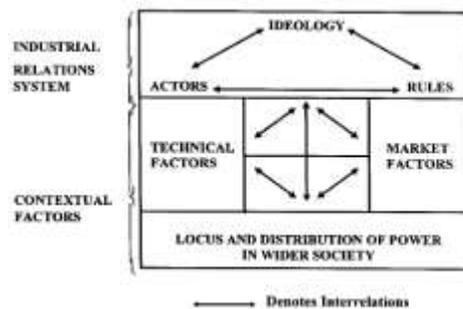


Figure 01: The Conceptualization of an Industrial Relations System (www.mona1634.files.wordpress.com)

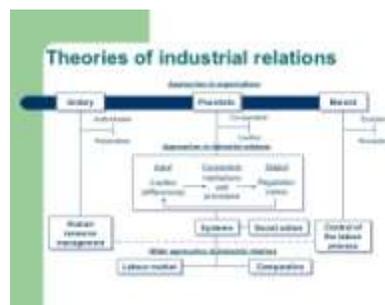


Figure 02: Theories of Industrial Relations (www.slideshare.net)

2.1.5 THE GANDHIAN APPROACH

Gandhiji can be called one of the greatest labor leaders of modern India. His approach to labor problems was completely new and refreshingly human. He held definite views regarding fixation and regulation of wages, organization and functions of trade unions, necessity and desirability of collective bargaining, use and abuse of strikes, labor indiscipline, workers participation in management, conditions of work and living, and duties of workers. The Ahmedabad Textile Labor Association, a unique and successful experiment in Gandhian trade unionism, implemented many of his ideas (www.mona1634.files.wordpress.com).

Gandhiji had immense faith in the goodness of man and he believed that many of the evils of the modern world have been brought about by wrong systems and not by wrong individuals. He insisted on recognizing each individual worker as a human being. He believed in non-violent communism, going so far as to say that “if communism comes without any violence, it would be welcome” (www.mona1634.files.wordpress.com).

Gandhiji laid down certain conditions for a successful strike. These are: (a) the cause of the strike must be just and there should be no strike without a grievance; (b) there should be no violence; and (c) non-strikers or “blacklegs” should never be molested. He was not against strikes but pleaded that they should be the last weapon in the armoury of industrial workers and hence should not be resorted to unless all peaceful and constitutional methods of negotiations, conciliation and arbitration are exhausted. His concept of trusteeship is a significant contribution in the sphere of industrial relations. According to him, employers should not regard themselves as sole owners of mills and factories of which they may be the legal owners. They should regard themselves only as trustees, or co-owners. He also appealed to the workers to behave as trustees, not to regard the mill and machinery as belonging to the exploiting agents but to regard them as their own, protect them and put to the best use they can. In short, the theory of trusteeship is

based on the view that all forms of property and human accomplishments are gifts of nature and as such, they belong not to any one individual but to society. Thus, the trusteeship system is totally different from other contemporary labor relations systems. It aimed at achieving economic equality and the material advancement of the “have-nots” in a capitalist society by non-violent means (www.mona1634.files.wordpress.com).

Gandhiji realized that relations between labor and management can either be a powerful stimulus to economic and social progress or an important factor in economic and social stagnation. According to him, industrial peace was an essential condition not only for the growth and development of the industry itself, but also in a great measure, for the improvement in the conditions of work and wages. At the same time, he not only endorsed the workers’ right to adopt the method of collective bargaining but also actively supported it. He advocated voluntary arbitration and mutual settlement of disputes. He also pleaded for perfect understanding between capital and labor, mutual respect, recognition of equality, and strong labor organization as the essential factors for happy and constructive industrial relations. For him, means and ends are equally important (www.mona1634.files.wordpress.com).

2.2 INDUSTRIAL RELATIONS TODAY

By many accounts, industrial relations today is in crisis (Whalen, Charles J., 2008). In academia, its traditional positions are threatened on one side by the dominance of mainstream economics and organizational behavior, and on the other by postmodernism. In policy-making circles, the industrial relations emphasis on institutional intervention is trumped by a neoliberal emphasis on the laissez faire promotion of free markets. In practice, labor unions are declining and fewer companies have industrial relations functions. The number of academic programs in industrial relations is therefore shrinking, and scholars are leaving the field for other areas, especially human resource management and organizational behavior. The importance of work, however, is stronger than ever, and the lessons of industrial relations remain vital. The challenge for industrial relations is to re-establish these connections with the broader academic, policy, and business worlds (www.en.wikipedia.org).

2.3 BACKGROUND OF RMG INDUSTRIES IN BANGLADESH

The term “garment” is used interchangeably with “apparel” and “clothing”. “Garment” includes readymade woven garments as well as knitwear and hosiery. The products of the garments industry are very diverse, ranging from industrial work wear basic shirt. The concept of “textile complex” or “textile chain” includes the ginning of fiber, spinning yarn, weaving fabrics and operations like dyeing, processing, printing, finishing the fiber and finally making the Readymade Garment (RMG). The final product is garment (M. Monjur Morshed, 2007). There are about 5000 readymade garment factories in Bangladesh, out of which 2100 factories are in Dhaka city and 860 are in Gazipur (According to BGMEA) (Mustafa K., Mohammed M. B. and Sanjida H., 2010).

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 (www.garmentsacknowledgement.blogspot.com).

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. A woman entrepreneur established one of the oldest export-oriented garment factories, the Baishakhi Garment in 1977 (www.forum.daffodilvarsity.edu.bd). 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 (www.garmentsacknowledgement.blogspot.com).

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 (www.garmentsacknowledgement.blogspot.com).

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 (www.garmentsacknowledgement.blogspot.com).

Year	Number of Garment Factories	Employment (in Million Workers)
1996-1997	2503	1,300
1997-1998	2726	1,500
1998-1999	2963	1,500
1999-2000	3200	1,600
2000-2001	3480	1,800
2001-2002	3618	1,800
2002-2003	3760	2,000
2003-2004	3957	2,000
2004-2005	4107	2,000
2005-2006	4220	2,200
2006-2007	4490	2,400
2007-2008	4743	2,800
2008-2009	4925	3,500
2009-2010	5063	3,600
2010-2011	5150	3,600

Source: <http://www.bgmea.com.bd/home/pages/aboutus> dated 1 December 2012.

Table 01: Growth of the RMG in Bangladesh (www.bgmea.com.bd)

At present there are about 5000 garment industries in the country and 75 percent of them are in Dhaka. The rest are in Chittagong and Khulna. These Industries have employed fifty lacks of people and 85 percent of them are illiterate rural women. About 76 percent of our export earning comes from this sector (www.forum.daffodilvarsity.edu.bd).

Year	Export of RMG (in million US dollar)	Total Export of Bangladesh (in million US dollar)	% of RMG's to Total Export
1996-1997	3001.25	4418.28	67.93
1997-1998	3781.94	5161.20	73.28
1998-1999	4019.58	5312.86	75.67
1999-2000	4349.41	5752.20	75.61
2000-2001	4839.83	6467.30	74.84
2001-2002	4583.75	5986.89	76.57
2002-2003	4912.09	6548.44	75.01
2003-2004	5686.09	7602.99	74.79
2004-2005	6417.67	8674.32	74.15
2005-2006	7900.80	10526.16	75.06
2006-2007	9211.23	12177.86	75.64
2007-2008	10099.80	14110.80	71.53
2008-2009	12347.77	15565.19	79.33
2009-2010	12498.72	16294.63	77.12
2010-2011	17914.46	22924.28	78.15

Source: Export Promotion Bureau Compiled by BGMEA.

Table 02: Statement on export of RMG and total export of Bangladesh (www.bgmea.com.bd)

The country's RMG sector, to a creditable level has relieved Bangladesh from over populous unemployment burden through providing the largest employment next to agriculture, transport, and trade and industry sector. This sector has uplifted the neglected section of the population, thus radically transforming the socio-economic condition of the country. Such empowerment and employment raised awareness regarding children education, health safety, population control disaster management only so far. It is an epoch making event in the history of Bangladesh (www.forum.daffodilvarsity.edu.bd).

2.4 WORKING CONDITIONS IN THE RMG SECTORS

Working conditions in the RMG sector frequently violate international labor standards and Codes of Conduct. Recruitment policies are highly informal compared to western standards and there are few companies who do written formal contracts and appointment letters. They are therefore vulnerable to losing their jobs at any time. However, fear of losing their jobs and lack of alternative job opportunities compel workers to continue in unsatisfactory employment. Continuous work schedule, wage penalties, physical and verbal abuse are common. Women workers face physical abuse and sexual harassment inside as well as outside the factories but management does not ensure the security of women workers. However, regulatory measures and its strict implementation and monitoring by the government agency that could overcome work place in security problem of garments workers in Bangladesh. The working environment in Bangladesh RMG sector is below standards (www.bizstudyportal.com).

Most factories do not have adequate ventilation and exhaust fans that leave the garments workers exposed to toxic substances and dust. Raw materials contain dust and fibre particles that hang in the air. Dye, a toxic substance emitted from colored cloth, spreads in the workroom. As a result, many workers suffer from constant fatigue, headaches, anaemia, fever, chest, stomach, eye and ear pain, cough and cold, diarrhoea, dysentery, urinary tract infection and reproductive health problems due to overwork, uncongenial working conditions, and wide-ranging labor law violations. In fact the Factories Act of 1965 sets the occupational safety and health standards in Bangladesh, but like every other aspect of the Labor Code, it is rarely enforced due to the lack of resources and corrupt practices in the system (www.bizstudyportal.com).

Work areas are often overcrowded with limited workspaces causing occupational hazards such as musculoskeletal disorders and contagious diseases. The absence of labor standards monitoring system and ineffective building codes, poor enforcement and outdated labor laws and a lack of awareness of labor rights among workers (www.bizstudyportal.com).

Labor unrest is common in the RMG sector. In most cases, employers do not draw attention to workers' rights and ignore labor standards and discarding fair labor practices. Formation of a trade union is often thwarted by severe repression, dismissal, arrest, assault by hooligans hired by employers and other practices which are in violation of the international labor standards and Codes of Conduct (ILO, 2003). To avoid unrest in the RMG sector, research recommended for strengthening Social compliance issues and labor standards to improve wages, working hours, overtime, job security, the right to form trade unions, social security and also occupational health and safety. Moreover, research suggested that NGOs, civil society, trade unions and other stakeholders should work together to adopt the Code of Conduct for a viable and competitive RMG industry. The government, NGOs, international agencies, buyers and other stakeholder groups promote full compliance with mandatory requirements as specified in the law (www.bizstudyportal.com).

2.5 INDUSTRIAL RELATIONS AT RMG SECTORS IN BANGLADESH

The relationship between employers and employees is known as industrial relations (IR) where employers include the owners and its representatives comprising management personnel and where employee means the operatives and workers who have no decision making power for the development of company. Government is known as the third party in industrial relations. Good relationship among employers, employees, and the government is important for industrial growth, sustainability, profitability, and well-being irrespective of any sector or industry (www.textiletoday.com.bd).

Textile industry is one of the important industries in Bangladesh having nearly 13% contribution to the Gross Domestic Product (GDP). This industry employs near about 5 million people and it is the second largest contributor to foreign currency reserve after remittance in terms of net of export and net of remittance. Readymade Garments (RMG) is considered as the backbone of this sector which employs 3.6 million people. This is considered as backbone because this RMG industry creates scopes for the other backward linkage industries including fabric manufacturing industry, wet processing industry, spinning industry, etc (www.textiletoday.com.bd).

So this is very important to maintain affable industrial relations in RMG industry. We should always remember while maintaining industrial relations especially in RMG industry that 80% of the 3.6 million employees are women who have no capacity to contribute in the GDP other than being RMG operatives or homemakers and we also should remember that our RMG

industry remains competitive in the global market for this low cost workforce and we are holding second position in garment selling in the global market with 5% market share (www.textiletoday.com.bd).

New type of industrial relations to be formulated considering the garments owners' interest, interest of the management, interest of the middle group including buying house, and interest of the operatives (the cutting and making force, the competitive advantage force, the pivotal factor of garments production, the RMG industry subsisting force) (www.textiletoday.com.bd).

Both the parties should maintain mutually beneficial relationship for the betterment of the nation and its socio economic environment. Declaring lay off for resentment or go for strike or firing operatives for strike are not the way of solution, ultimately these are the example of bad industrial relations (www.textiletoday.com.bd).

In 1994, workers called a strike for establishing minimum wages and implementing labor laws in the RMG sector. As a result, a tripartite committee, headed by the then Labor Minister was formed. It consisted of three workers' representatives and three representatives from employers and governments. The functions of the Committee were to review the demands of garments workers, and monitor violation of labor laws. In 1997, a bilateral committee, consisting of representatives from Grand Alliances of Workers and BGMEA, was formed to resolve factory level disputes, and was successful in many cases (Fair Wear Foundation, 2013).

From 1994 to 2006, RMG workers' unions signed seven agreements with the BGMEA covering minimum wages for garments workers, recognition of trade union activities, provision of appointment letters and identity cards to the workers, fixing working hours and ensuring maternity leave and other holidays. The national tripartite agreement was concluded between the government, BGMEA and the organizations representing garments workers in 2006. Popularly known as the national tripartite memorandum of understanding, it is seen as a major step towards resolving the abovementioned issues. Most of the demands were subsequently incorporated in the Bangladesh Labor Law Act 2006 (Fair Wear Foundation, 2013).

2.5.1 GENERAL SITUATION ON TRADE UNION RIGHTS

Until the 1980s, collective bargaining was mostly practiced in State owned industries in Bangladesh. During the 1980s and 90s, trade union activities were reduced following the large-scale privatization of state owned industries. Following the World Bank led Structural Adjustment Policy (SAP) era, pro-business policies fostered growth of export oriented industries. Widespread restrictions on trade union rights during this period have been documented by researchers (Rashid M. A., 2006).

The absence of industry wide constructive collective bargaining arrangements is seen by many observers to contribute to conflict in the garment industry. Some unions are affiliated to political parties, which add an extra layer of complexity. Low awareness among workers of collective bargaining rights and management resistance to unionization both contribute to low union membership levels. Due to state of emergency, from November 2006 December 2008, trade unionism was banned, and there have been documented cases of union leaders being tortured, arrested and harassed (Rashid M. A., 2006).

2.5.2 LOCAL GRIEVANCE MECHANISMS FOR WORKERS

In factories without formal unions, local grievances can be handled through the Participation Committee (PC). The PC should have representatives from both workers and employers. Representation from workers should be greater than employers' nominated members. The Worker Welfare Committee exists only in the Export Processing Zones and the committee members should be nominated from workers only. While some examples of well functioning committees exist, stakeholders have indicated that in many factories the committees have either not been set up, or do not function (Rashid M. A., 2006).

2.5.3 MULTILATERAL BODIES

- **BGMEA/Registered Trade Union Federation bi-lateral committee:** formed in 1997 to address labor issues such as maternity leave, overtime, payment of wages, minimum wages.
- **Conciliation-cum-Arbitration Committee (CAC):** Since 26th April 1998 the CAC in accordance to Industrial Relations Ordinance (IRO)-1969 works to solve disputes and grievances.
- **Wage Board:** Section 138 (clause i) of the labor law sets the provision for the establishment of a minimum wage board. The wage board, according to clause-ii of the same article would comprise of:
 - A chairman
 - A neutral (i.e., belonging to no party) member
 - A representative of the enterprise owners
 - A representative of the workers for cases where specific industries are involved one member each from the owners' side and the workers' side from the industry would be taken as members of the wage board for that specific industry.

2.5.4 STATE ROLE IN INDUSTRIAL RELATIONS

- ⊕ **Ministry of Labor and Employment's Directorate of Labor and Inspection (DoL):** is responsible for implementation and monitoring of all labor and industrial laws. The DoL provides conciliatory service for settlement of industrial disputes. DoL is the accrediting and regulatory agency for the trade unions in Bangladesh. Director of DoL is also the Registrar of Trade Unions. The DoL office also mediates inter-union and intra-union conflicts/disputes through informal discussion etc.
- ⊕ **Ministry of Commerce:** is responsible for regulating domestic and international trade, and formulating and implementing import and export policies for the country within the legal structure set by the Imports and Exports (Control) Act, 1950 and the Import Policy Order.

2.6 PROBLEMS OF GARMENTS INDUSTRY IN BANGLADESH

The garment industry of Bangladesh has been the key export division and a main source of foreign exchange for the last 25 years. National labor laws do not apply in the EPZs, leaving BEPZA in full control over work conditions, wages and benefits. Garment factories in Bangladesh provide employment to 40 percent of industrial workers. But without the proper laws the worker are demanding their various wants and as a result conflict is began with the industry (www.conveylive.com).

2.6.1 RAW MATERIALS

Bangladesh 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 (www.conveylive.com).

2.6.2 UNSKILLED WORKERS

Most of the illiterate women workers employed in garments are unskilled and so their products often become lower in quality (www.conveylive.com).

2.6.3 IMPROPER WORKING ENVIRONMENT

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 (www.conveylive.com).

Most of the garment factories in our country lack the basic amenities where our garment workers sweat their brows from morning to evening to earn our countries the major portion of our foreign exchange. Anybody visiting the factory the first impression he or she will have that these workers are in a roost (www.conveylive.com).

Improper ventilation, stuffy situation, filthy rooms are the characteristics of the majority of our factories. The owners profit are the first priority and this attitude has gone to such an extent that they do not care about their lives.

2.6.4 LACK OF MANAGERIAL KNOWLEDGE

There are some other problems which are associated with this sector. Those are- lack of marketing tactics, absence of easily on-hand middle management, a small number of manufacturing methods, lack of training organizations for industrial workers, supervisors and managers, autocratic approach of nearly all the investors, fewer process units for textiles and garments, sluggish backward or forward blending procedure, incompetent ports, entry/exit complicated and loading/unloading takes much time, time-consuming custom clearance etc (www.conveylive.com).

2.6.5 GENDERED DIVISION OF LABOR

In the garment industry in Bangladesh, tasks are allocated largely on the basis of gender. This determines many of the working conditions of women workers. 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 (www.conveylive.com).

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 (www.conveylive.com).

When asked why they prefer to employ women for sewing, the owner and managers gave several reasons. Most felt that sewing is traditionally done by women and that women are more patient and more controllable than men (www.conveylive.com). There is specific labor discrimination exists in Bangladeshi Garments Sectors which are given as follows (www.eajournals.org):

Categories of workers	Male wages Tk/pm	Female wages Tk/pm
Operator	2,254	1,536
Cutting Master	3,935	-
Ironer	1,894	1,186
Sewing helper	1,200	762
Cutting helper	1,512	857
Finishing helper	1,209	1,023
Folder	1,528	1,157

Source: Abar, S.S. (2001). *Problems surrounding wages: the readymade garments sector in Bangladesh*, LMD, Volume2, No.7, pp.5

Table 03: Gender base Wages Discrimination at RMG in Bangladesh

2.6.6 WAGES

The government of Bangladesh sets minimum wages for various categories of workers. According of Minimum Wage Ordinance 1994, apprentices' helpers are to receive Tk500 and Tk930 per month respectively. Apprentices are helpers who have been working in the garment industry for less than three months. After three months, Apprentices are appointed as helpers. Often female helpers are discriminated against in terms of wages levels, and these wages are also often fixed far below the minimum wage rate. 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 (www.conveylive.com). Inter-country comparative average hourly wages in the RMG industry are given below (www.eajournals.org):

No.	Country	Wage/hour (US\$)
1.	Germany	25.00
2.	USA	16.00
3.	Turkey	7.3
4.	South Korea	5.00
5.	Mexico	2.40
6.	Thailand	1.75
7.	Poland	1.40
8.	Vietnam	0.85

No.	Country	Wage/hour(US\$)
9.	China	0.5
10.	Sri Lanka	0.45
11.	Pakistan	0.41
12.	Indonesia	0.40
13.	India	0.35
14.	Cambodia	0.32
15.	Nepal	0.30
16.	Bangladesh	0.15

Source: *The Financial Express*, Dhaka, 15 June 1995 and *VENATEX and Türk Herb-ly Sendikası*, May 2005, *Cambodian Ministry of Commerce*; *USITC* (2004) and Source : *Islam S. (2001). The Textile and clothing Industry of Bangladesh in a changing World Economy*; *Cambodian Ministry of Commerce*, 2007.

Table 04: Country base Wages Differences at RMG Sector

2.6.7 INSUFFICIENT OF LOAN

Insufficiency of loan in time, uncertainly of electricity, delay in getting materials, lack of communication, problem in taxes etc. Often obstruct the industry. In the world market 115 to 120 items of dress are in demand where as Bangladesh supplies only ten to twelve items of garments. India, south Korea, Hong Kong, Singapore, Thailand, Taiwan etc, have made remarkable progress in garments industries. Bangladesh is going to challenge the garments of those countries in the world market (www.conveylive.com).

2.6.8 UNIT LABOR COST

Bangladesh has the cheapest unit labor cost in South Asia. It costs only 11 cents to produce a shirt in Bangladesh, whereas it costs 79 cents in Sri Lanka and 26 cents in India. Clearly, Bangladesh's comparative advantage lies in having the cheapest unit labor cost (www.conveylive.com).

2.6.9 WORKING HOURS

Though the wages are low, the working hours are very long. The RMG factories claim to operate one eight-hour shift six days a week. 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 (www.conveylive.com).

2.6.10 POOR ACCOMMODATION FACILITIES

As most of the garment workers come from the poor family and comes from the remote areas and they have to attend to the duties on time, these workers have to hire a room near the factory where four to five huddle in a room and spend life in sub human condition (www.conveylive.com). For four to five workers there is one common latrine and a kitchen for which they have to pay from Tk=2000 to Tk=2500/-.They share this amount among themselves to minimize the accommodation expense (www.conveylive.com).

One cannot believe their eyes in what horrible condition they have to pass out their time after almost whole day of hard work in the factory. After laborious job they come into their roost, cook their food and have their dinner or lunch in unhygienic floor or bed and sleep where they take their food. They share the single bed or sleep on the floor (www.conveylive.com).

The owners of these factories must not treat the workers as animals. The owners of these factories who drive the most luxurious car and live in most luxurious house do ever think that these are the workers who have made their living so juicy. Will these selfish owners ever think of these workers of their better living for the sake of humanity by providing better accommodation for these workers in addition to providing with the job (www.conveylive.com).

2.6.11 SAFETY PROBLEMS

Because of the carelessness of the factory management and for their arrogance factory doors used to be kept locked for security reason defying act (www.conveylive.com).

Safety need for the worker is mandatory to maintain in all the organization. But without the facility of this necessary product a lot of accident is occur incurred every year in most of the company. Some important cause of the accident are given below (www.conveylive.com)-

- ✚ 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

2.6.12 POLITICAL CRISIS

Garments industries often pay dearly for political unrest, hartal and terrorism etc. The international market has withdrawn quota advantage over garments export form Bangladesh since December 2005 (www.conveylive.com).

Bangladesh has to advance cautiously for getting better position of her garments in the world market. Finally destruction of twin tower in 11 September 2001. Invasion on Afghanistan and Iraq and depression in world Economy have seriously affected the export trade of Bangladesh (www.conveylive.com).

2.6.13 PRICE COMPETITIVENESS

China and some other competitors of Bangladesh have implemented sharp price-cutting policies in exporting garment products over the last few years, but Bangladesh has failed to respond effectively to such policies. China was able to drop the export price of 29 garment categories by 46 per cent on average in the United States within a year, from \$6.23 per sq meter in December 2001 to \$3.37 per sq meter in December 2002. Bangladesh needs to respond to such price-cutting policies of its rivals in order to remain competitive in the quota-free global market (www.conveylive.com).

2.6.14 LEAD TIME

Lead time refers to the time required for supplying the ordered garment products after the export order has been received. 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 (www.conveylive.com).

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 (www.conveylive.com).

2.6.15 COMPLIANCE FAILURE

Experts believe that the Bangladesh RMG sector has potentials to grow much further by steadily increasing its global market share and emerge as the world's leading RMG-exporting country surpassing China. For example, much deeper penetration into European Union (EU) and US market than at present supplying only 9.2 and 5.6 per cent respectively of the markets and strong diversification of new markets into countries such as Japan, Australia, Brazil, Russia, Korea, China, Mexico and Turkey can help significant expansion of current export volumes and reduce dependence on the traditional export destinations. However, the industry is now under serious scrutiny by international buyers due to devastating factory fires and political turmoil in the recent past badly affecting the industry and tarnishing the country's image (www.thefinancialexpress-bd.com).

It is reported in the press that the apparel manufacturers are experiencing 30-35 per cent decline in orders due to compliance failures. A series of major industrial accidents between November 2012 and April 2013 which led to deaths of over 1200 workers has raised serious concerns regarding compliance in labor standards and workers safety. Additionally, almost continued labor unrest and long-standing political chaos have created a severe image crisis worldwide and put Bangladesh's international competitiveness at greater risks. The enormity of industrial accidents, unfair treatment of the workers, abysmally low wages, unsafe working conditions, lack of workers' rights in the absence of trade union rights, etc. have become issues of serious concerns and gained renewed significance in the buyers' decisions to source RMG supplies from Bangladesh. Due to lack of compliance failures, Bangladesh lost GSP (Generalised System of Preferences) facilities in the US and similar threats are looming large from the European Union markets which may prove fatal to the long-term sustainability of international

competitiveness of Bangladesh's RMG industry. Undoubtedly, it is time for a "wake-up call" for all stakeholders involved in the RMG industry (www.thefinancialexpress-bd.com).

2.6.16 LABOR UNREST IN RMG SECTOR

Unrest in Readymade Garment industry of Bangladesh became a common phenomenon in the recent years due to conflicts between the employers and the employees which are primarily concerned with salary and other benefits. Major accidents are also responsible for this unrest. Recent major accidents and the unrest in this sector have been causing a serious negative impact on the export of readymade garment products of Bangladesh in international markets. The total export of Bangladesh is 22.90 billion US dollars of which 17.90 billion is from RMG sector that is equivalent to 78 percent of the total export earnings of the country. These earnings are continuously increasing day by day. As such, readymade garment industry of Bangladesh has a paramount importance in the economy of the country which is developing in nature. In the financial year 2010-2011, 78.15 percent of the total export was from the readymade garment industry although these earnings were heavily dependent on demand and supply in international markets. (www.theindependentbd.com).

The workers of Readymade Garment industry of Bangladesh are mostly uneducated women and are from the rural areas of the country. As such, readymade garment industry has opened a new avenue for the rural unemployed and uneducated women to engage themselves in the financial activities of the economy of Bangladesh. Labor Force survey shows that although male employment in the manufacturing sector is more or less stagnant, female employment is increasing significantly which is often attributed by the social development of the country (www.theindependentbd.com).

RMG of Bangladesh has been enjoying the advantage of cheap labor force which is very low in the world like The Philippines, Indonesia, Malaysia, China, India, and Sri Lanka. Extremely cheap labor force and their efficiency are attributed as the reasons for the success of readymade garment industry of Bangladesh. This has given this sector a competitive strength in the international markets of garment products. In terms of labor cost, Bangladesh is well positioned and compares favorably with other Asian countries. The per hour cost of labor in Bangladesh is \$0.25, compared to \$0.34 in Indonesia, \$0.34 in Pakistan, \$0.46 in Sri Lanka, \$0.48 in China and \$0.57 in India. This indicates that the buyers are eager to buy garment products from Bangladesh (www.theindependentbd.com).

Although, readymade garment industry is doing very well in Bangladesh and contributing a lot to the national exchequer, there is a threat of continuous unrest in this sector that has identified as the prime hurdle for the development of this sector. The workers of this sector are unhappy with their present salary and behavior of the management. Sometimes, the behavior of the management along with high overtime work, lack of leisure and holidays, and overall working environment become more dominant even compared to the financial benefits of the workers. Hence, a kind of dissatisfaction is always prevailing among the workers that lead to labor unrest in this industry. Study shows that the demand for weekly holiday is one of the major reason for worker's unrest. It is also observed that the workers are engaged in work for almost all days of the week. The workers blame that mistrust of the employers' and rude behaviors of the managers are the reasons for the unrest in this sector. Low wages and sub-standard living condition are also important causes of labor unrest in the RMG industry. The rights of the labors are not well protected in the readymade garment industry of Bangladesh (www.theindependentbd.com).

In 1994 the minimum wage for a worker in the garment sector was 930 taka per month. Later, in 1997, the government refixed the minimum wage as 1550 taka per month (Elyus R., 2006). However, the garment factory owners did not recognize this. The garment sector workers demanded that the owners recognize the minimum wage. They also demanded the establishment of a minimum wage board. In July 2001, the government declared a minimum wage structure for the private sector workers fixing 1350 taka as the minimum monthly salary, but the employers rejected the proposal of the Government. A member of the federation moved to the High Court and the High Court declared the government order illegal on technical grounds. (Elyus R., 2006). Now the garment factory workers have been getting a paltry sixty US cents per day, whereas the factory owners are getting richer day by day. The garment workers have to work 10 to 12 hours a day, seven days a week, but are paid no overtime (Elyus R., 2006). In 2013, a government-formed wage board Chaired by Mr. AK Roy, recommended Tk 5,300 as minimum monthly salary for readymade garment workers, up from existing Tk 3,000 (www.bangladeshchronicle.net). Garment factory owners, who proposed it to be Tk 4,250, rejected the recommendation. The decision had taken after the board's ninth meeting. The owners' representatives however rejected the new pay scale while the workers' representatives accepted it. Of the amount, Tk 3,200 has been shown as basic, Tk 1,280 as house rent, Tk 320 and Tk 200 as medical and transport allowances and Tk 300 as food subsidy (www.bangladeshchronicle.net).

Main reasons for the labor unrest perceived by the workers are unpaid wages and the deferred payment. Some RMG owners do not give salaries and overtime allowances to the workers on time. But the owners claim that more than 90% garment factories pay worker's wages within 1st or 2nd week of the month which is never verified by the relevant authority of the government. As such, a kind of mistrust between the employers and employees existed in the readymade garment industry of Bangladesh and thus results in labor unrest. According to A newspaper Metro, RMG sector of Bangladesh has experienced at least 72 incidents of labor unrest on demand for payment of dues. It has also been revealed in a report of the "Bangladesh Institute of Labor Studies" that in the 1st six months of 2012, labor unrest has been occurring continuously in Bangladesh. According to the report, 41 of the incidents took place in connection with the demand for payment of their dues. In 13 cases, the workers used streets to protest for the killing or torture of their colleagues. Among others, declaration of lay-off or factory closure, and termination and curtailment of leaves or holidays were the causes of demonstrations and unrest in this sector. Daily Star reported that the garment workers engage in violent clashes at times on rumors or instigations for lack of proper counseling and poor relations with the management. Except the massive labor unrest for wage hike in 2010, most other incidents of unrest in this sector were occurred either following rumors of death of fellow workers or on instigation (www.theindependentbd.com).

A newspaper in another study reported that RMG sector of Bangladesh is experiencing tough times. The sector has been reverberating with labor rampage, killings, wage disputes and disappearance incidents. This sector experienced serious unrests during mid-July 2010. Several thousands of apparel workers went on rampage in different industrial areas demanding a wage structure providing a minimum monthly pay of Tk 5,000. It also reported that the frequent unrest in the sector pertaining to their working conditions, wage and other rights have hampered the production of this sector and the economy of the country as well. The News Today reported that the causes for the most of the recent labor disputes were not solely due to demand for salary increments but also a well-coordinated and orchestrated conspiracy led to the unrest created by outsiders. Bjorn Claeson found that the failure of garment factories to implement the minimum

wage set for garment workers and lack of recognized labor unions were the key reasons for the recent unrest (www.theindependentbd.com).

In Bangladesh, labor unrest took place in 2010 for implementing minimum wages of US \$70 per month. In that clash, two hundred workers were injured and thirty factories were ransacked. One of the reasons for this unrest in this industry is legal and institutional failure to ensure labor rights. Most of the garment factories of Bangladesh hardly follow the labor laws and ILO conventions. The reasons might be attributed by the weak monitoring system and the institutional built in bureaucracy of the government. The industry leaders believe that the current bout of the unrest did not stem from the demand for wage hike and mentioned that the unrest and vandalism in the factories were not the acts of the regular workers. Recent Ashulia's unrest has reportedly spread out with many other garment hubs as the workers took to the streets to express solidarity with their colleagues and demanded wage raise. Under these circumstances, experts' opinions show that the smooth production of the readymade garments is dependent on the favorableness of the socioeconomic factors of the workers. Keeping this in mind, this study has been designed to uncover the socioeconomic factors responsible for the labor unrest in the readymade garment industry of Bangladesh (www.theindependentbd.com).

The main socioeconomic factor for the labor unrest in this sector is lack of additional benefits & irregularities in payment of overtime. The workers used to work at the factory from dawn to dusk with an overtime arrangement which is very low in amount. But the overtime money is not paid on time that creates unrest among the workers (www.theindependentbd.com).

The second important labor unrest factor in garment industry is sub-standard living condition and rude behavior of the supervisor. Garment workers are often misbehaved, tortured or even killed by the people of the employer. In the factory, worker has no voice and recognition of their work. Moreover, workers are not given dinner allowance while working till mid night and dispute of the workers have been unsolved for long time (www.theindependentbd.com).

The third important socioeconomic factor for the labor unrest is deferred festival bonus. Almost all companies do not pay rational wages to the workers and they have no institutional and legal support to uphold their rights. Therefore, workers have no mental peace and they make unrest to increase their wages (www.theindependentbd.com).

Lack of training program is another reason for the unrest in readymade garment industry of Bangladesh. Sometimes, lack of adjustment with spouse and other family members indirectly influence workers to participate in the labor unrest. Payment of wages, overtime, etc., are also not paid on time. These are paid after a long period of time after the work that creates frustration among the workers and that leads to the unrest (www.theindependentbd.com).

The RMG industry of Bangladesh is now in crisis due to repetitive labor unrest. It is a common phenomenon now a day in this sector. Recent unrest in this sector has caused a serious negative impact on the export of readymade garments in international markets. The most common reasons claimed by the workers for the labor unrest are non-payment of wages and the deferred payment. Some garment owners do not give salaries and overtime allowance to the workers on time. But, the owners claim that they pay worker's wages on time. Hence, a kind of mistrust between the employers and employees existed in this sector of Bangladesh (www.theindependentbd.com).

The main factor for the labor unrest is perceived as the lack of additional benefits and irregularities in payment of overtime. The benefits and overtime is given with a very minimum rate and often paid in late. Almost all companies also do not give rational wages to their workers and they have no institutional and legal support to claim their rights. Hence, deferred payment became normal phenomenon at the factory. The lack of training program is also hampering the development of the workers in their profession. High inflation of the country has been causing the dissatisfaction of the workers. The workers are often unable to buy their necessities with the money they receive from the company and thus, there is a continuous dissatisfaction in their families that has impact on the unrest in this sector (www.theindependentbd.com).

The factor called sub-standard living condition and rude behavior of the supervisor hardly influence the workers as these are the common behavior of the supervisors at the factory level in Bangladesh. Workers became used to it. Garment workers have a very high need of money to survive and maintain their families. Therefore, they hardly care about the labor union in the factory. They expect that they will be paid salaries on time as committed even if the amount is very low. Due to the very high level of dissatisfaction of the workers, there is a higher level of sensitivity of the rumors in the factory premise. As such, if the policy makers of this sector and the government of the country come forward and consider the factors identified through this research, the unrest problem might be avoided. However, there is an ample scope to conduct further study by taking more samples and come up with more accurate results in this regard (www.theindependentbd.com).

2.6.17 IMPACT OF LABOR UNREST

Whatever might be the cause of labor unrest in the RMG sector, impact is, beyond doubt, catastrophic (www.textile-society.blogspot.com). All the four parties-the workers, the owners, government and foreign buyers will be affected (www.textile-society.blogspot.com). If labor unrest continues, the foreign buyers will cancel their orders and divert to other exporters like, India, China or Cambodia (www.textile-society.blogspot.com). Hundreds of factories will be closed. Many owners may be bankrupt. Labors, losing jobs will lose the livelihood and many will involve in criminal activities. This will create burden on the existing unemployment problem and increase various types of crimes in the country. The government will be deprived of huge foreign exchange and revenue income. The industrialization process of the country will be impeded. The foreign buyers, who could buy quality garments at a low price and make huge profit in the US or EU market will have to eye on another exporter country from where they have to count a high price for the same garments. Hundreds of businesses, grown based on RMG industry, will suffer (www.textile-society.blogspot.com). The whole economy of Bangladesh will be adversely affected (www.textile-society.blogspot.com).

2.7 SUSTAINABILITY OF THE RMG INDUSTRY

It is important to note here that competitiveness in the global apparel market no longer depends only on technical and economic standards (like cost competitiveness, product quality, on-time delivery, etc.) but also on social standards, especially labor standards. The labor standards which are accepted internationally are those that are included in the concept of ‘decent work’ introduced by the ILO in 1999 and it focuses on four objectives: the promotion of rights at work, employment, social protection, and social dialogue. The emphasis is ensuring decent and productive work, in conditions of freedom, equity security and human dignity. The implication is that employers would have to ensure, inter alia, payment of fair wages and acceptable working conditions (www.bizstudyportal.com).

In recent times, foreign buyers and retailers have been insisting on the fulfillment of these labor standards as a pre-condition for importing garments from Bangladesh and other countries. Whatever the motive behind this move, if Bangladesh's garment exporters fail to meet these labor standards, exports are likely to suffer. At the same time, workers of Bangladesh's garment factories have been demanding for quite some time the payment of fair wages and other non-wage benefits permissible under national labor laws, together with improvement in general working conditions. Several violent strikes by these workers, including setting fire to several garment factories, have been taking place in the country since May 2006. Thus, it is clear that unless the issue of compliance with acceptable level of labor standards is properly addressed by garment enterprises, the long-run sustainability of this industry may be jeopardized. It has been noted above that the wage rate in the garments industry in Bangladesh is not only lower compared to wages in competing countries even in South Asia, it is even lower than wages paid in most other industries in Bangladesh. Not only that, the government's minimum wage for the garment industry has remained unchanged at Taka 930 for grade seven employees and Taka 4,500 for grade one employees over the last 10 years (www.bizstudyportal.com).

Research shows that the garment industry is characterized by a wide variety of deprivation of workers, particularly women workers. These include, inter alia, lack of proper infrastructure facilities and safety at workplace, non-compliance with legal minimum wages, wage discrimination against women workers, lack of provision of essential service benefits to workers, lack of housing facilities, irregularities with granting maternity leave and benefits, insufficient number of toilets, congested workplace in unsafe buildings, non-issuance of any formal contract of employment, non-compliance with overtime work rules and allowances, etc. It is important to note that very little improvement has taken place in wage and non-wage benefits paid to workers and working conditions in the garment factories since the industry started in the late 1970s, despite many attempts made by researchers and civil society to convince garment factory owners to bring about improvements in these conditions (www.bizstudyportal.com).

The RMG industry is a low-technology and labor-intensive industry. Being labor-surplus economy Bangladesh always enjoy low wages. With regard to prices, Bangladesh can beat most of its competitors. Prices are related to the cost of production which in case of apparel marketing is greatly determined by the labor costs. The pressure of the unemployed labor force and the very low standard of living allow the garment wages in Bangladesh to be kept at a level that is one of the lowest among competing countries. That Bangladesh has a tremendous labor cost advantage can be seen by looking at the comparative hourly wages. Three factors have been primarily responsible for the lower labor cost in the garment industry compared to most other industries in Bangladesh (Mondal 2003).

First, the garment industry is characterized by a predominance of female workers who are prepared to accept lower wages than their male counterparts due to their opportunity cost of time. Second, the minimum wage fixed by the government has been lower for the garment industry compared to other industries. Third, garment entrepreneurs have succeeded in reducing labor costs by generally depriving workers of "decent" working conditions (Mustafa K., Mohammed M. B. and Sanjida H., 2010).

3. METHODOLOGY

3.1 STUDY DESIGN

"The success of every research is dependent on the research design employed (Polit & Hungler, 1991)". "Every component of the research methodology is informed by the design (Polit & Hungler, 1991)". "The value of, and need for, objective, methodologically sound research is

undeniable (Polit & Hungler, 1991)". "Only through sound research designs can threats to validity be eliminated and, also draw scientifically valid conclusions to inform practice (Polit & Hungler, 1991)". This research's target is to identify the scenario of Industrial relationship between the labor and owner of the RMG sector of Bangladesh. Primarily it's based on secondary qualitative research made by different researchers where the circumstances were interpreted by the interviews. Thus the design for this study was an accumulation of qualitative and quantitative research. Quantitative research is defined as "the numerical representation and manipulation of observations for the purpose of describing and explaining the phenomena that those observations reflect (Crotty, 1998, p. 23)" while qualitative research is "the non-numerical examination and interpretation of observations, for the purpose of discovering underlying meanings and patterns of relationships (Crotty, 1998, p. 23)". Through these definitions it has proved that quantitative and qualitative research helps to identify the reasons for using each methodology differently. "Although the use of a single methodology has been advocated by a number of researchers, many of the supporting arguments are decidedly pragmatic, such as time constraints (Creswell, 1994)".

Jayaratne (1993) indicates that "a researcher should aim to achieve the situation where blending qualitative and quantitative methods of research can produce a final product, where the significant contributions of both approaches can be highlighted". Though some researchers believe that "qualitative and quantitative methodologies cannot be combined because the assumptions underlying each tradition are so vastly different, others think they can be used in combination only by alternating between methods where qualitative research is appropriate to answer certain kinds of questions in certain conditions and quantitative is right for others". Snyder (1995) notes "employing both qualitative and quantitative approaches in a study offers three main advantages". "Firstly, the mixed method increases the comprehensiveness of overall findings, by showing how qualitative data provides explanations for statistical data (Snyder, 1995)". "Secondly, the method can expand the dimensions of the research topic (Snyder, 1995)". "Thirdly, the method can increase the methodological rigor as findings in both phases could be checked for consistency (Snyder, 1995)".

3.2 SOURCES OF DATA

Secondary data sources were used for this study. The data were gathered from literatures of books, policies, journals and articles of the relevant subjects. "These multiple sources of data offered the researcher the opportunity of viewing the study from its many facets (Gross, 1971; Yin et al., 1983)". "This advantage was of particular interest to the study as it is noted in the literature that multiple sources of evidence provide for better case studies (Gross, 1971; Yin et al., 1983)".

3.2 DATA COLLECTING TECHNIQUES

- Content analysis
- Facts and literature review
- Collection of relevant information
- Newspaper review

3.3 SOURCES OF DATA

- ✦ Different books and articles
- ✦ Evidence from newspapers
- ✦ Data collection Instrument

4. DISCUSSION, RECOMMENDATIONS AND CONCLUSION

4.1 DISCUSSION

4.1.1 RESULTS OF DIFFERENT FACTOR ANALYSIS-LABOR UNREST FACTORS

The reasons for the labor unrest in ready-made garment industry of Bangladesh were identified through different factor analysis organized by different researchers through several surveys. Those analyses identified 18 factors responsible for the unrest. The most important unrest factor is 'Long Working Hour and Layoff' (Ahmed, S., Raihan, Mohammad Z. & Islam, N., 2013). The second important unrest factor is 'Lack of Minimum Facility and Safety' followed by Sub-Standards Living Conditions, Deferred Benefits, International Conspiracy and Coercive Role of the Law Enforcing Agency, Too much Dependence on Buyers, Pressures from the Workers and Mastans, Use of Workers by Others and Rumors, Price Hike of Necessary Items, Un-fulfillment of Education Demands of the Children, Distorted Minded Workers, Political Instability of the Country, Too Much and Inhuman Workload, Reluctance of the Government Regulatory Bodies, No Promotion Opportunity, Wages are not Paid On Time, Poor Working Environment, and Insufficient Wages for Fulfilling Basic Needs (Ahmed, S., Raihan, Mohammad Z. & Islam, N., 2013). This indicates that there are number of important factors associated to the labor unrest in garment sector of Bangladesh (Ahmed, S., Raihan, Mohammad Z. & Islam, N., 2013).

Those Factor Analyses showed that, the main factor for the labor unrest in Bangladesh is long working hour and the sudden layoffs. The workers used to work at the factory from dawn to dusk with overtime which is very low in amount (Ahmed, S., Raihan, Mohammad Z. & Islam, N., 2013).

The second important labor unrest factor is lack of minimum facility and safety (Ahmed, S., Raihan, Mohammad Z. & Islam, N., 2013). In Garment Companies of Bangladesh, minimum facilities for canteen, prayer room, washing room, toilets, child care etc. are hardly adequate (Ahmed, S., Raihan, Mohammad Z. & Islam, N., 2013). Moreover, the safety measures are not up to the mark so that accidents are occurring frequently. Frequent accidents also indicate that the safety measures followed are hardly up to the standards in this industry (Ahmed, S., Raihan, Mohammad Z. & Islam, N., 2013).

The third important factor for the labor unrest is sub-standard living conditions of the workers (Ahmed, S., Raihan, Mohammad Z. & Islam, N., 2013). All most all companies do not have housing facilities. Therefore, workers live nearby the factory in the rental houses where the conditions are very poor (Ahmed, S., Raihan, Mohammad Z. & Islam, N., 2013). They are also unable to higher good house with the financial benefits they receive (Ahmed, S., Raihan, Mohammad Z. & Islam, N., 2013).

Deferred payment of benefits is another reason for the unrest in ready-made garment industry of Bangladesh (Ahmed, S., Raihan, Mohammad Z. & Islam, N., 2013). The benefits like bonus, overtime etc are not given on time (Ahmed, S., Raihan, Mohammad Z. & Islam, N., 2013). These are paid after a long time of the work. This creates frustration among the workers.

4.1.2 RELATIONSHIPS BETWEEN THE OVERALL DISSATISFACTION AND THE LABOR UNREST FACTORS

Multiple regressions analysis results showed that the factors or reasons related to labor unrest in the ready-made garment industry of Bangladesh are very important to explain the overall dissatisfaction of the workers (Ahmed, S., Raihan, Mohammad Z. & Islam, N., 2013). This means that the reasons for the garment unrest in Bangladesh are from the overall

dissatisfaction of the workers in this sector (Ahmed, S., Raihan, Mohammad Z. & Islam, N., 2013).

Individual factor relationship with the overall dissatisfaction of the ready-made garment workers show that the factors named lack of minimum facility and safety', sub-standards living conditions, deferred benefits, international conspiracy and coercive role of the law enforcing agency, too much dependence on buyers, pressures from the workers and mastans, use of workers by others and rumors, un-fulfillment of education demands of the children, distorted minded workers, political instability of the country, too much and inhuman workload, no promotion opportunity, wages are not paid on time, and insufficient wages for fulfilling basic needs are significantly related to the overall dissatisfaction of the workers. This means that if there is a change in these factors independently there will be a significant impact on the overall dissatisfaction of the workers (Ahmed, S., Raihan, Mohammad Z. & Islam, N., 2013).

4.1.2.1 LACK OF MINIMUM FACILITY AND SAFETY

This study identified that the most important and significant labor unrest factor is lack of minimum working facility and safety measure. Most of the factories are located in the housing areas of the city which are not built by following the factory rules of the country. This has been often causing accidents and the lives of the workers are going under the threat. Bangladesh Garment Manufacturers and Exporters Association (BGMEA) and the government are not serious to improve the situation in this sector (Ahmed, S., Raihan, Mohammad Z. & Islam, N., 2013).

4.1.2.2 SUB-STANDARDS LIVING CONDITIONS

Sub-standard living conditions of the workers are another factor causing unrest in the garment sector of Bangladesh. Due to poor salary, these workers are unable to live in good house. Therefore, the poor living conditions create job dissatisfaction of the workers and that lead to labor unrest in this industry (Ahmed, S., Raihan, Mohammad Z. & Islam, N., 2013).

4.1.2.3 DEFERRED BENEFITS

In garment companies of Bangladesh, the salary is given after the 15th of the month in order to minimize job turn over in the factory. In addition to this, the benefits like bonus, overtime, etc payments are given after an indefinite period of time that creates labor unrest in the industry (Ahmed, S., Raihan, Mohammad Z. & Islam, N., 2013).

4.1.2.4 INTERNATIONAL CONSPIRACY AND COERCIVE ROLE OF THE LAW ENFORCING AGENCY

Saying goes that the garment industry of Bangladesh is controlled by other competitor exporting countries of the world. If there is a chaos and confusion in this sector, the smooth production will be hampered and the other competing countries will be able to export their products in the international markets. Sometimes, it is observed that the law enforcing agencies sometime create unpleasant situation in the factory for nothing that also makes the workers unhappy (Ahmed, S., Raihan, Mohammad Z. & Islam, N., 2013).

4.1.2.5 TOO MUCH DEPENDENCE ON BUYERS

The garment export of Bangladesh absolutely depends on the WTO resolution and the agreement of the international buyers. Majority of the companies are fully export oriented. They do not produce products for the local markets. As such, if there is any problem in the GSP of WTO or relationship problem with buyer country, there create a problem in this sector. This causes seasonal layoff at workplace and lead to labor unrest in this industry (Ahmed, S., Raihan, Mohammad Z. & Islam, N., 2013).

4.1.2.6 PRESSURES FROM THE WORKERS AND MASTANS/TERRORISTS

Very often, local pressures cause the problem for the factory and workers. Local terrorists often demands donation from the factory owners. When terrorists do not get donation they come with their gang and try to create unrest in the factory premise. In addition to that, the female workers are disturbed by the mustans when they come in the factory and leave the factory after the work (Ahmed, S., Raihan, Mohammad Z. & Islam, N., 2013).

4.1.2.7 USE OF WORKERS BY OTHERS AND RUMORS

The garment workers are from the rural areas and they are very poor. Therefore, there is a chance to use these workers by the local pressures groups that may go against the interest of the company. Moreover, as these workers are illiterate they become militant when there is a rumor against their interest (Ahmed, S., Raihan, Mohammad Z. & Islam, N., 2013).

4.1.2.8 UN-FULFILLMENT OF EDUCATION DEMANDS OF THE CHILDREN

The workers of the garment factories are unable to send their children to the schools as they are financially incapable to support. This may cause dissatisfaction among the workers in this sector (Ahmed, S., Raihan, Mohammad Z. & Islam, N., 2013).

4.1.2.9 DISTORTED MINDED WORKERS

Due to illiteracy of the workers, they are incapable to think positively that creates unrest in the garment industry of Bangladesh. Sometime, it is also observed that workers are frustrated and they have innate anger to the rich people. These led them to take part in labor unrest (Ahmed, S., Raihan, Mohammad Z. & Islam, N., 2013).

4.1.2.10 POLITICAL INSTABILITY OF THE COUNTRY

Due to political instability of the country, like strike, worker cannot come to the factory to work and they marked absent by the factory managers. This sometime makes workers aggressive and lead to unrest in this sector (Ahmed, S., Raihan, Mohammad Z. & Islam, N., 2013).

4.1.2.11 TOO MUCH AND INHUMAN WORKLOAD

Too much and inhuman workload is a common phenomenon in this sector of Bangladesh. The payment rate is very poor and the overtime rate is also insignificant for the workers. As a result, they need to work from dawn to dust for a minimum amount of salary. Therefore, workers take part in unrest to establish their rights (Ahmed, S., Raihan, Mohammad Z. & Islam, N., 2013).

4.1.2.12 NO PROMOTION OPPORTUNITY

In garment sector of Bangladesh, promotion is a rare case. Workers had to work in a same position for long period of time. They also reluctant to switch the company because of the risk of losing one month salary that sometime lead to labor unrest (Ahmed, S., Raihan, Mohammad Z. & Islam, N., 2013).

4.1.2.13 WAGES ARE NOT PAID ON TIME

After 15th of each month the salary is disbursed for the workers in garment workers in Bangladesh. This ill motive of the owners creates labor unrest among the workers (Ahmed, S., Raihan, Mohammad Z. & Islam, N., 2013).

4.1.2.14 INSUFFICIENT WAGES FOR FULFILLING OF BASIC NEEDS

The basic needs of the workers are food, clothing and the shelter. However, these are costly in the area where the factories are located. The salary workers receive is extremely inadequate to fulfill these needs. Therefore, they create labor unrest to establish the minimum wages (Ahmed, S., Raihan, Mohammad Z. & Islam, N., 2013).

4.2 NECESSARY ACTIONS TO IMPROVE THE INDUSTRIAL RELATIONS AT RMG SECTORS OF BANGLADESH

4.2.1 PROPER IMPLEMENTATION OF BANGLADESH LABOR ACT 2006

Bangladesh Labor Act 2006 was passed by the parliament with effect from October 11, 2006. This new labor law has repealed 27 existing labor laws including Factories Act 1965, Payment of wages Act 1936, Shops and Establishments Act 1965, maternity benefit Act 1939, Industrial Relations Ordinance, 1969, Employment of labor (S.O) Act 1965 etc. The following major factors from Bangladesh Labor Act, 2006 are taken into consideration for this study:

(i) CONDITIONS OF SERVICE AND EMPLOYMENT

It includes conditions of employment, classification of workers, letters of appointment and identity card, service book, form of service book, entries in the service book, register of workers and supply of tickets and cards (Section 3-9, Bangladesh labor Act 2006).

(ii) HEALTH AND HYGIENE

The Act describes the terms and conditions of cleanliness, ventilation and temperature, dust and fume, disposal of waste and effluents, overcrowding, lighting, drinking water, latrines and urinals, etc. (Section 51-59, Bangladesh labor Act 2006).

(iii) SAFETY AND HEALTH

It includes safety of the building and machinery, precaution in case of fire, fencing of machinery, work on or near machinery in motion, cranes and other lifting machinery, hoists and lifts, floors, stairs and means of access, etc. (Section 61-72, Bangladesh labor Act, 2006).

(iv) WORKING HOURS AND LEAVE

It describes the rules and regulation of daily hours, interval for rest or meal, weekly hours, weekly holiday, compensatory weekly holiday, spread over, night shift, extra allowances for overtime, casual leave, sick leave, annual leave with wages, festival holidays, etc. (Section 100-118, Bangladesh labor Act 2006).

(v) WAGES AND PAYMENT

It contains special definition of wages, responsibility for payment of wages, fixation of wage-periods, time of payment of wages, wages to be paid in current coin or currency notes, deductions for absence from duty, etc. (Section 120-126, Bangladesh labor Act 2006).

(vi) TRADE UNIONS AND INDUSTRIAL RELATIONS, DISPUTES

It narrates the rules and regulation of special definition of worker, trade unions of workers and employers, collective bargaining agent, participation committee, industrial disputes, lockout and strike, etc. (Section 175-211, Bangladesh labor Act 2006).

(vii) PENALTY AND PROCEDURE

It shows the penalty for non-compliance of labor court's order, penalty for employment of child and adolescent, penalty for unfair labor practices, penalty for illegal strike or lockout,

penalty for taking part in or instigating go-slow, penalty for general offences by workers, penalty for other offences, etc. (Section 283-307, Bangladesh labor Law 2006).

4.2.2 TRY TO RESOLVE THE MAIN REASONS OF LABOR UNREST

- Low and discriminating wages are the main underlying factor of unrest in the RMG. More than 96 percent of recent unrests in RMG took place related to wages. The minimum monthly wage of Tk. 3,000 is not sufficient to cope with the price rise of essential commodities and house rent of the garment workers. So demands for pay hikes are reasonable but this demand from workers is frequently foiled and disregarded by the owners and management of the RMG factories. Thus the unrest becomes inevitable (Bhuiyan, Mohammad I., 2013).
- RMG owners or management disregard or do not listen to the needs and demands of workers. Instead of taking workers' matters into priority, the use of slang language verbal and physical harassment is horribly taken place by technicians and supervisors of the factories and floor management particularly by PM/ APMG. As a result, frequent labor unrest and strike is taking place in this sector by this major reason (Bhuiyan, Mohammad I., 2013).
- Absence from utilizing of compliance issues in numerous RMG factories. Therefore compliant issues are much more neglected and obstructed by the respective owners/management. Compulsory over-time, no weekly day off, fraction payment, late payment and no payment and 10-12 working hours are very common matters (Bhuiyan, Mohammad I., 2013).
- Workers are given warning letters due to very silly mistakes or very absurd non-compliance issues. This is a kind of oppression, exploitation and harassment of workers by the owners or management of RMG factories in making the workers' confined to the fear of losing their jobs. Access to remedies is restricted. Therefore, if any occurrence (unrest, harassment, displeasure, quarrel etc) takes place between workers or management or among workers or management, the concerned are called for inquiry, close witnesses are disallowed to give testimony to this occurrence (Bhuiyan, Mohammad I., 2013).

4.2.3 WORKER'S FEELING AND THINKING SHOULD BE TAKEN CARE OF

Garment workers engage in violent clashes at times on rumors or slightest instigations for lack of proper counseling and poor relations with the management. Except for the massive labor unrest for wage hike in 2010, most other incidents of unrest in the sector has happened either following rumors of death of fellow workers or on instigation. Most of the workers come from rural areas and have no education and formal training. The management depends on on-the-job training of the workers for scarcity of training institutes in the country. Lack of counseling is also responsible for the unwanted occurrences (www.textiletoday.com.bd).

The workers should have neutral platforms at factories where they can lodge their complaints or express their opinions. Any kind of unrest can be averted or the damage can be minimized if factories have such platforms to train workers on their rights and responsibilities. It is difficult to train so many workers but incidents of unrest can be reduced through formation of workers' union or committee at factories. If the workers have any complaints, they can raise those before the committee. Such committees can also contribute to improve the worker-management relations. Though there are some problems to form such union or committee because of union leaders' unacceptable behavior and attitude. Whenever they form a union their attitude and behavioral pattern dramatically change. They become the tools of outsiders and

unfortunately this is the way everywhere we are abusing our industrial relations. Considering these cons we have to go ahead (www.textiletoday.com.bd).

Referring to the latest unrest at the Ha-Meem Group factory at Ashulia and aftermath, the issue in itself was small, but it became a big one for lack of proper communication between workers and officials. On May 12 & 13, 2012 Ashulia industrial belt near the capital turned violent as workers of the group took to the streets following a rumor that one of their fellow workers was tortured to death by officials and security guards of the company. The rumor later turned out to be false, but the agitating workers by the time damaged more than 150 vehicles while more than 100 people were injured as the workers clashed with police over the two days. This proves that we've failed to build good relations between workers and management (www.textiletoday.com.bd).

To improve our image and sustain the growth in the existing scale, there is no alternative to have good industrial relations. Good industrial relations can be ensured through:

- Training the workers on their due tasks, rights and responsibilities.
- Providing Motivation & motivational training to the employees
- Industrial counseling should be a regular phenomenon for improving relationship

4.2.3.1 RMG INDUSTRIAL RELATIONS SHOULD ENSURE

- ✱ Human Resource Strategic Planning
- ✱ Grievance Investigation & Resolution
- ✱ Employments Contracts
- ✱ On Site Supervision
- ✱ Training & Development
- ✱ Collective Agreements
- ✱ Employment Law or Legal Counsel
- ✱ HR Policy & Procedure Manuals
- ✱ Remuneration Advices & Benchmarking
- ✱ Human Resource (HR) Audits
- ✱ On Call HR Advisory Support
- ✱ The trade union/workers' committee leaders should play a weighty role in each and every organization for its development through participatory practices
- ✱ Behavior and attitude of both the employers and employees should be reached to an acceptable level as an indicator of good industrial relations
- ✱ Entrepreneurs or owners should meet the workers at least once a month which is necessary for building good industrial relations between them
- ✱ The trade union leaders or committee members are sincerely requested to motivate the workers and make them conscious so that they can understand that they are part of the organization and they will have to gain the confidence of the owners. This shared understanding process will remove misunderstanding and industrial relations will grow.
- ✱ Management should also be trained on crisis management issues.

4.2.4 NECESSARY STEPS SHOULD HAVE TO BE TAKEN

In the aftermath of Rana Plaza mayhem, national and international stakeholders have started working jointly to address the compliance issues, labor rights issues and all other matters relating to restoring buyers' confidence and a peaceful industrial relations environment in the RMG sector. The most formidable challenge lies in ensuring speedy and effective implementation of the various compliance measures (i.e., strengthening factory supervision, appointment of factory inspectors, implementation of new labor law provisions, effective

functioning of various committees and councils formed to carry on compliance-related activities, etc.) aimed at restoring buyers' confidence and improving the country's image-rebuilding process. Close coordination and cohesion of activities among various national and international stakeholders engaged in the implementation process of compliance improvements is also indispensable. Other strategic issues, which are central to the efforts towards forging ahead in the global market by RMG industry in the long-run, include rapid product and market diversification, increase in labor productivity through introduction of technological innovations, increased enterprise efficiency, quality improvement, etc., which should help transform the "cheap-labor"-based comparative advantage of the RMG industry into a high-efficiency and "innovation-driven" competitive advantage. The current "volume-intensive" export growth should be gradually turned into "quality-driven" export competitiveness where superior product quality and innovative designs, robust delivery performance, and excellent customer services, etc. should constitute the distinctive operational characteristics of the Bangladesh RMG industry to overpower its competitors in the global market. A conducive and peaceful labor-management corporation environment should prevail in the industry to allow its full capacity operation round the clock and ensure timely delivery of export consignments negotiated with the foreign buyers (www.thefinancialexpress-bd.com).

Despite the unique success of the RMG sector, the poor working conditions in the factories and the lack of Social compliance are serious concerns. Most of the RMG factories do not practice the HR and IR activities and have no well defined HR or Personnel unit, ineffectively address labor rights and ignore labor standards, discarding fair labor practices, overlook health and safety issues and disallow trade unions. As a result, workers rights are grossly violated in the RMG sector which has led to labor unrest (www.bizstudyportal.com).

To improve working conditions the Bangladesh Government needs to conduct a thorough review of labor regulation. The working environment and working conditions need to be brought into line with the country's current realities and should be backed with the resources necessary to ensure compliance. Furthermore, the government should protect workers rights by creating a system for complaints concerning violations, adjudication, remedies, and punishments (www.bizstudyportal.com).

Working conditions in the RMG sector do not meet the ILO standards. In order to protect Labor rights, job security and other benefits, workers should be provided with appointment letters detailing the conditions of employment. Fair labor, modern HRM practice and IR activities are needed to improve working conditions in the RMG sector. Better human resource management (HRM), it is proposed, could play a key role in ensuring social compliance in Bangladesh's garment factories. Currently, human resource management in the RMG sector is limited and often counter-productive. The RMG sector would benefit by the introduction of modern human resources and industrial relations activities through the establishment of human resource or personnel management units in the industry. The introduction of modern human resource management would ensure that labor standards are addressed, that workers rights are not violated and that there is a safe working environment. HRM can create labor standards adopted from the HR and IR philosophy guarantee an ethical standard (www.bizstudyportal.com).

The ILO governing body has developed eight fundamental conventions. The ILO is responsible for drawing up and overseeing international labor standards. It performs an important role in ensuring that labor law is applied equally to all employers and workers (ILO, 2005). Consequently, all ILO members countries are obliged to respect labor standards and should include those Labor standards in their national laws and policy. Furthermore, it also provides the

only functioning supervisory mechanism and is central to the international legal arrangements for labor standards (www.bizstudyportal.com).

The ILO supervisory system is that, rather than settling formal disputes, it uses regular supervision to help avoid disputes altogether and to enhance overall compliance. As consumers constantly, reject products produced in exploitative circumstances, workers rights should be protected by effective law. The WTO and ILO must encourage its members as well as Bangladesh to ratify and implement core Labor standards. More and better monitoring of corporate Codes of Conducts in collaboration with employers, employee, multilateral agencies, NGOs, civil society, Trade unions and other stakeholder groups should work together to adopt the Code of Conduct for a viable and competitive RMG industry. In addition, monitoring are required in the RMG sector. Without monitoring, efforts to improve the legislation will be ineffective. A modified Code of Conduct and an effective Compliance Monitoring Cell (CMC) are also required. In line with the Bangladesh Government, the ILO, international agencies and other stakeholders should work in synergy under the supervision of an effective monitoring system (www.bizstudyportal.com).

Stronger legal aspects and Intellectual property rights are important code of conducts that need to concern and take care into the RMG sector. Both suppliers and Product Managers must ensure that third party intellectual property rights are respected and that unlawful copies should neither be offered nor produced. Suppliers must be aware of the sources of each design (whether fabric, garment or print) offered, by being aware of the origin of such designs or copyrights. Criminal charges could also result from such eventualities (www.bizstudyportal.com).

4.2.5 SOCIAL COMPLIANCE ISSUES IN THE RMG SECTORS OF BANGLADESH

The pivotal factor in the apparel industry is the workforce i.e. the sewing operators, the helpers, cutting masters, pattern makers, finishers etc. Bangladesh is endowed with abundant and cheap Labor force that is easily trainable and convertible into semi-skilled and skilled workforce. Existence of such category is one of the advantages that Bangladesh will be enjoying over a considerable period in the context of international trade on clothing. In order to export readymade garments, it is not only the quality parameters which are important towards acceptance of the product as per the intended end use but also the working environment in which the garments are to be produced, is equally important so that sweatshop concept is totally taken care of and the code of conduct must be stretched towards achieving the objectives of social compliance issues. The core areas of social accountability are, basically, based on the principles of international human rights, local culture and tradition. The prime objective of the system is to protect the human rights in readymade garment industries. Thus, Bangladesh has a stiff challenge ahead to meet the demand of world market (www.bizstudyportal.com).

Social Accountability In today's fast changing global market, it is not only the quality of garments which cherished the retailers and manufacturers but also the working environments of the organization wherein the products were produced. Those are equally important to gain and strengthen consumer confidence and to buildup more reliable relationships with vendors. In other words, specific code of conduct that protects the basic human rights of the workforce engaged in the trade is to be respected to satisfy consumers and to add social value to the product. Basic awareness of the social accountability helps to understand and monitor the compliance part of it in protecting the image of a particular brand of product. In order to do so, the reputed and leading market players in the garment trade have imposed compulsion on the related factories to achieve those objectives as a condition of the export contract (www.bizstudyportal.com).

4.2.6 CODE OF CONDUCT (COC)

Social Accountability standards have been developed by the international organizations such as Fair Labor Association (FLA), Worldwide Responsible Apparel production (WRAP), Council on Economic Priorities Accreditation Agency (CEPAA), The Ethical Trading Initiative (ETI) and Business for Social Responsibility (BSR). Reputed brand buyers in large supply chain have taken the guideline from those organizations and formulated their own standard of COC and also the acceptance criteria (www.bizstudyportal.com).

The basic principles of COC have been derived from the principles of international human rights norms as delineated in International Labor Organization Conventions, the United Nations Convention on the Rights of the Child and the Universal Declaration of Human Rights. It has nine core areas to be addressed upon. These are as follows:

- ⊕ Child labor
- ⊕ Forced labor
- ⊕ Health and safety
- ⊕ Compensation
- ⊕ Working hours
- ⊕ Discrimination
- ⊕ Discipline
- ⊕ Free association and collective bargaining
- ⊕ Management systems

While following the above criteria is compulsory for satisfying COC, local culture and regulation of Govt. cannot be overlooked. For instance, limit of working hours and compensation for extra work may not be the same for all geographical zones in the globe. Minimum basic wage also depends on the economic situation of a particular country in question. The introduction of rights of free association and collective bargaining is guided by the political environment, the maturity level of workforce and above all the basic training of the management of the organization (www.bizstudyportal.com).

By keeping in mind the complex scenario, several case studies in Bangladesh have been made with respect to the information obtained through actual social compliance audits performed by leading auditors of internationally well known consumer products service companies. Social compliance audits conducted as per the COC of different brand buyers of USA and Europe were basically based on the following steps:

- Opening meeting with the factory management (informed the scope of audit)
- Factory Tour (observed working condition)
- Document Review (payroll, time card, personal file, age documentation etc.)
- Employee's Interview
- Closing meeting with factory management (discussed audit findings and recommended necessary improvements) (www.bizstudyportal.com).

4.2.7 SOCIAL RESPONSIBILITY: A REVIEW BKMEA PERSPECTIVE

Social compliance is a burning issue in the challenging world market. Prominent buyers from developed countries are increasingly emphasizing on compliance standard as their consumers are much more concern about this issue. As a custodian of the sector, BKMEA is aware of its responsibility and putting incessant efforts to make the members competitive and uphold the image of Bangladesh RMG sector.

4.2.8 SOCIAL COMPLIANCE: ONGOING INITIATIVES OF BKMEA

Social compliance is a legal requirement that takes into account minimum labor standards, occupational safety measures and environmental concern. To run a factory in Bangladesh, the entrepreneur is obliged to comply with the 'National Labor Law' and if any additional requirement from buyer. BKMEA, from its own commitment towards the sector, has taken rigorous programs for ensuring a fully compliant knitwear industry. Key initiatives of the association are as follows:

- Prerequisite to obtain membership in BKMEA: Before giving the membership to any applied factory, investigation is done to check the mentioned requirements and no membership is issued until the factory fulfills these basic prerequisite:
 - No child labor.
 - Factories must have alternate stairs, basic fire equipments.
 - Approved layout plan from concerned authority for ensuring safe building construction.
 - Mandatory group insurance for all workers and employees in each factory.
 - Hygienic sanitation facility and first aid appliance.
 - Declaration of ensuring minimum wages.
- Arbitration Committee: There is a conciliation cum arbitration bilateral committee in BKMEA to deal with individual grievances. The committee tries to solve the disputes that arise between the owner and the employees of the factory before referring the matter to court which is time consuming and costly. No financial expenses from the owners or from the workers are involved.
- Social Compliance Monitoring Program: To enhance the compliance of the whole industry, BKMEA with the support of GTZ, is implementing a "Social Compliance Monitoring Program" since 2007. Twenty members competent monitoring cell of BKMEA are working at factory level to check the labor welfare and safety issues regularly.
- Skill Development Programs: Dearth of skilled management is one of the major barriers of developing compliant RMG industry in Bangladesh. To develop true professionalism in factory management, BKMEA is arranging series of training programs for mid level management of factories.

4.3 RECOMMENDATIONS

- Minimum wage for the garment workers should be regularized and implemented properly.
- The labor-force needs to avoid the path of violence and vandalism. Rather, they can place their rightful demands to the respective authority.
- The factory owners can hear and address the problems of the labor-force.
- A 'Grievance Officer' in all garment factories can be appointed.
- Incidents of labor unrest need to be investigated taking stakeholders from all concerned sector. Recommendations of investigation report need to be implemented properly. The real defaulters irrespective of their identity and status can be brought under legal provisions.
- Intelligence agency may work in garment industry area to avert further unrest and take preventive measure.
- Both public and private sector should work together to solve the problem of labor unrest.
- Level of mutual trust, communication and cooperation between the two sectors need to be uplifted (Ahamed, F., 2014).

The implementation of above-mentioned recommendations is supposed to help address labor unrest as well as improving the Industrial Relationship situation at the readymade garment industry of Bangladesh. However, a number of issues relating to labor unrest in the garment industry of Bangladesh like industrial policy, labor relations, owner-worker relations, trust between public and private sector and conspiracy deserve further attention (Ahamed, F., 2014).

4.4 CONCLUSION

RMG industries are playing a very important role in the economic development of Bangladesh. But this industry is now in crisis due to repetitive labor unrest. The most common reasons for the labor unrest, as alleged by workers, are non-payment or deferred payment of wages. Despite their claims to the contrary, some garment owners neither give salaries, nor overtime allowances to the workers on time. Small wonder a kind of mistrust between the employers and employees exists in this sector. The core problem behind this unrest is the lack of intra-organizational relationship or Industrial Relationship. Any healthy working environment involves openness and transparency. When employees consistently deliver, but receive little or no appreciation, it is very easy for them to become disheartened, frustrated, and apathetic about their job, which decreases productivity and cause unrest. A simple 'thank you' is often enough (and this works both ways). Employers may think of rewarding their employees for truly great work.

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Export & Growth Potential of Melamine Industries in Bangladesh

Mohinul Karim Khondker¹

ABSTRACT

Melamine industry has emerged as an important productive sector in Bangladesh recent years. Bangladesh being a densely populated country it has a strong internal demand for melamine tableware and kitchenware. Bangladesh's melamine industry has carved a niche in the international market also, having started its journey only 15 years ago, alongside feeding domestic tableware market. The country went into melamine production in 1989 when Nasir Group's Bangladesh Melamine ventured into the business. The industry got major boost in the following year with Sharif Melamine coming in a big way. Use of high-tech machine and quality melamine resin and adoption of latest design have given Bangladeshi melamine tableware a competitive edge on regional and international markets. Bangladesh's products are very popular in India especially in eastern states. Beside India and Bhutan, Norway, US, Canada and Australia are the major destinations of Bangladesh's melamine products. Melamine industry can be a major manufacturing sector if the export potential can fully be explored. This study examines the current situation of the melamine industry in Bangladesh. The report describes the industry's structure, manufacturing process, production cost and duty structure. The report presents export, import, quality, and market. The report makes an assessment of international competitiveness, the export potential and constraints. The study undertakes a limited survey of enterprises operating in the sub-sector to analyze assistance and protection measures. The strengths, weakness, opportunities and threats, health hazard are also discussed. The report suggests recommendations for enhancing the export potential of the sub-sector based on an analysis of the findings.

Keywords: DRC, ERP, Export potential, Melamine, NRP

1. INTRODUCTION

From a mainly feudal agrarian base, the economy of Bangladesh has undergone rapid structural transformation towards manufacturing and services. The contribution of the agriculture sector to GDP has dwindled from 50 percent in 1972-73 to around 20 percent in 2010-2011. The agricultural sector is, however, still the main employment provider in Bangladesh. Industrial production growth has averaged more than 6% over the last 5 years. Since its independence in 1971, Bangladesh has achieved a steady growth rate in its industrial production. However RMG sector contributes 75% of our export market. The economy comprises of a number of Small and Medium Enterprises that make up for 25% of the nation's Gross Domestic Product. The export sector has been the engine of industrial growth, with ready-made garments leading the way. Melamine has been emerged as a non-traditional export item in our industrial sector. This Industry is one of the exports oriented and growing industries in Bangladesh in recent years. After meeting the local demand these industries have been playing a role in our economy by earning and saving foreign exchange through export of melamine. Melamine industry has been marching ahead facing keen competition in foreign market.

1.1 OBJECTIVES OF THE STUDY

The broad objective of the study is to examine export & growth potential of melamine products produced in Bangladesh. Specific objective of the study are as follows

- To give an overall idea about the melamine industries of Bangladesh.
- To analyze the export trend and export potential.
- To explore the growth potential both internal and external.
- To analyze the factors of hindrances internal growth potential and export potential.
- To analyze the health risk of melamine tableware.

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The study will include a brief industry profile of the melamine industry sub-sector providing among others, existing infrastructure and level of technology, characterization of labor force, market structure and marketing constraints, duty structure and competition from imports.

This will help to evaluate international competitiveness of the sub-sector. Finally the study will frame a set of recommendation, for policy action.

1.2 METHODOLOGY

The research will be descriptive in nature. Both primary and secondary data will be used to reach on a conclusion of the objectives set. Primary data will be collected through direct interview and questionnaire. Secondary data will be collect from various journals, articles and other relevant studies.

1.3 LIMITATIONS OF THE STUDY

For doing analysis, earnest effort has been made to collect the necessary data on the industry's various activities through firm visits. A questionnaire was used through which the required information is collected. Unfortunately most of them are not willing to provide their full insights as they fear it might be used for tax purpose.

2. LITERATURE REVIEW

2.1 WHAT IS MELAMINE

Melamine is a form of a compound which is also known as carbamide or urea. This compound is then mixed with formalin to form a resin which is now the base product material used in making the plates. The melamine polymer is then classified as a thermoset which can be easily molded into a particular shape but cannot be reversed once the molding process has been done. Once in shape, it can be as light as other plastics, but it's more preferred in usage due to its durability and hard texture finish. Melamine will also become toxic once heated in high temperatures, but if it's in the normal state then it is safe to use. Melamine may also be combined with other compounds to become other by products such as fertilizer, a flame retardant, and plasticizer.

2.2 STRUCTURE OF MELAMINE INDUSTRY IN BANGLADESH

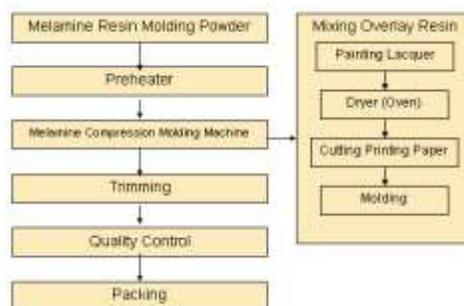
There are thirty five (35) melamine industries currently operating in Bangladesh. Most of them are sole proprietorship, having capital from 5-10 crore. Among them, the following are the leaders in the industry.

SI No	Name of the Company	Description
01	Sharif Melamine Industries (Pvt) Ltd.	27/1, Midford Road, Sharif Market (2nd Floor), Dhaka. +880-2-7315161-2, 7316094
02	Bangladesh Melamine Industries Ltd	House # 16, Road # 09, Baridhara Society Dhaka+880-2-8832689-91, 8820279
03	Crown Melamine Ind. Ltd.	77/8/B, Moulbi Bazer (2nd floor) Dhaka – 1100 +880-2-7312146, 7319182
04	Diamond Melamine Ind. (Pvt) Ltd.	21, Armenian Street, Babubazer, Mona Complex (2nd Floor) Dhaka+880-2-7321872, 7394931
05	Gold Star Melamine Ind. (Pvt) Ltd.	11, Champatoly Lane (2nd floor), Sowary Ghat, Lalbagh, Dhaka+880-2-7314157
06	Taj Melamine Ind. (Pvt) Ltd.	155,mitford Road, Dhaka+880-2-7312425
07	Classic Melamine Industries Ltd	House # 03, Road # 05, Sector #1,Uttara,+880-2-8917916
08	King Melamine	190, Water Works Road,Dhaka, +880-2-8622306
09	United Melamine Ind. (Pvt.) Ltd	United Tower, 263, Bangshal Road,Dhakav

SI No	Name of the Company	Description
10	Supreme Melamine Industries Ltd.	House # 63, Road # 25, Gulshan-1, Dhaka, +880-2-9898159, 8825575, 8825143
12	THE ASIAN MELAMINE INDUSTRIES	36 Purana Paltan, (3rd Floor), GPO Box No-2105, Dhaka-1000+88 02 9568127, 9570396
13	NASIR GROUP OF INDS.	H # 5/D, Rd. # 11 (New), 32 (Old), Dhanmondi R/A. 9122895-7

2.3 MELAMINE TABLEWARE PRODUCTION PROCESS

Melamine is widely considered to be the material used in making plates for its durable finish and it's less prone to emit toxic chemicals unless if burned. Here's the procedure in creating melamine plates:



2.3.1 The process usually involves heating and molding so the materials needed by the factories are the molds, which are sometimes made by known kitchenware companies and the furnace. On the other hand, the melamine resins are manufactured by a separate company, usually in white crystalline powder form. As mentioned, the melamine resins will undergo an irreversible process so the making of plates should be carefully done.

2.3.2 The process of plate making starts by melting the melamine resin. The crystalline powder will be injected into the mold and it will be heated at a certain temperature. Once inside the mold, the resins are then exposed to the heat with pressure included so that it would take into shape. As the pressure is applied, the excess water from the melted resin will be removed. This is to ensure that the polymer would not become unstable during this process.

2.3.3 Once the molding process is done, the treated melamine will then be removed from the molder and then set aside to cool off. Once it is cooled down then it will turn into the finish product we are familiar of using on our dining tables. The standard for the melamine's temperature safety range is in the maximum of 210 degrees. However, it should be always put into mind that this kitchenware are not to be used for heating purposes such as microwave heating as high temperatures will cause the resin to break down. Moreover, as mentioned above, the melamine will become toxic if it's burned.

Melamine plates have become a common household item for most of our homes today. We use this for eating and for food serving. It is a very reliable kitchen item due to its known durability.

2.4 PRODUCT PRODUCED

In Bangladesh Melamine products are mainly used as a tableware and kitchenware. The products produced in Bangladesh are listed as below.

SOUP PLATE	SPOON
COUP PLATE	TRAY
MEAT/DINNER PLATE	MUG
RICE BOWL	GLASS
BOWL	TEA CUP & SAUCER
MINI BOWL	OVAL PLATE
SOUP BOWL	CURRY BOWL
FIRNI BOWL	SALT SET

Bangladesh's melamine industry has carved a niche in the international market, having started its journey only 15 years ago, alongside feeding domestic tableware market. The country went into melamine production in 1989 when Nasir Group's Bangladesh Melamine ventured into the business. The industry got major boost in the following year with Sharif Melamine coming in a big way. Inspired by rising domestic and international demand, 13 other companies joined the melamine bandwagon. The use of high-tech machine and quality melamine resin and adoption of latest design have given Bangladeshi melamine tableware a competitive edge on regional and international markets.

2.5 EXPORT

Hscode	Description	2010-2011		2011-2012		2012-2013	
		Quantity (MetricTon)	Value (Figure in Million Taka)	Quantity (MetricTon)	Value (Figure in Million Taka)	Quantity (MetricTon)	Value (Figure in Million Taka)
39241000	Finished Product	15.54	3.37	18.24	3.29	39.54	8.94

Source: National Board of Revenue (NBR), Bangladesh Database.

The table shows that export has increased in the year 2012-2013 compare to previous years. It has been doubled in the year 2012-2013 compare to 2011-2012. From the table we can see that there is a sharp rise of total export in terms of quantity in the year 2012-2013 compare to 2011-2012.

2.5.1 MELAMINE EXPORT 2011-2012, 2012-2013 (COUNTRY WISE)

The table shows that melamine export has a mixed destination around the world. It has a market in developed countries like USA, England as well as in the Middle East.

Country Destination	2011-2012		Country Destination	2012-2013	
	Quantity (Metric Ton)	Value (Million Taka)		Quantity (Metric Ton)	Value (Million Taka)
Saudi Arab	8.64	1.69	England	11.3	3.8
England	1.61	0.53	United States	9.7	2.2
United States	5.85	0.37	India	11.5	1.6
Italy	1.09	0.36	Italy	2.1	0.6
Myanmar	0.63	0.22	Canada	0.6	0.3
Arab Emirates	0.24	0.07	Saudi Arab	0.4	0.2

Table: Export data 2011-2012, 2012-2013. Source: NBR Database.

2.6 IMPORT

Hscode	Description	2010-2011		2011-2012		2012-2013	
		Quantity (MetricTon)	Value (Figure in Million Taka)	Quantity (MetricTon)	Value (Figure in Million Taka)	Quantity (MetricTon)	Value (Figure in Million Taka)
39241000	Finished Product	439.70	57.24	351.45	63.37	352.70	56.96

Source: NBR Database.

It shows an increase of import in the year 2011-2012, compare to 2010-2011. There was a constant import of finished melamine product.

2.6.1 MELAMINE IMPORT 2011-2012, 2012-2013 (COUNTRY WISE)

Melamine products are mainly imported from China. China is the single importing destination of finished melamine product. Other countries are Hong Kong, Thailand, South Africa, Turkey, and United States.

Country Origin	2011-2012		Country Origin	2012-2013	
	Quantity (Metric Ton)	Value (Million Taka)		Quantity (Metric Ton)	Value (Million Taka)
China	246.34	31.11	China	233.67	31.99
Singapore	20.14	3.08	Indonesia	37.18	12.77
Hong Kong	15.67	5.14	Hong Kong	12.89	2.52
India	15.31	7.62	Thailand	14.27	2.08
Thailand	15.26	2.71	India	16.93	1.85
South Africa	10.37	4.69	Myanmar	9.29	1.43
Myanmar	8.55	1.56	United States	2.23	0.83
Taiwan	5.59	0.77	Ireland	5.42	0.76
Ireland	4.20	0.23	England	2.47	0.52
Arab Emirates	4.20	0.89	Taiwan	9.24	0.51
United States	2.03	2.21	Singapore	4.23	0.48
Turkey	1.91	1.29	Arab Emirates	1.10	0.45
Indonesia	0.89	0.10	Korea	1.07	0.31
Korea	0.29	0.08	Japan	1.13	0.24

Table: Import data 2011-2012, 2012-2013. Source: NBR Database.

3. COST OF PRODUCTION

There are two types of raw materials used in melamine production process. These are:

- Melamine Resins, In Primary Forms
- Decalcomania Paper

Raw materials imports are remain constant in the year 2010-2011, 2011-2012, and 2012-2013

Hscode	Raw materials Description	2010-2011		2011-2012		2012-2013	
		Quantity (Metric Ton)	Value (Figure in Million Taka)	Quantity (Metric Ton)	Value (Figure in Million Taka)	Quantity (Metric Ton)	Value (Figure in Million Taka)
39092000	Melamine Resins, In Primary Forms	8298.47	769.04	10599.34	998.97	10675	1002
48119011	Decalcomania Paper	498.00	89.08	433.56	86.48	388.89	74.85
Total		8796.47	858.13	11032.9	1085.45	11063.89	1076.85

Table: Raw materials import data. Source: NBR Database.

China is the major raw materials supplying country for Bangladesh. Among others are Thailand, India, Korea, Taiwan, Germany, Indonesia, and England.

Country_Dest	2011-2012		Country_Dest	2012-2013	
	Quantity (Metric Ton)	Value (Million Taka)		Quantity (Metric Ton)	Value (Million Taka)
China	4401	396	korea	101.22	18.76
Thailand	3511	324	China	100.00	8.26
Indonesia	2328	211	Taiwan	92.67	24.91
Taiwan	126	32	Germany	80.09	10.20
Germany	71	25	Italy	75.09	14.34
Myanmar	170	19	England	17.88	2.59
Korea	73	14	Myanmar	17.50	1.76
India	77	11	India	15.29	1.87
Netherlands	59	11	Netherlands	13.53	2.71
Pakistan	60	10	Honkong	6.31	1.33
Honkong	56	9	Thailand	3.00	0.87
England	28	6	United States	2.61	0.20
Italy	11	4	Iran	1.90	0.35

Table: Import data 2011-2012, 2012-2013. Source: NBR Database

3.1 ASSISTANCE POLICIES AFFECTING THE INDUSTRY

According to export policy, Product sectors which have export potentials but whose production, supply and export base are not well organized will be included in special

development sectors so as to strengthen their export base. Melamine products are included in the special development sector in Bangladesh export policy.

3.2 IMPORT POLICY WITH RESPECT TO COMPETING IMPORT

Imports of all melamine products are allowed. There is no restriction on importing the product.

3.3 TAXES ON IMPORT

At present melamine industries have the following duty on import.

Import of Finished Product

HS Code	HS_1011	Description_1011	Cd	Sd	Vat	Ait	Rd	Atv	Total Tax Incidence(TTI)
3924.10	3924.10.00	Tableware And Kitchenware Of Plastics	25.00	60.00	15.00	5.00	5.00	4.00	154.18

3.4 FOR IMPORT OF RAW MATERIAL

HS Code	HS_1011	Description_1011	Cd	Sd	Vat	Ait	Rd	Atv	Total Tax Incidence(TTI)	
3909.20	3909.20.00	Melamine Resins, In Primary Forms		5.00	0.00	15.00	5.00	0.00	3.00	26.47
4811.90	4811.90.11	IMPORTED BY VAT REGISTERED CERAMIC/ MELAMINE/TRANSFERS (DECALCOMANIA) MFG. INDUSTRY		5.00	0.00	15.00	5.00	0.00	3.00	26.47

Import of finished product is well taxed whereas import of raw material is encouraged for further value addition.

4. ANALYSIS OF ASSISTANCE

A quantitative assessment of the impact of the various measures of Government policy in force on melamine industry is presented in this section. The analysis is done by using the concept of “Effective Rate of Protection (ERP)”, which measures the net effect of nominal protection afforded to both outputs & inputs used in their production. The measurement of ERP is done by using Cordon Method dividing the non- tradable inputs into tradable and non-tradable category.

The analysis of assistance is done by the measurement of the Nominal Rate of Protection, Effective Rate of Protection and Domestic Resource Cost (DRC).

4.1 NOMINAL RATE OF PROTECTION (NRP)

It is the proportion by which the gross value of output of the producers’ gross returns on it, is raised by imposing tariff or other assistance measures. NRPs on melamine and main inputs of the melamine are shown in the following table.

Table 16: Nominal Rates of Protection

Item	NRP (%)
Melamine	154.18

This estimation of NRP has been made from protective tax assistance measures in force. NRP can be of two types, such as observed and statutory NRP. The above table shows the statutory NRP.

4.2 EFFECTIVE RATE OF PROTECTION (ERP)

ERP is defined as ‘the percentage increases in Value-Addition at domestic price over what it could be at world price’. The estimated ERP for melamine is 126%.

4.3 DOMESTIC RESOURCE COSTS (DRCS)

It is the country's cost of producing a unit of output which can either save foreign exchange by substituting imports or earn foreign exchange by directly exporting it. DRC is a cost-benefit ratio. The estimated DRC for melamine is 0.84. DRC of 0.84 indicates that the activity is more or less efficient in terms of domestic resource use. This activity also results in a saving of foreign exchange at market prices.

4.4 VALUE ADDITION

The value addition of the sub-sector is 10.01 per cent.

5. PROBLEMS OF THE SUB-SECTOR

Melamine industries are now becoming a more import-oriented industry as low-cost melamine known as "Urea Melamine" is imported widely by scrupulous businessmen through under-invoicing.

Due to shortage of gas supply existing companies can't operate in full swing as its production entirely depends on consistent gas supply. Quality of products largely depends on gas pressures also. Melamine industries are also facing competition from ceramic products.

5.1 HEALTH RISK OF MELAMINE TABLEWARE

Pure melamine is a kind of plastic composed of alpha cellulose melamine crystal, and formaldehyde solvent. Normally, melamine is in powder form and is absolutely harmless to health. It was used to produce kitchen utensils and tableware such as plates, bowls, cups, spoons and the likes. However, a few years ago some unscrupulous businessmen decided to add urea to melamine to create cheaper tableware, and compensated with attractive designs. Due to its lower cost and lack of consumer education on the harmful effects of urea, low-grade melamine tableware soon flooded the global markets and local markets. Low-grade melamine tableware may be affordable but they do not last long enough and are not healthy to use. These usually have high urea content which heat and varying temperatures cause the urea in this material to melt. And the urea which is consumed unknowingly is the cause of health hazards especially to the stomach and intestines. Pure high-grade melamine is safe like porcelain while inferior melamine deteriorates and fades fast.

Countries like Japan, Saudi Arabia and Qatar have already banned inferior quality melamine products for health reasons. In Bangladesh for the last few years, some businesses have been importing urea-formaldehyde resin as the raw materials for producing melamine goods. The use of UF resin on the rise as its price is around half of melamine resin. But, if the proportion of formaldehyde in UF resin goes beyond a certain limit, it releases formaldehyde emissions into the air, which triggers watery eyes, nose irritations, wheezing and coughing, fatigue, skin rash, severe allergic reactions, burning sensations in the eyes and throat, nausea, and difficulty in breathing in some people. Studies have shown that exposure to formaldehyde emissions may cause cancer.

6. POLICY SUPPORT

The country's key advantages are these:

- Technical expertise and skilled manpower in melamine Tableware and Kitchenware
- Availability of gas and low-cost labor are competitive cost advantages.
- Melamine Tableware and Kitchenware have a strong domestic demand as well as international market demand.

Traditionally, the melamine Tableware and Kitchenware industry is labor-intensive and companies in developed countries experience difficulties in remaining competitive. Bangladesh, being a gas-rich and low-labor-cost economy, is perfectly positioned to be a strategic partner in production and supply of melamine products.

Under this circumstance this sector needs to have developed with appropriate Policy support. In this regard the study proposes the following recommendations:

- ✓ Higher interest on working capital and on the credit for the procurement of capital machineries put the local producers to fall short of competitiveness in local and international markets. Interest on credit should reasonably be reduced in order to enhance the competitiveness of locally produced products.
- ✓ Melamine industries are now becoming a more import oriented industry as low cost melamine known as “Urea Melamine” is imported widely by deceitful businessmen through under invoicing. Measures to be taken against unfair trade of under invoicing in view of Safeguarding interest of entrepreneurs in the melamine industries.
- ✓ Considering the potential health risk of melamine and growing concerns around the world melamine imports may be allowed with certification from BSTI (Bangladesh Standards and Testing Institution) at import stage.

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