

National Consultation on SME Development

Opportunities and challenges
with a time bound action plan

- Plastics and other Synthetics
- Agro-processing/agri-business/
plantation agriculture/specialist
farming/tissue-culture
- Designer, Aesthetically-Challenging,
Personal Wear and Effects
- Light Engineering and Metal-Working
- Leather-Making and Leather Goods
- Electronics and Electricals



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ACRONYMS

AF	: Alternate Fuel
APCITT	: Asian Pacific Centre for Technology Transfer
BAPA	: Bangladesh Agro-Processors' Association
BB	: Bangladesh Bank
BBS	: Bangladesh Bureau of Statistics
BCSIR	: Bangladesh Council of Scientific and Industrial Research
BD	: Bangladesh
BGMEA	: Bangladesh Garments Manufactures and Exporters Association
BIPET	: Bangladesh Institute of Plastic Engineering and Technology
BITAC	: Bangladesh Industrial Technical Assistance Centre
BKMEA	: Bangladesh Knitwear Manufactures and Exporters Association
BPGMEA	: Bangladesh Plastic Goods Manufacturers and Exporters Association
BSCIC	: Bangladesh Small and Cottage Industries Corporation
BSII	: Bangladesh Standards and Testing Institution
BUET	: Bangladesh University of Engineering & Technology
BUFT	: BGMEA University of Fashion Technology
CIPET	: Central Institute of Plastic Engineering and Technology (India)
CO	: Certificate of Origin
DCC	: Dhaka City Corporation
DTE	: Directorate of Technical Education
EPB	: Export Promotion Bureau
EU	: European Union
FBCCI	: Federation of Bangladesh Chambers of Commerce and Industry
FY	: Fiscal Year
GDP	: Gross Domestic Products
GSP	: Generalized System of Preference
IART	: Institute of Apparel Research and Technology, BKMEA
JICA	: Japan International Cooperation Agency
KSA	: Kingdom of Saudi Arabia
MoI	: Ministry of Industries
MOST	: Ministry of Science and Technology
NBR	: National Bureau of Revenue
NCTDT	: National Centre for Technology Development and Transfer

PDB	: Power Development Board
PE	: Polyethylene
PET	: Polyethylene Terephthalate
PPP	: Public Private Partnership
PVC	: Poly Vinyl Chloride
PWMI	: Plastic Waste Management Institute (Japan)
R & D	: Research and Development
RDF	: Refused Derived Fuel
SAFTA	: South Asian Free Trade Area
SME	: Small and Medium Enterprises
SMEF	: Small and Medium Enterprises Foundation
SPS	: Sanitary and Phytosanitary
UAE	: United Arab Emirates
UK	: United Kingdom
USA	: United States of America
VAT	: Value Added Tax

Preface

SME Foundation (SMEF) is the apex organization devoted for SME development in Bangladesh. From the very beginning of its journey SMEF is undertaking and implementing various development action plans for creating and maintaining SME friendly business environment in Bangladesh.

SME Foundation has already conducted studies on six SME booster sectors namely Electronics and electrical; Light engineering and metal-working; Agro-processing/agri-business/plantation agriculture/ specialist farming/tissue-culture; Leather-making and leather goods; Plastics and other synthetics; Designer, aesthetically-challenging, personal wear and effects sectors.

To identify the recent key challenges faced by the above mentioned 6 booster sectors, SME Foundation conducted a series of discussion on “National Consultation on SME Development” in 2012. The said consultation recognizes the findings of previous studies and provides a priority list of newly identified challenges and proposes an action plan with timeframe for implementation.

Key features of this consultation report; identifying problems and making recommendations for way forward, implementing agencies, monitoring mechanism and resources required.

I would like to express our gratitude to the Board of Directors of SME Foundation, Resource Persons, Sectoral stakeholders, trade bodies, business leaders, SME experts from different sectors, and all participants of the consultation for their invaluable inputs that played a pivotal role in implementing this program effectively. I am also grateful to my officials of Research and Policy Advocacy wing who carried it forward since beginning.

It is my hope that the present publication will be used by the experts, sector stakeholders, policy makers to take proper actions for rapid industrialization. It should also serve as a model for similar studies in future in other sectors.

Md. Mujibur Rahman
Managing Director (In-Charge)
SME Foundation

Executive Summary

The small and medium enterprises (SMEs) are playing a vital role in employment generation, export earnings, producing import substitute goods in every developing economy. Similarly SMEs are the mainstream industries in Bangladesh economy. The government of Bangladesh is committed to develop a vibrant SME sector for boosting up employment generation and export earnings. Eleven (11) Booster SME sectors were identified in the SME Policy Strategies - 2005 for providing intensive support.

Among those 11 booster sectors the Plastics and other Synthetics, Light engineering and Metal-Working, Agro-processing/ agri-business/ plantation agriculture/ specialist farming/ tissue-culture, Leather-making and leather goods, Designer-aesthetically challenging, personal wear and effects, and Electronics and electrical are the major six booster sectors.

SME Foundation conducted sector study on those sectors earlier. To review current status and prepare a time bound action plan with prioritized recommendations SMEF further conducted "National Consultation on SME Development". A brief summary from the study are presented here:

According to the consultation report, studied by Dr. M. Serajul Islam, the plastic industry was emerged as a vibrant industrial sector in Bangladesh during the last two decades. At present there are 3000 plastic manufacturing units, 98% of which belong to Small and Medium Enterprises (SME's). The plastic sector is also one of the thrust sectors in the Industrial Policy - 2010. Present domestic market size is Taka. 7,000 crore. The plastic sector provides employment of half a million people and constitutes 1.0 percent of the national GDP. A number of plastic items are directly exported to different countries and total earning for both direct and deem (RMG accessories) exports is about US \$ 337 million.

Professor M. Kamal Uddin studied on the Light Engineer Sector in Bangladesh. He mentioned that the sector predominantly depends on conventional and indigenous technologies. The sector uses the conventional and old or semi-modern machines like, lathe, shaper, milling, etc. They are yet to introduce CNCs for machining operations. Use of Atomic Absorption Spectrometer for material testing is still to be found; even not many foundries use conventional (cheap but inaccurate and presently almost obsolete) chemical analytical laboratories for material testing. Most of them have to rely only on suppliers for material specifications. Usually materials are collected from the junk scrap. Thus most of the specification of the materials is not known. Precision, work speed and quality of product has become difficult.

In a study on "Agro-Processing Sector", Professor Md Moslem Ali mentioned that it appeared to be highly potential sector, could be considered as sunrise sector, for its attractive growth. But this is not yet significant against the potential, still unexplored and untapped. This sector can alone accommodate 25% of our un-employed, unskilled labor force and add valuable contribution in our economy, provided small and medium scale industrial enterprises of this sector are encouraged to grow in massive way throughout the country. These integrated efforts with its spontaneous growing power can make our country a strong player both within and the outside Bangladesh in economic field. The strength of growth of this sector lies in addition to enhanced production, processing with diversification, product development, improved storage and transport system, high quality, shelf life, efficient post harvest management, protection from all types of hazards etc. through modern scientific knowledge and skill.

Mohammed Abdul Maleque, in his study on "Leather Making and Leather Goods Sector" mentioned that the most of the enterprises of both leather and leather goods sector are located at the old part of Dhaka city., (partly Hazaribagh, Ganaktuly, Siddique Bazar and Agamasi Lane) and a relatively large footwear cluster is situated in Bhairab, Kishorganj. It is estimated that there are about 10,000 enterprises producing leathers goods around the country while about 3500 of them are in Bhairab. They are producing mainly footwear; leather goods (bags wallets etc and some other articles of leather merchandise. A large numbers of enterprises are using synthetic materials for their products, while some products are made of lower grade leather too like "mathali" (headskin), "tengri" (leg skin; skin from knee to hoof) etc. A small number of products are made of regular leather. Regular leather is mainly used in export oriented industries. The study recommended for setting up Common Facility Centre at the cluster levels.

The study on 'Designer-aesthetically challenging, personal wear and effects sector' conducted by Professor Md Mahbubul Haque, underscored the fashion sector as a critical for over all industrialization. Fashion sectors, according to the study, comprise a number of sub-sectors like, fashion designing, handicraft, handloom, boutique, embroidery and so on. Wide varieties of products are being manufactured by this sector. Most of the sub-sectors of this sector have some unique advantages like, they are not consuming energy or gas, they are using 100% locally made machines and accessories, it is one of the highest employment generating sectors. Rural and uneducated women can be engaged in this sector where they can work with equal efficiency. This is eco-friendly sector and it has had huge export opportunities. A simple application of design can increase the productivity and add value to the product. The country needed permanent design centre to provide the design solution to SMEs, the study highlighted.

Professor Khondkar Siddique E Rabbani studied on "Barriers and Remedies on Electrical and Electronics Sector" showed that it was one of the most promising sectors in Bangladesh. They are producing import substitute products and saving foreign currencies. Currently Bangladesh is producing about Taka twenty thousand crore of electrical products per year. Very soon this industry will be self sufficient to meet up local demands. But flooding the market with low quality and cheap foreign products is becoming a major threat to local electrical & electronics industries. Import duty on some raw materials is also hampering the rapid growth of this industry.

In this backdrop, the contributions of these six SME booster sectors are clear. They have had multi-dimensional contributions in the economy like employment generation, export earnings and producing import substitute products simultaneously. Therefore, for greater interest of rapid industrialization it is critical for the government, development partners and other agencies to come forward to play their respective roles to create and maintain a congenial business environment for proper growth of these sectors. Henceforth, these sectors will perform effective role in poverty reduction and sustainable economic development of Bangladesh.

Opportunities and Challenges of “Plastics and other Synthetics Sector” in Bangladesh

Dr. M. Serajul Islam*

ABSTRACT

Plastics are versatile materials. They have good physical properties and economic features such as light weight, attractive color, ease of processing, non-rusting property and low cost. As a result, many house hold and technical items which were used to be made of metal, wood, clay, etc. are now being made of plastics. Although the per capita consumption of plastic in Bangladesh is 5 kg per year, which is quite low compared to the world average of 30 kg per year, it is expected to increase to 17 kg per year in 2020 (current average in ASEAN countries).

The plastic industry has emerged as a vibrant industrial sector in Bangladesh during the last two decades. At present there are 3000 plastic manufacturing units, 98% of which belong to Small and Medium Enterprises (SME's). The plastic sector is also one of the thrust sectors in the Industrial Policy - 2010. Present domestic market size is Tk. 7,000 crore. The plastic sector provides employment of half a million people and constitutes 1.0 percent of the national GDP. A number of plastic items are directly exported to different countries and total earning for both direct and deemed (RMG accessories) exports is about US \$ 337 million.

Although the future growth of plastic sector is very promising, an in-depth study reveals multi-dimensional constraints. Lack of trained and skilled man-power, testing facilities, operation and maintenance of processing machines, mold making and international certification are the major constraints in this sector. An institutional arrangement dedicated to plastic sector to provide supporting services such as skilled manpower, testing facilities for quality control, certification, innovative technology, waste management and consultancy services is needed. This paper recommends the setting up of Bangladesh Institute of Plastic Engineering and Technology (BIPET) in this regard. The structure and objectives of the proposed institute is in the light of Indian experience.

Non-availability of good quality mold is a big constraint in plastic sector. The country lacks both the required machineries and skilled man-power in this regard. Upgradation of mold making section of Plastic Division of BITAC is recommended. BCSIR can upgrade its Polymer Division for international certification of plastic products.

International cooperation with CIPET (India), JICA and EU donor agencies can provide support to the setting up of BIPET and upgrading of existing plastic/polymer divisions in BITAC and BCSIR.

Recycling of used plastics is very important for both environment conservation and resource sustainability reasons. Availability of cheap labor has enabled this sector to use recycling quite extensively. Even then, more extensive recycling particularly for mixed plastics using modern technique is highly recommended.

1.0 INTRODUCTION

The plastic industry is one of the thrust sectors in the Industrial Policy-2010. SME Foundation has conducted a baseline survey of the plastic sector in June 2010. The baseline survey has been entitled

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“Bangladesh’s Plastics Products Industry, Baseline, Profile, Performance and Plans for Upgrading”, prepared by Dr. Momtaz Uddin Ahmed, Professor of Economics, University of Dhaka, Bangladesh.

In a previous study the present author has made a presentation in an “Expert Consultation Meeting on Technology Development, Acquisition and Transfer for Plastic Subsector” as a part of targeted six sectors organized by SME Foundation on April 24, 2008. A time-bound action plan was presented in the above meeting attended by experts from BCSIR, BUET, BPGMEA and BITAC. Based on this action plan, SME Foundation has taken measures for the implementation of some of the items in the action plan. In particular, a plan has been drawn up for “Upgrading of mold/die making” section of BITAC. Further, BITAC plans to set up a modern Tool Institute for mold design and training of manpower within five years at a cost of Tk. 40 crores. BPGMEA expressed concern about ensuring easy access to these new facilities for the plastic industry.

The long-term action plan of expert consultation meeting of 2008, has recommended to set up “Bangladesh Institute of Plastic Engineering and Technology (BIPET)” within five years. SME Foundation held a consultation meeting with BPGMEA on August 3, 2010. However, no progress has been made on the establishment of BIPET. In the inauguration ceremony of Dhaka International Plastic Fair-2012 organized by BPGMEA, Minister of Finance AMA Muhi has declared that the plastic sector is a rising industry with a bright future. As a result, an Institute of Plastic will be established under Public Private Partnership (The Daily Star, February 17, 2012).

On the other hand, in the closing ceremony of Dhaka International Plastic Fair-2012, Minister of Industries Dilip Barua has declared that the land for plastic industrial estate will be handed over during the tenure of this government. BSCIC is working on this project (Prothom Alo, February 20, 2012).

This paper makes an in depth analysis of major challenges and prospects of the plastic sector in Bangladesh. Recommendations are prioritized for the development of the plastic sector. Further, the relevant government agency has been identified for implementing the recommendations.

2.0 BACKGROUND INFORMATION ON PLASTIC INDUSTRIES

Relationship of Per Capita Plastic Consumption with Per Capita GDP

Plastic have transformed the quality of life. Plastic due to their unique combination of properties such as light weight, toughness, rigidity as well as flexibility and ease of processing meet to a large extent the material needs of mankind. There is a continuing trend of the substitution of some basic materials with plastics. As a result plastics are associated with the development of a country. In fact plastic consumption is a measure of per capita GDP in a country, Fig.1. From this figure it can be seen that per capita consumption of plastics in Bangladesh 5 kg/year lags behind India and China.

Advantages and Benefits of Plastics

- Plastics offer a cost effective alternative to traditional materials such as glass, aluminum, tin or steel.
- Plastics are employed in a variety of applications where they conserve natural resources. For example, milk is packaged in flexible packages. Drinking water, soft drinks and edible oil are packaged in PET bottles. Use of plastics in these applications saves transportation fuel as plastics are substantially lighter than metal or glass container.
- The use of plastic chair, table and door saves the forests in Bangladesh.
- The use of plastics in agriculture in Bangladesh contributes to increased food production. Plastic pipes are used for irrigation and plastic films for shedding tender vegetable plants in their early stage during winter, Fig-2 (Photograph in the Daily Star, November 29, 2011).

- Local production of accessories and packaging for RMG substitutes import, saves foreign currency and ensures the lead time for RMG export.
- Other applications of plastic products include construction, consumer products, packaging of health care and pharmaceutical products, electrical, computer and industrial uses.

Emergence of Plastic Industries in Bangladesh

The plastic industry in Bangladesh is relatively new compared with the textile and leather industries. The plastic industry began its journey as a small industry in 1960's. Some of the milestones of the development of plastic industries are listed in Table-1. The plastic sector has flourished under the free market economy since 1990's.

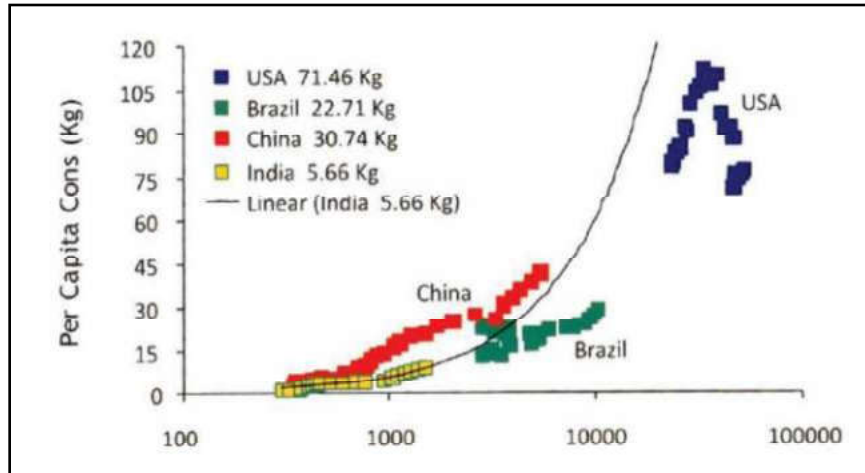


Fig.1: Per capita polymer consumption vs. per capita GDP of selected countries (2009)
(Ref. Chemical and Petro-chemical Manufacturers' Association, India)



Fig 2: Farmers cover their vegetable fields in Rupgonj upazila under Narayanganj district with polyethylene sheets to protect the tender plants from possible damage by winter dew (The Daily Star: Nov. 29, 2011)

Table 1: Milestones of Development of Plastic Industries in Bangladesh

Year	Technology and Products
1960's	Small products such as toys, bangles and photo frames were made using hand made molds. Plastic spare parts for jute mills.
1970's	Automatic machines were installed to manufacture household utensils such as plastic jugs and plate.
1980's	Film blowing machines to manufacture plastic bags.
1991	Plastic accessories especially hangers for exportable garments
2000's	Molded plastic chairs and tables. Water tank made by rotation molding. Locally developed machines (shredder, extruder, pelletizer) for recycling plastic wastes.

Raw Materials

There is no production of polymers in Bangladesh. The plastic industry uses imported raw material of polymer granules. However, this not a disadvantage.

Growth of Polymer Consumption in Bangladesh

During the period 1990 to 2005, the import of polymers has increased from 14,000 tons to 295,000 tons per year, Table-2. At present the total consumption of polymers including imported polymers and locally recycled waste plastics is about 750,000 tons. This corresponds to the per capita consumption of 5 kg per year. Fig-3 shows the growth of plastic industry in Bangladesh during the past twenty years.

Plastic Consumption: Bangladesh vs. Global

The per capita consumption of plastics in selected countries and world average are shown in Fig.-4. From this figure it can be seen that Bangladesh per capita consumption of plastics 5 kg/year is very low against the world average 30 kg. per year. China has reached the world average but India 8 kg.

Global consumption of plastic is more than 190 million tons per year, Table-3. Indian consumption of commodity polymers is shown in Table-4. Unfortunately no data are available on types of polymers imported in Bangladesh after FY 1999. As a result a typical consumption pattern has been estimated based on the waste plastics generated in Dhaka City Corporation (DCC) area in 2005, Table-5. The field survey was conducted by Waste Concern. Data of Commodity polymers/plastics for world, India and Bangladesh are illustrated in Fig.-5. Although Bangladesh data are based on waste plastics generated, the distribution trend is very similar with that of Global and India. A database will be needed in planning institutional arrangement for the development of plastic sector in Bangladesh.

Table-2: Import and total Demand of Polymers in Bangladesh

Period: FY 1989-FY 2011

Financial Year	Quantity (tons)	Reference	Total Demand (tons)
1989-90	14,021	Bangladesh Bureau of Statistics	
1990-91	15,262		
1991-92	22,165		
1992-93	39,880		
1993-94	66,421		
1994-1995	11,981		
1995-1996	103,454		
1996-1997	51,384		
1997-1998	86,318		
1998-1999	59,515		

Financial Year	Quantity (tons)	Reference	Total Demand (tons)
2001-2002	196,169	EPB, NBR & BPGMEA	558,168*
2002-2003	187,177		
2003-2004	214,530		
2004-2005	295,168		
2005-2006	273,874		
2006-2007	288,464		
2010-2011			750,000

- Includes locally recycled plastic granules = 263,000 tons

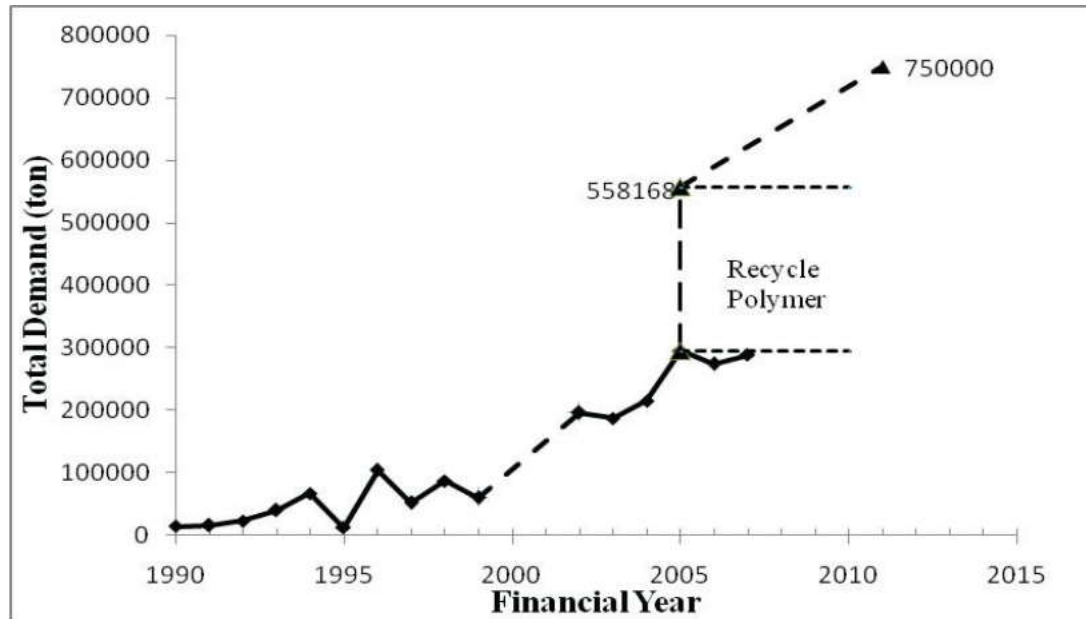


Fig. 3: Growth of plastic industry during past twenty years

Sources: Islam-2010, Enayctullah and Sinha-2008, BPGMEA-2011

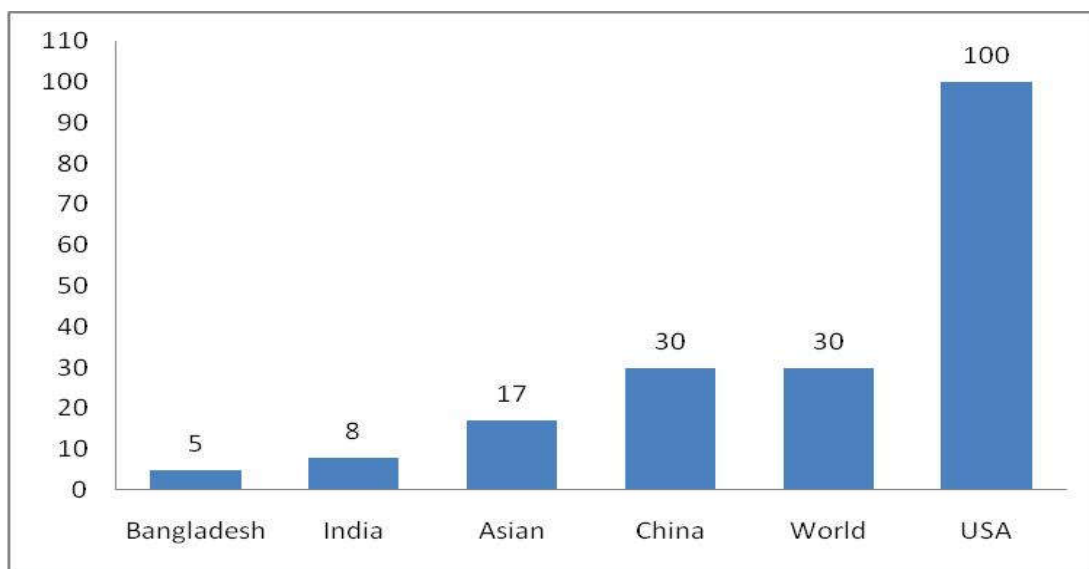


Fig. 4: Per Capita Consumption of Polymers – Bangladesh Vs Global in 2010

(Kapur and Shashikant – 2011; Bangladesh: Estimated using BPGMEA data)

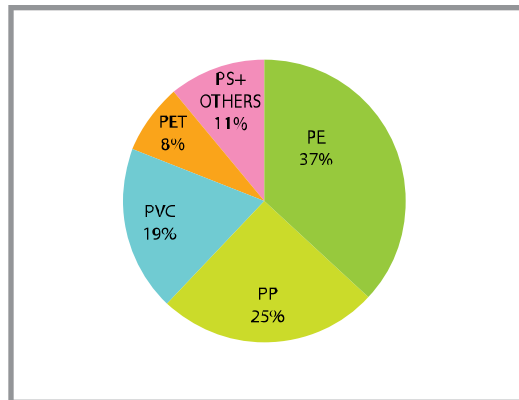
**Table-3: Global Consumption of Commodity Polymers
(Kapur and Shashikant-2010)**

Type	Quantity (million t/yr)
PE	71
PP	48
PVC	36
PET	16
PS & Others	22
Total: 193	

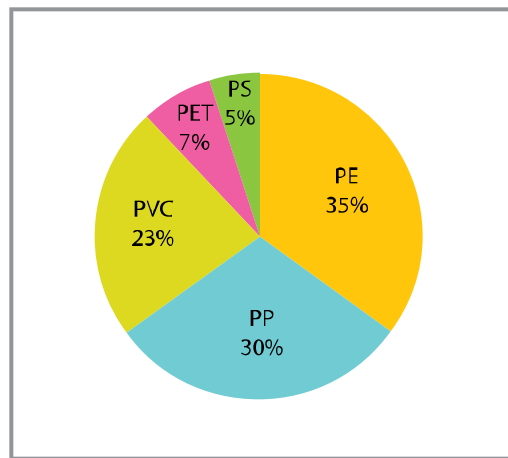
**Table-4: Indian Consumption of Commodity Polymers
(Kapur and Shashikant-2010)**

Type	Quantity (t/day)
PE	56.7
PP	47.6
PVC	20.6
PET	20.5
PS & Others	32.9
Total: 178.3	

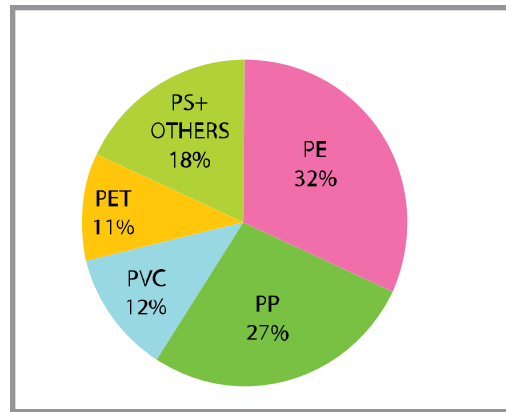
Source: Waste Concern Survey- 2005



(a) Distribution of global consumption of polymers in 2010.



(b) Distribution of Indian consumption of polymers in 2010.



(c) Distribution of common plastics consumption in Dhaka City in 2005.

Fig. 5: Distribution of Commodity Polymers/Plastics in World, India and Bangladesh

3.0 SALIENT FEATURES OF PLASTIC INDUSTRIES

SMEs in Plastic Sector:

There are about 3000 manufacturing units in the plastic sector of which 98% belongs to the Small and Medium Enterprises (SMEs). The plastic sector contributes 1.0 percent of GDP and provides employment for half a million people.

Plastic Sector at a Glance

Additional information on the plastic sector can be seen from Table-6.

Table-6: Bangladesh Plastic Sector at a Glance

Growth	20 percent per annum for direct export of plastic goods
Domestic Market	Tk. 9,000 Crore
Per Capita Plastic Consumption	About 5 kg/Year
Direct Export Earning	Tk. 500 Crore (US \$ 69 million)
Decm Export: RMG Accessories	Tk. 2000 Crore (US \$ 286 million)
Manufacturing Units	About 3,000 small, medium and large plastic manufacturing units operate across the country
Recycling Sector	There are 300 small units in Dhaka City which recycle about 138 tons/day

Source: UN-ESCAP Report-2009 (Updated)

Plastic Products and their Applications

Some of the products for local consumption and export are given in Table-7. Applications of plastic products include packaging, Healthcare/Pharmaceutical, Construction, Consumer Products, Agriculture and other Industrial uses.

Table-7: Plastic Products and their Applications in Bangladesh

APPLICATIONS	PRODUCTS
Accessories for RMG	Packaging material, bags, hangers, etc.
Household, Tableware & Kitchenware	Bucket, jug, plate, glass, containers etc.
Furniture ware	Chair, Table etc.
Packaging	All kinds of food and non-food packaging
Healthcare	Toiletries (Soap case, tooth brush), Medical Accessories (blood bag, saline bag, injection, medicine container)
Building and construction	Plastic pipe, door, toilet flush etc.
Electrical and Electronic Equipment	Electrical cables and wires, switches, regulator, computer accessories, telecommunication equipment etc.
Agricultural products	Plastic pipes for irrigation, and plastic films for shedding crops
Industrial Applications	Engineering parts

Identification of Products and Technology

Plastic products and their applications have already been given in Table-7. Commodity polymers widely used in Bangladesh include:

- Poly Ethylene (HDPE and LDPE)
- Poly Vinyl Chloride (PVC)
- Poly Propylene (PP)
- Poly Ethylene Terephthalate (PET)
- Poly Styrene (PS)

These polymers constitute about ninety percent of all polymers used in the plastic industry. Each type of plastic product uses a specific type of polymer processing technology and machine. Three basic types of machines employed in plastic products manufacture are:

- Blowing
- Extrusion
- Injection Molding

With these processing machines a combination of them called “injection blow molding” and “extrusion blow molding” are also widely used. Details illustration of these machines are shown in following Figures.

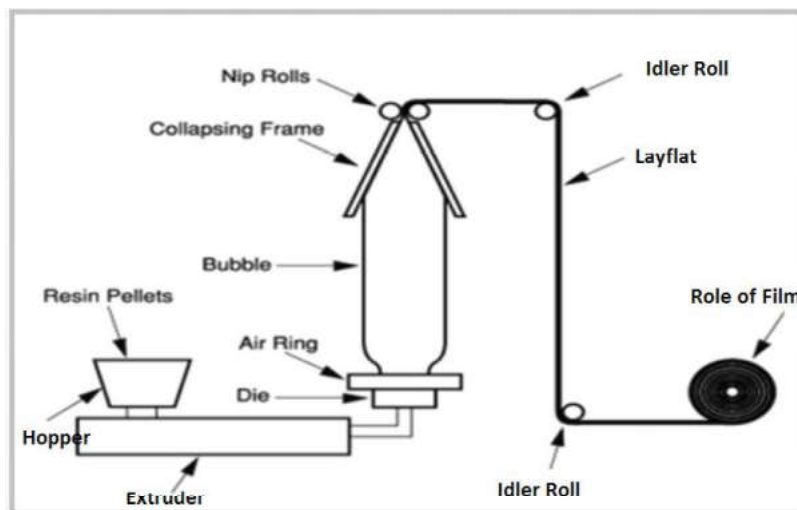


Fig. 6: Basic Blow Film Line

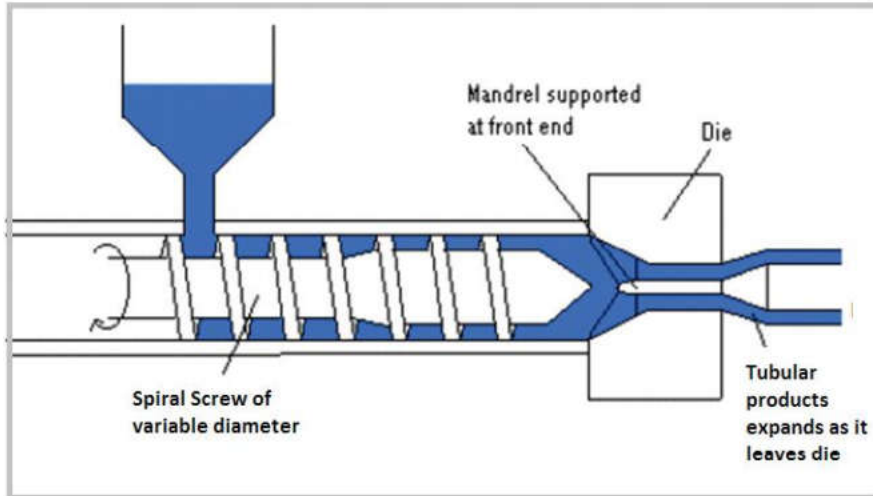


Fig. 7: Extrusion process for making pipes and hoses

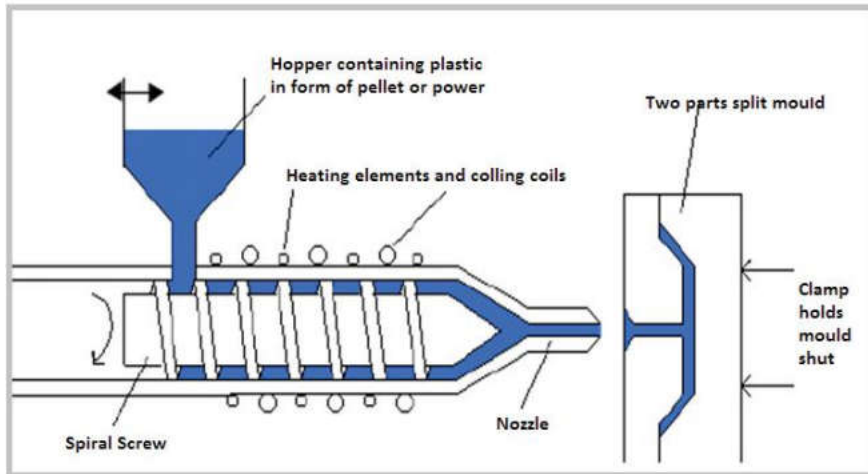


Fig. 8: Injection molding process for making containers

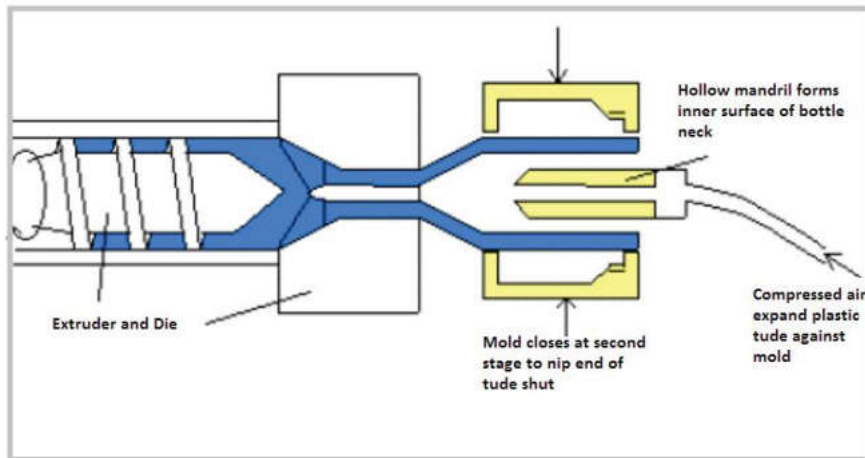


Fig. 9: Blow molding process for making bottles and wheels for toys

Further based on the products, plastic manufacturing industries can be classified into five categories, Table-8. The second column in this table indicates the type of associated technology for a product.

Table-8: Products and Technology

PRODUCTS	TECHNOLOGY
Poly film	Film blowing
Flexible packaging	Film blowing, lamination and printing, injection molding, blow molding, and rotation molding
Furniture ware	Injection molding
PVC pipes	Extrusion
Recycled plastic pellets	Shredding, extrusion plus pelletization

The plastic industry is technology intensive usually involving semi-automatic and automatic machines. The level of technology is low and intermediate. The plastic industries are dependent on imported machines mostly from China, Taiwan, Japan and South Korea. Good quality molds are also imported.

4.0 OPPORTUNITIES

Shift of Manufacturing Industries

Manufacturing is a sun set industry in the west. Plastic consumption there is the highest on a per capita basis. A shift in manufacturing from the west to a region with low labor cost, high knowledge and technology base can be expected (Ambani-1998). Bangladesh has a competitive advantage in the case of labor cost. Other qualities are to be acquired in order to be competitive in the international market. Manufacture of plastic products based on imported raw materials can contribute to export diversification of Bangladesh.

Growing Export Trends

Export earnings of plastic sector are shown in Table-9. The exports comprise of direct export of plastic goods and deem export of RMG accessories. Direct export data in Table-9 is illustrated in Fig. 10. A graphical representation of data in the last three columns for direct, deem and total export (Table-9) is shown in Fig. 11. It is evident from this figure the growing export trends of both direct export and deem export. In this figure the rapid growth of deem export and consequently total export in FY 2011 is due to rapid increase in RMG export in that year. RMG exports in 2010 and 2011 were \$ 12.8 and \$ 18.3 billion respectively, that is, an increase of 43%.

Rank in Export Sectors

The sector wise export earnings of Bangladesh in FY 2009-10 are shown in Table-10. The country is heavily dependent on RMG & Knitwear export which constituted about 78% of total export earnings. The country is making an effort to diversify its export items. Export of plastic products was \$ 243 million. It includes both direct and deem exports. Interestingly the Ceramic Sector which has drawn a lot of attention at the national level earned from export only about \$31 million. The rank of plastic sector appears to be 6th in export earning sectors of the country.

Table 9: Export Earnings of Plastic Sector (Crore Tk.)

Year	Million US\$	Crore Tk.		
	Direct export	Direct export	Deem export	Total
2003-04	22.0	130	502	632
2004-05	38.8	238	591	829
2005-06	44.4	298	795	1093
2006-07	48.0	331	954	1285
2007-08	54.1	371	1100	1471
2008-09	52.3	360	1274	1634
2009-10	50.6	350	1328	1678
2010-11	68.7	493	1973	2466
2011-12	84.2			

Sources: Direct Export (Export Promotion Bureau); Deem Export (Estimated as 1.5% of RMG export)

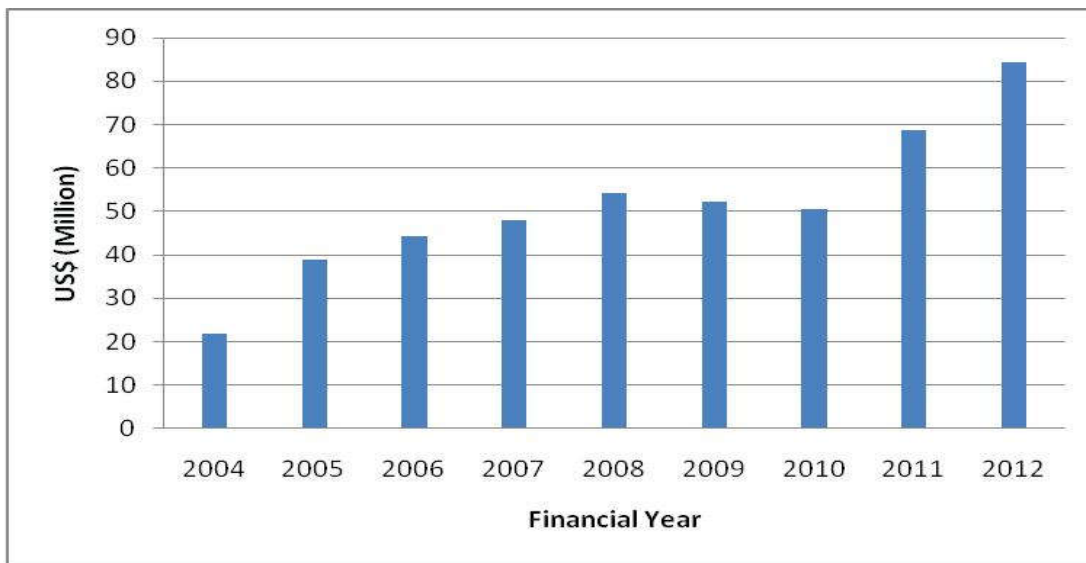


Fig. 10: Growth of direct export of plastic goods during FY 2004 – FY 2012

Source: Export Promotion Bureau

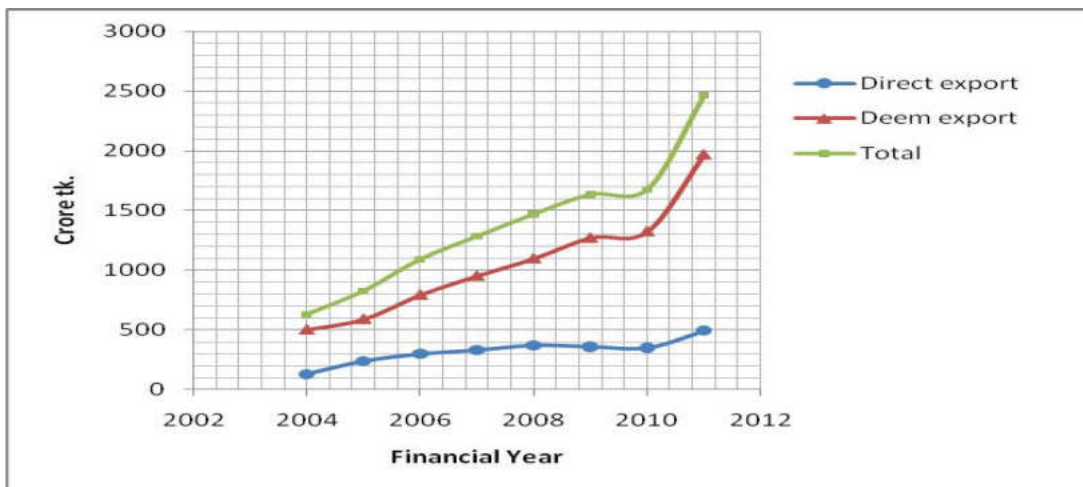


Fig. 11: Export earning of plastic sector during the past eight years

Table 10: Sector wise Export Earnings of Bangladesh in FY 2009-2010

Sector	Export in Million US \$	Sectoral Share (%)
RMG & Knitwear	12,496.72	77.58
Jute & Jute Goods	736.44	4.57
Frozen Foods	437.40	2.72
Leather & Footwear	434.61	2.70
Engineering Products	311.09	1.93
Plastic Products	243.00	1.50
Agricultural Products	242.35	1.50
Ceramic Products	30.78	0.19
Tea	5.65	0.03
Others	1,173.01	7.28
Total export	16,111.05	100.00

Competitiveness:

The low wage structure and the fast developing recycling industry of waste plastics in Bangladesh are potential advantages to be competitive in global market.

Market Size Potential

If we look back, in 1990 the consumption of plastics was about 14,000 tons. It took 20 years to reach 750,000 tons, an increase of 50 times. At present per capita consumption of plastics in Bangladesh is 5 kg/year as compared with the global average of 30 kg/year. The per capita consumption of ASEAN countries is 17 kg/year. Thus, there is a huge potential for the growth of the plastic industry in the country, if we aspire to become a middle-income country by 2021, Table-11. The size of the plastic industry in 2021 will be 2.55 million tons per year compared with 0.75 million ton in 2011, an increase of 3.4 times.

Table-11: Market Size Potential for Plastic Sector in 2021

Year	Polymer consumption (tons/yr)
1990	15,000
2005	560,000
2011	750,000
2021	2,550,000 (Per capita consumption of 17 kg/yr for ASEAN countries)

5.0 CHALLENGES

Enhancing Competitiveness of SMEs

First and foremost challenge for the plastic industry in Bangladesh is to be competitive in the global market. Some of the large-scale plastic industries have demonstrated capability to be world class in

terms of technology, quality and costs, However, there are 3000 plastic manufacturing units of which 98% belong to the small-medium sector (SMEs). Limited access to modern technology is a major challenge facing the Bangladesh SME sector (6th five year plan). The major task for this sector is to make the SMEs competitive in the global market by upgrading them in terms of innovative technology, products diversity and operation costs. It is to be emphasized that technology is changing rapidly and the life cycle is short.

Environmental Issues and Recycling of Waste Plastics

Plastic products manufacturing is relatively environmentally sound. During manufacturing process the rejects and machine spares are usually recycled in the factory premises. However, management of post consumer plastics is an environmental problem in many countries.

Environmental Issues in Bangladesh:

- Adverse impact on environment due to polyethylene (PE) bags
- Soiled plastics are disposed in city garbage dump site.

Management of PE bags: The plastic waste management of thin polyethylene bags has been a serious environmental problem in Bangladesh. The banning of polyethylene shopping bags (Islam-2002) has not solved the problem. At present thin poly bags without handles are being extensively used. Lack of proper management of plastic bags is the main reason for the existing negative image of the plastic industry in the country.

Recycling of Waste of Plastics: Proper disposal of the plastics in the Municipal Solid Waste (MSW) is a worldwide problem, because the house hold waste is a mixture of many different types of plastics and other materials that can only be effectively sorted by hand. Unlike in advanced countries, the labor is cheap in a developing country like Bangladesh. Recycling of waste plastics from the household waste in Bangladesh is carried out by manual sorting and using locally developed technology in a small scale. About 60 percent of plastics are recycled and the rest 40 percent is soiled plastics which disposed in landfill.

Utilization of Soiled Plastics: An alternate use of soiled plastics in Bangladesh has been proposed as a Refused Derived Fuel (RDF) for burning in brick kilns (Hossain-2008, Enayetullah-2012). The soiled plastics contain about 10 percent PVC which is difficult to separate, as a result the possibility of dioxin formation in brick kilns may not be eliminated. An alternate use of soiled plastics without separation of PVC would be in cement kilns of Lafarge Cement and Chhatak Cement. At the high temperature of more than 10000C prevailing in a cement kiln, there is no possibility of dioxin formation. The amount of soiled plastics has been estimated at 220,000 tons in 2005 (Enayetullah-2012).

Plastic Recycling - Bangladesh vs. Advanced Countries: As a result of technological development, plastic waste is now recycled by a great many methods. Those methods may be grouped into three categories (PWMI-2004):

- Recycling to make plastic resins
- Energy recovery (cement kilns, waste power generation, RDF)
- Feedstock recycling (catalytic degradation of waste plastics to liquid fuel)

Instead of the term “recycling”, a general terminology “effective utilization of plastic waste” is used in Japan. Data on quantity and rate of utilization/ recycling waste plastics in Japan during the period 1995-2010 are given in Table-12

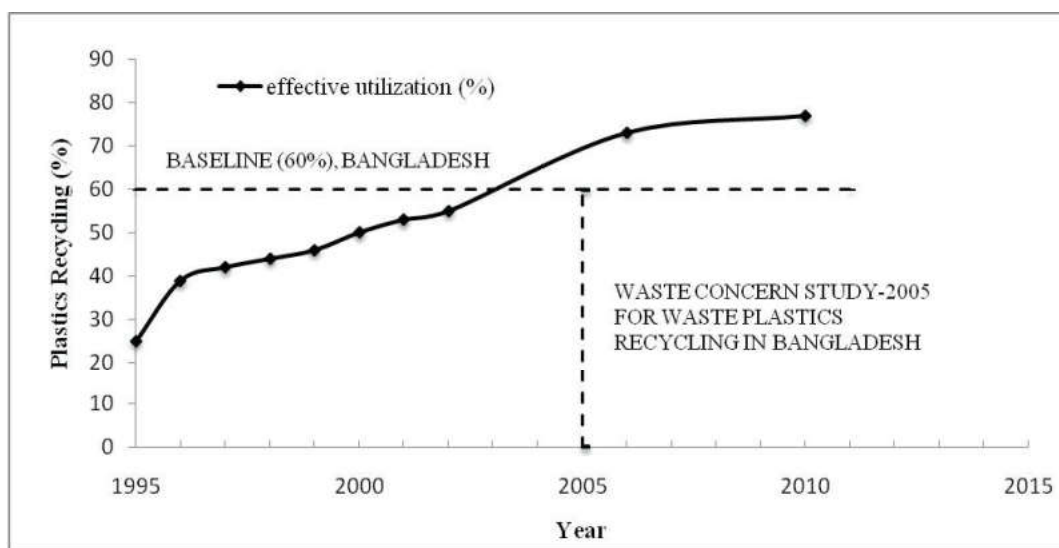
Table 12: Trends in quantity and rate of effective utilization/recycling of waste plastics in Japan

Year	Quantity (Million tons)	Effective Utilization (%)	Reference
1995	2.21	25	PWMI, Japan (2004)
1996	3.58	39	
1997	3.99	42	
1998	4.35	44	
1999	4.52	46	
2000	4.94	50	
2001	5.35	53	
2002	5.42	55	
2006	-	73	PWMI, Japan (2012)
2010	-	77	

A graphical representation of data in Table-12 is shown in Fig.-12. This figure also shows the 60% baseline for the recycling of waste plastics in Bangladesh.

Fig. 12: Comparison of Trend in Waste Plastic Recycling in Japan and Bangladesh

Sources: PWMI (Japan) and Waste Concern Survey-2005



From Fig. 12 it is obvious that “Japan has achieved an impressive plastics recycling rate; nearly double that of some western nations. In 2010, Japan recycled 77% of its plastic wastes, up from 25% in 1995. Japan has passed several laws since 1997 intended to increase recycling and has made efforts to raise awareness of the importance of separating materials” (PWMI-2012). Japan has highlighted the issue of plastic recycling in response to the huge quantity of waste being generated by its 127 million people, coupled with a lack of landfill space. In brief, Japan is pursuing measures to create a recycling-oriented society for sustainable development. Japan could be a model for Bangladesh in this sector.

Pictorial Tour of Waste Plastic Recycling in Bangladesh

Major steps involved in waste plastic recycling are illustrated in fig. 13. Locally developed shredder and extruder with a pelletizer are shown in Fig-14 and Fig- 15 respectively. Figure 16 to 20 are self

explanatory. However, Fig. 18 shows washing of dirty polyethylene bags and films in river Buriganga resulting in contamination of the river water. Conversion of waste plastics to liquid fuel is not economically viable at the current market price of petroleum (Fig- 20).



Fig. 13: Steps involved in waste plastic recycling (Islam- 2005)

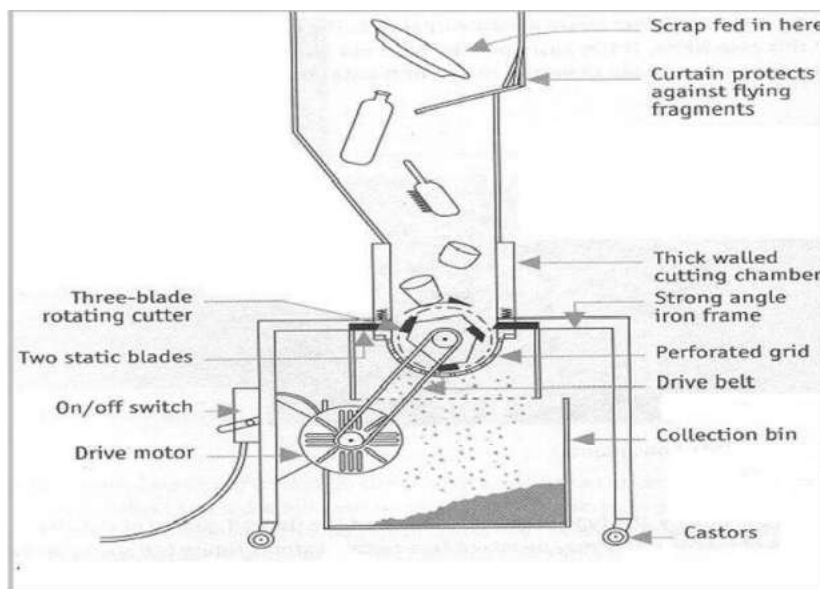


Fig. 14: Locally developed Shredder (Islam- 2008)

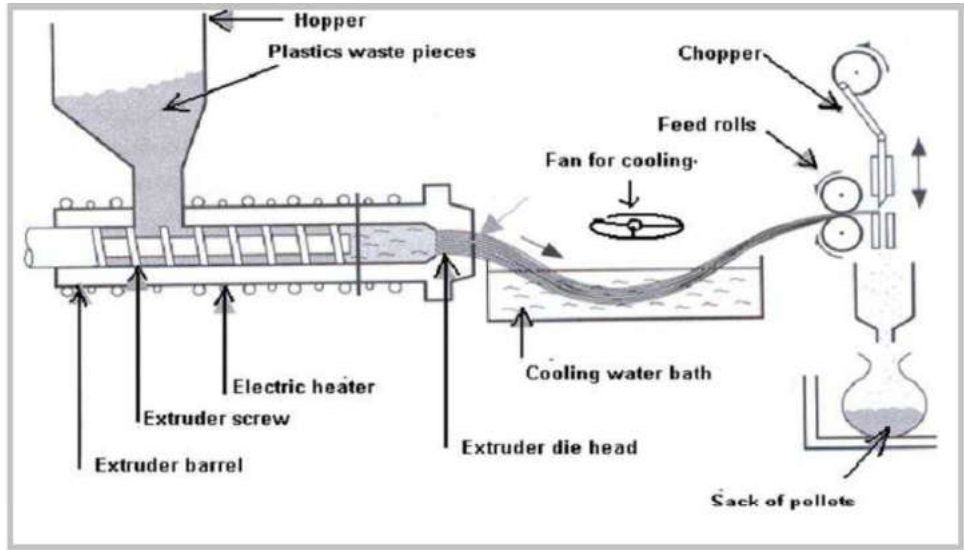


Fig. 15: Locally developed Extruder with a Pelletizer (Islam- 2008)



Transportation of mixed waste plastics in DCC area, Dhaka by rickshaw van for

A variety of colored recycled pellets for sale in the market



Fig. 16: Transportation of waste plastics in a rickshaw van for recycling



Electronic Wastes

Bobbins of recycled Polycarbonate (PC)
for weaving in Textile Industry



Fig. 17: Recycling of electronic wastes (Islam-2005)



Fig. 18: Washing of soiled plastics in the Burigonga River



Fig. 19: PET Bottle recycling plant using German Technology
Source: Akij Plastics, Dhamrai, Dhaka



Fig. 20: Waste Plastics to Oil Production Facility in Japan

Experts Consultation Meeting-2008 Organized by SME Foundation

Recognizing the above reality, the SME Foundation organized a day-long Expert Consultation Meeting on “Technology Development, Acquisition and Transfer in Plastic Subsector” along with other five subsectors on April 24, 2008. The meeting on plastic subsector was attended by experts from BUET, BCSIR, BITAC and BPGMEA (Bangladesh Plastic Goods Manufacturers and Exporters Association). The author was the keynote speaker. The following paragraphs describe the constraints and recommendations.

Constraints: Major constraints are the lack of an institutional arrangement dedicated to the plastic sector. As a result there are no supporting services available for the following.

- Skilled manpower development
- Trouble shooting in operation of processing machines
- Mold design and mold making
- Testing facilities for quality control services
- Certification for export of plastic products
- Technical consultancy services
- Proper management of plastic wastes
- Negative environmental image of plastic industries

Institutional Arrangements

There are institutional arrangements in the traditional and non-traditional industrial sectors as listed in Table-13

Table-13: Institutional Arrangements

TEXTILE	Textile University
LEATHER	Institute of Leather Technology
GLASS & CERAMICS	Institute of Glass and Ceramic for training technicians
	Department of Glass & Ceramic Engineering, recently established at BUET and RUET
FASHION DESIGN	BGMEA University of Fashion Technology (BUFT)
KNITWEAR	Institute of Apparel Research and Technology (IART), BKMEA
PLASTICS	There is no Institute or even a proper Technical school for plastic.
	Plastic Division in BITAC lags behind the current needs of the plastic industries in Bangladesh.

Since plastic industries are relatively new compared with the textile and leather sectors, there is no institution entirely dedicated to the plastic industries. In engineering and technological universities as well as general universities, basic polymer courses are offered at undergraduate level. At Shahjalal University of Science and Technology (SUST), there is a Department of Chemical Engineering and Polymer Science, however, there is no focus on plastic engineering and technology. Moreover, there are not many plastic factories in Sylhet.

6.0 RECOMMENDATIONS FOR TECHNOLOGICAL CAPACITY BUILDING

A critical analysis of the issues and policy related to the plastic sector has revealed that the absence of an institutional arrangement is the main obstacle to the technological capacity building. Experts Consultation Meeting recommended the major areas of promotional activities by the SME Foundation in short, medium and long terms in the Action Plan-2008, Table-14. There were 13 items in Action Plan. The last column in Table-14 indicates the measures taken so far by the SME Foundation for the implementation of some of the items of the action plan.

7.0 AIMS AND AREAS OF ACTIVITIES OF BIPET

The aims of BIPET are to conduct research and develop system for optional processing of polymers including plastic postconsumer wastes. The institution will act as a storehouse of information on technology transfer and provide training and consultancy services to the plastic industry.

Areas of Activities:

- Academic affairs for manpower development and training
- Research & Development
- Mold/die manufacturing
- CAD/CAM Services
- Testing and Consultancy Services
- Technology Upgrading program
- Plastics and environment for sustainable development

The proposed BIPET is an integrated institute which will encompass technical support services, testing for quality, manpower development and carry out R&D on plastics.

Table-14: Selected Items of Action Plan-2008 and Measures Taken by the SME Foundation

Term	Task	Measures taken by SMEF
SHORT TERM	In depth survey of the entire plastic industry to identify types of technologies, constraints, potentials and needs for technical assistance and create a data base.	Baseline survey of selected industries by a professor of Economics, University of Dhaka.
	Up-gradation of mold/die making at BITAC	Providing a CNC machine to BITAC for mold design at a cost of Tk. 60 lacs
	Development (Education and Training) of Technical Manpower	Basic technical skill enhancement program for plastic goods manufacturing is going on in association with BITAC
MEDIUM	Access to APCTT networking through the proposed NITC	MOST has taken an initiative to set up a National Centre for Technology Development and Transfer (NCTDT) in FY 2011-2012.
LONG TERM	Set up Bangladesh Institute of Plastic Engineering and Technology (BIPET)	A consultation meeting with BPGMEA to develop a Road Map to promote plastic sector with the support of SMEF held on 3.8.2010. As a part of Govt. activity SMEF provides all the recommendations to MOST, to take necessary steps to build BIPET.

8.0 UPDATED RECOMMENDATIONS

In preparing the updated recommendations the author had consultation meetings with the following stake holders:

- a. Executive Engineer of Plastic Division and Director of BITAC
- b. General Secretary and President of BPGMEA

Further the author attended the inauguration and closing ceremonies, and technical seminar of 7th Dhaka International Plastic Fair-2012 held on 16-19 February, 2012. These events provided an insight view of the constraints, opportunities and the way forward for the plastic sector in Bangladesh. The chief Guests in the inauguration and closing ceremonies were the Finance Minister and Minister of Industries respectively. Policy interventions requested by BPGMEA and responses of ministers are described in Table-15 below.

Table-15: Policy Interventions Requested by BPGMEA and Responses of Ministers

Requests by BPGMEA	Responses by Ministers
Institute of plastics	Institute of plastics to be set-up under Public Private Partnership (PPP).-Minister of Finance.
Incentive for export	Incentive should be given. – Minister of Finance
Plastic Industrial Estate for relocating small plastic factories in old Dhaka	The land for industrial estate will be handed over by BSCIC during the tenure of the present government. - Minister of Industries.
Plastic Industrial Zone	--
Jute packaging law-2010	--
Certification for export of plastic products	BSI1 to be upgraded, if necessary. - Minister of Industries.

Meetings with BPGMEA

In May 2012, the author had several meetings with Mr. K. M. Iqbal Hossain and Mr. Shamim Ahmed, General Secretary and President of BPGMEA respectively to collect inputs and know the current status of the plastic sector. Summary of findings of meetings with BPGMEA are listed in Table-16

Table-16: Summary of Findings of Meetings with BPGMEA

Problems	Opinion of Respondent
Operation and maintenance problems of machines	Lack of trouble shooters. Maintenance problem of hydraulic and electronic parts of the machine.
Mold manufacturing	Some mold manufacturing factories have been set up in private sector, but cannot maintain schedule. Good quality molds are imported. Mold manufacturing should be left to private sector.
Import duty on primary raw materials	Present import duty is 5%, it should be dropped to zero in order to increase competitiveness in the domestic as well as global market.
High bank interest	Current rate of bank interest 20% is too high for doing business. The interest should be in single digit for the small plastic industries in old Dhaka. SME Foundation should arrange a special fund as in case of light engineering sector.
Testing laboratory	Testing laboratory is crucial for quality control of raw materials (polymers) and products. Lack of testing laboratory also hampers new product development and export.

Visit of Plastic Division of BITAC

The author accompanied by an Associate Professor of Chemical Engineering Department, BUET visited the Plastic Division of BITAC on April 26, 2012. First we had a brief meeting with the Chief Engineer of Plastic Division and Director of BITAC. Then we visited different sections of Plastic Division such as mold design with CNC machine, mold shop, testing laboratory for plastics, women being trained with basic skill for making plastic products (bottles) and other workshop facilities. Major findings of the visit are given in Table-17.

Table-17: Summary of Findings of Plastic Division (BITAC) Visit

* Physical infrastructure is quite adequate for a Plastic Division. Testing Laboratory has become nonfunctional.
* As recommended in Action Plan-2008 of Experts Consultation Meeting of SME Foundation, BITAC plans to upgrade its mold/die making section. The SME Foundation is providing BITAC a CNC machine at a cost about Tk. 60 lacs. However, lack of skilled technicians may be problem in operating and effective use of this machine.
* Director of BITAC informed that a modern Tool Institute for mold design and training of manpower will be set up within five years at a cost of Tk. 40 crore. The institute will have a new system of management for providing user friendly service. No details were given.
* Further observations on the Role of Plastic Division of BITAC are given in next section.

9.0 ESTABLISHMENT OF BIPET

Indian Experience: The plastic industry started in India in the late 1960's. The Central Institute of Plastic Engineering and Technology (CIPET) was established in 1968. At present CIPET has 15 centers at different places in India. All the centers have infrastructural facilities in the areas of design, CAD/CAM/CAE and tooling, testing and mold manufacturing, plastic processing, testing and quality control, and consultancy on plastic waste management. In addition to technology support services, the institute has research and academic programs in the field of plastics engineering & technology at diploma, undergraduate and postgraduate levels leading to Ph.D.

Role of Plastic Division of BITAC: It is interesting to note that the CIPET is under the ministry of Chemical and Fertilizers, Government of India. As a government institute, the CIPET has linked itself with the plastic industries which are mainly in the private sector. In contrast to this successful academic-industry linkage, the Plastic Division of BITAC (Bangladesh Industrial Technical Assistance Centre) established with UN assistance in early 1980's has become an obsolete institution. The BITAC is an autonomous institution under the ministry of Industries. It is located in a prime place of Dhaka City, and has civil infrastructures including buildings, hostel for accommodation of trainees, laboratory spaces workshops and a mold shop. The GOB especially the ministry of industries and SMEF must find a way forward for the linkage of the plastic division of BITAC with the local plastic industries.

Establishment of BIPET under PPP: The establishment of Institute of plastic is proposed in the two phases.

Phase I : Small institute in a rental building.

Phase II : Full fledged institute in own campus.

Objectives of the small institute of plastics are:

- To train technicians with certificate (short courses) of 6 months and 12 months in plastic technology.
- To provide technical support services to plastic industries including testing facilities, recycling and waste management.

Technical cooperation with CIPET (India) and JICA would be helpful to set up the institute. Initially several instructors would be trained in CIPET. JICA can help to set up a laboratory of international standard to certify plastic products for export.

The Public Private Partnership (PPP) is a recent concept, not yet well established. The PPP is designed primarily for large projects in the power, gas, telecom and flyovers, etc. The Institute of Plastic may be considered as an "unsolicited" project. For an unsolicited project the PPP Guidelines states "A private investor may submit an unsolicited proposal with pre-feasibility and/or detail feasibility report to the line /concerned/ ministry".

For a small Institute of plastics, the investment may be considered about Tk. 40 crore. For the small project the concerned ministry for the submission of project proposed is Ministry of Industries. The procedure for the submission of the project proposal for the Institute of Plastics is illustrated in Fig. 21.

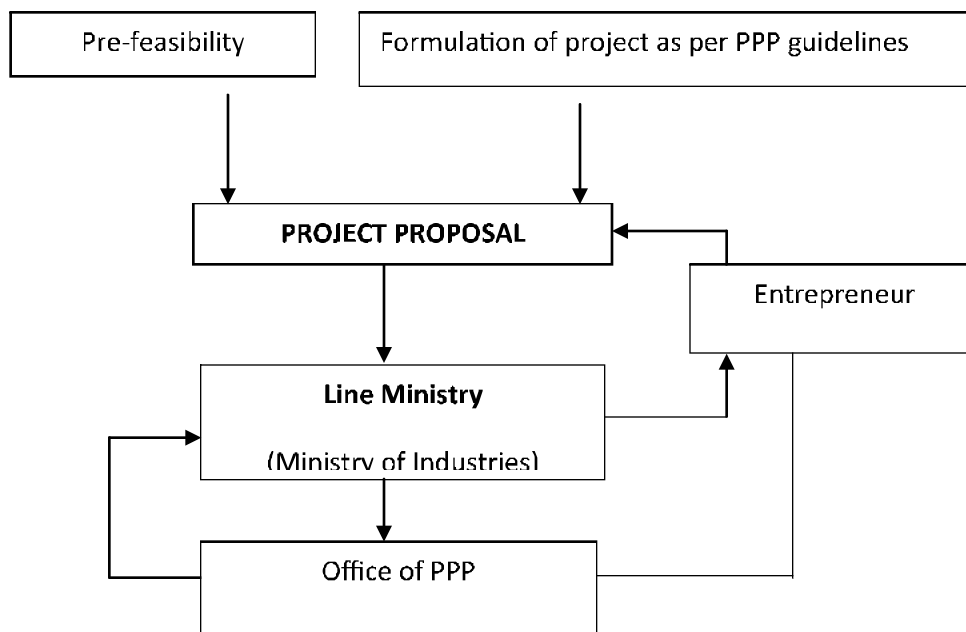


Fig-21: Project proposal submission procedure under PPP for a small project

10.0 PRIORITIZED RECOMMENDATIONS AND ACTION PLAN- 2012

Based on the literature review and findings of consultation meetings with the stakeholders, the prioritized recommendations are given in Action Plan-2012 for short term, medium term, and long term. Duration of the plan is five years. Establishment of a Institute of Plastics (BIPET) may solve the major problems facing the plastic industries. It is envisaged that this institute in a small scale should become functional within 2 to 3 years.

11.0 CONCLUSIONS

- The plastic sector has emerged as a dynamic industrial sector, and it has opened a new era for the diversification of our exports.
- Annual growth rate for direct export of plastic goods was 20 percent during the past eight years.
- Major constraint is the lack of technological infrastructure, especially an Institute of Plastics. It is recommended to set up the proposed institute, namely, Bangladesh Institute of Plastic Engineering and Technology (BIPET) in two phases:

Phase I : Small institute in a rental building

Phase II : Full fledged institute in own campus

- Objectives of phase-I are to train technicians of existing plastic factories with certificate courses of 6 to 12 months duration, and provide technical support services to plastic industries including quality testing, recycling and waste management.

Before establishment of a full fledged Institute, existing Plastic Division in BITAC, in particular the mould making section must be upgraded. Further, Polymer Division of BCSIR may be equipped with facilities for international certification of plastic products.

- In order to implement these projects, technical cooperation with CIPET India, JICA and EU donor agencies will be needed.
- As the country develops, the consumption of plastics will increase. It is estimated that the current consumption of polymers 0.75 million tons will increase to 2.5 million in 2020.

ACKNOWLEDGEMENT

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Finally I would like to thank Mr. Sirajul Haque Khan, Associate Professor of Chemical Engineering, BUET and Engr. Md. Mahmudul Hasan, Vice-President for Corporate Affairs, Sustainable Development Society for co-operation in conducting this study.

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Annexure-2

Action Plan proposed in UN-ESCAP Report (2012) for the Plastic Industry in Bangladesh

- Establishing national brands;
- Collaborating with the Bangladesh University of Engineering and Technology for technological support for quality testing and technical consulting (as a short-term measure). Creating separate institutional arrangement (in the long run);
- Providing business counseling by the SME Foundation and the Bangladesh small and Cottage Industries Corporation (BSCIC) with separate specialized units for plastic products;
- Conducting feasibility study of high quality local mould-making centers --two such centers should be immediately established;
- Equipping Bangladesh Standards and Testing Institution (BSTI) with modern amenities for proper standardization measures and strengthening its facilities to outreach the SMEs involved in the plastic sector;
- Simplifying different government processes including certification process;
- Setting-up training facilities for developing human resources in plastic manufacturing, plastic engineering, heat treatment, mould making and design, plastic waste management and recycling;
- Enquiring into the possibility of exporting degradable plastic products to the United States of America and the European Union;
- Supplying new industrial high value added plastic components for computers, electronics, machineries and automobiles;
- Including the plastics sector in the highly prioritized export development sector list by Export Promotion Bureau to ensure easier term loans, income tax holidays and other incentives;
- Developing provision on collateral free loans by according priority to the plastic industry; and
- Conducting awareness campaigns for promoting better collection of waste materials/waste management - piloting in Dhaka and Chittagong areas.

Annex -1: List of resource person at the validation workshop

SL	Name	Organization & Designation
1	Syed Rezwanul Kabir	SME Foundation Royal Tower, 4 Panthapath, Kawran Bazar, Dhaka - 1215 Managing Director & CEO
2	Mr. Md. Mujibur Rahman	SME Foundation Royal Tower, 4 Panthapath, Kawran Bazar, Dhaka - 1215 Deputy General Manager, Policy Advocacy and Research Wing
3	Mr. Shamim Ahmed	Sunflower Melamine Industries Mahtab Center (10th Floor) 177, Bijoy Nagar, Dhaka - 1000 Proprietor Ex. President, Bangladesh Plastic Goods Manufacturers & Exporters Association (BPGMEA)
4	Mr. Ferdous Wahed	F.H. International Ltd. 183, Shahid Syed Nazrul Islam Sarani (3/3 C Bijoy Nagar), Dhaka-1000 Managing Director Member Executive Committee & Ex. President, Bangladesh Plastic Goods Manufacturers & Exporters Association (BPGMEA)
5	Mr. Mohammed Shahabuddin	National Board of Revenue (NBR) Former, Member Flat # 5C, House # 46 (Yasmine's Regency), Road # 10 A, Dhanmondi R/A, Dhaka-1209
6	Mr. Md. Mamun -or-Rashid	Export Promotion Bureau TCB Bhaban, 1 Kawran Bazar Dhaka - 1215 Assistant Director
7	Mr. Serajul Haque Khan	Department of Chemical Engineering, Bangladesh University of Engineering & Technology (BUET), Dhaka - 1000 Associate Professor
8	Mr. Dewan Mofakkar Hossain Masum	Polymer Ind. (PVT) Ltd. 219/B Sultangonj, Rayer Bazar Dhaka-1209 Managing Director Member, Executive Committee, BPGMEA
9	Mr. Md. Iqbal Hossain Liton	Imperial Manufacturing Co. 58-63/1, Hoshni Dalan Road Lalbagh, Dhaka-1211 Proprietor Member, Executive Committee, BPGMEA

SL	Name	Organization & Designation
10	Engr. Jalal Uddin	Bangladesh Industrial Technical Assistance Centre(BITAC) Tejgaon I/A, Dhaka-1208 Executive Engineer
11	Dr. Husna Parvin Nur	Institute of Glass & Ceramic Research & Testing, Bangladesh Council of Scientific & Industrial Research (BCSIR), Dr. Qudrat-I-Khuda Road, Dhanmondi, Dhaka-1205 Director
12	Mr. S.M. Mohsin Hossain	SME & Special Programs Department Bangladesh Bank, Motijheel C/A, Dhaka - 1000 Joint Director
13	Mr. Md. Rezaul Karim	Bangladesh Small and Cottage Industries Corporation(BSCIC) 137-138, Motijheel Commercial Area, Dhaka-1000. Assistant General Manager (AGM)
14	Dr. Ihsanul Karim	Bangladesh Industrial Technical Assistance Centre(BITAC) Tejgaon I/A, Dhaka-1208 Director
15	Dr. Ijaz Hossain	Department of Chemical Engineering, BUET, Dhaka-1000, Bangladesh. Professor
16	Mr. A.K.M Rafiqul Islam	SME Cell, Ministry of Industries Government of Bangladesh Shilpa Bhaban, 91, Motijheel C.A, Dhaka-1000 Deputy Secretary
17	Mr. Fahim Bin Asmat	SME Foundation Royal Tower, 4 Panthapath, Kawran Bazar, Dhaka - 1215 Program Officer
18	Mr. Akhil Ranjan Tarafder	SME Foundation Royal Tower, 4 Panthapath, Kawran Bazar, Dhaka - 1215 Program Officer
19	Mr. Md. Joynal Abdin	SME Foundation Royal Tower, 4 Panthapath, Kawran Bazar, Dhaka - 1215 Program Officer

Opportunities and Challenges of “Light Engineering and Metal Working Sector” in Bangladesh

Professor Dr. M. Kamal Uddin*

Executive Summary

This report is an outcome of a research study conducted by the author recently on Light Engineering Sector (LES). The report depicts the baseline profile, characteristics, performance, overall scenario, challenges & opportunities, recommendations and action plans pertaining to the Light Engineering Sector of Bangladesh. This research study entitled ‘National Consultation on SME Development with Challenges and Opportunities for Light Engineering and Metal Working Sector’ is one among the six studies of thrust sectors sponsored by SME Foundation in 2012.

There are 11 SME booster sectors in the ‘SME Policy Strategy-2005’. To promote further, SME Foundation had conducted a baseline survey on six SME boosters sector. The survey and the research study were conducted in 2008. To prioritize recommendations for development of those sectors, SME Foundation has taken initiatives in 2012 to organize ‘National Consultation on SME Development’, on the same sectors. The initiative pertains to conduct a research study based on previous works and available data and to prepare a paper on each sector. ‘Light Engineering and Metal-Working Sector’ is one of those six sectors.

This study on Light Engineering Sector encompasses a comprehensive study based on previous documents such as research report, Stakeholders’ consultation meeting, Focus Group Discussions (FGD) at BUET, Industrial Policy-2010, SME Policy Strategies-2005, Vision-2021, 6th Five Year Plan, PRSP, ICT Policy, Export Policy, Import Policy, SME Financing Policy of Bangladesh Bank, and other reports published by the donor communities, etc. The objectives of the study are as follows: to identify major constraints and opportunities for the development of the sector; to make a prioritized list of problems that has to be solved urgently; identifying relevant government agencies responsible to solve the problems; recommending way forward to utilize opportunities and finding appropriate solutions for solving identified hindrances and barriers.

Thus the focus of the study is to produce a statically vivid picture of the sector by providing information on the functions, composition and the characteristics of the light engineering enterprises, problems & constraints and to create a baseline profile portraying overall scenario, performance and to formulate recommendations & action plans for development of the sector.

At the outset of the first chapter of this report, an overview on the role of light engineering sector in the macro economy of Bangladesh has been presented. The characteristic features of LEIs, sectoral highlights, pertinent accreditation, size configuration, perspective, the definition & classification of LEIs and LES, category of LEIs, beneficiaries of LES products, geographical distribution of LEIs in Bangladesh, product country mapping of LES and a abridged view of light engineering sector have also been included. In second chapter, macro economic environment scenario has been analyzed. Institutional and economic reforms to liberalize the regime for enterprise activity, policies, strategy process and macro initiatives have been depicted. Geographical distribution of LEIs in Bangladesh,

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product country mapping of LES, products' buyers' map & product's distribution channel of LES have been identified and illustrated graphically in his chapter.

In Chapter III, products and raw materials profile of light engineering industries have been shown. Gamut of light engineering products in Bangladesh, product lines, size of global market and export from Bangladesh, and raw materials that are usually used in LES have been depicted.

The technology platform in use and overview on manufacturing process of LES have been narrated in Chapter IV. Production line and production processes used for major materials, products produced by the LES, technological and quality upgrading, production techniques in use in the Light Engineering Industries, etc., have been presented in this chapter. Data from previous survey were analyzed. Results pertaining to the scenario of technologies and machinery in use in the Light Engineering Industries (No. of machines equipment per establishment) shows that lathe machines, Spinner and Cutter are common tools in LEIs and in the order of highest number among other machine/equipment. Several scenarios can be visualized. Firstly, Light Engineering Industries are contingent on average number of equipment and machines. Secondly, the equipment that is required in converting metal into a spare parts or capital machinery is basic need of the industry to become higher level of enterprise. Thirdly, the technology platform is defined for each type of establishment as a statement of capability expressed in the number of various machines and equipment.

Empirical Value Chains (EVC) of LES products of Bangladesh have been shown in Chapter V. Holistic value chain of LES products, process value chain and generic value chain with respect to production have been prepared and shown in this chapter.

Chapter VI is devoted to portray the existing problems and hindrances in LES. It describes major problems and hindrances pertaining to following: duty, tax & tariff anomalies; subcontracting vs. public procurement regulation (PPR), BITAC's objective, institutional weakness of public and private sector, technical skill development organizations (technical educational institutes), prime raw material 'steel', data base of LES, transfer of advanced technology, lack of credit facilities, raw materials management, labour turnover etc. Points came from interactive focus group discussion (FGD) held at BUET recently have also been incorporated.

Analysis pertaining to the problem of access to finance was done based on data obtained from previous survey. Results pertaining to data on access to finance are presented in Chapter VI. The prominence of credit on the books of account of LEIs is important not for academic reason. It is for an entirely practical reason. And the reason is that the amount of credit is a major determinant of the per-worker output in the industry, even after controlling for several relevant variables. That is why it is important to profile both the Micro & Small and Medium & Large establishments in terms of the extent to which their credit "requirements" for access to finance at affordable rates of interest are acceded to. Entrepreneurs in the Micro & Small category are clearly credit-constrained. The Light Engineering Industries industry does not have much 'access' to non-institutional credit.

Chapter VII focuses on export strategy of LEI products. Firstly, export of LEI products, export items, countries where LEI products are imported from Bangladesh, outsourcing of LEI products, export potency have been described. Then export of light engineering products— domestic and import markets: market options forecasting and challenges have been presented. Finally export strategy for selected potential products of light engineering sector of Bangladesh (sub sectors: agro tools & machinery, cast iron products, automobile spare parts, bicycle.) have been presented.

In order to spur light engineering sector, growth strategy, conclusions and recommendations have been formulated and presented in Chapter VIII. At the outset of the chapter, strategic approach for faster development of light engineering sector, main challenges and objectives have been stated.

In conclusions and recommendations part of the chapter VIII, concluding remarks and recommendations have been given on the following areas: special economic zone (SEZ), industrial

park, time bound vision and global approach, mitigation of duty, tax and tariff anomalies, tariff policy, access to finance, infrastructure development, required initiatives on policy and politico-legal system, technological development, technology & finance and modern foundry. A model to make a consortium for entrepreneurship of LE products has been proposed. A suggestion for investment that is needed for machinery and technology up gradation has been proposed. Recommendations pertaining to strengthening university-industry linkage, environmental and occupational health, and some reformative measures have also been included in this chapter. Road map for the next five years and future areas of growth have been presented as well. Lastly, a policy matrix for public-private partnership for LES development has been presented.

An action plan in conjunction with strategy and Implementation road map for Light Engineering Sector have been formulated. These have been incorporated in Chapter IX. Anticipated output is also been incorporated. In order to realize the full potential of the industry all the stakeholders need to be committed to finding lasting solutions to the prevailing problems in the sector and to follow the under mentioned agenda and implement the prioritized activities: Pertinent agenda are as follows

Agenda 1. Enacting Appropriate Policy Measure: To update and implement the Bangladesh LEI policies based on a public private dialogue in order to reduce import items, facilitate access to equipments and support export transactions

Agenda 2. Access to Finance: To allow LEIs to access finance for rehabilitation and adequate technology access

Agenda 3. Up gradation of Technology: To move gradually from first to new generation machinery and improve quality monitoring and source of reference

Agenda 4. Capacity Building and Skill Development: To upgrade agro machinery, automobile spares and foundry technical workforce skills and to build marketing and management skills for factories and foundries entrepreneurs in order to respond to the markets demand

Agenda 5. Adopting Advanced Marketing Technique: To strengthen LEIs Trade Support Institutions with marketing tools and techniques in order to develop and make visible LEIs' national products on the domestic and international markets

Finally in Chapter X, general and specific action plan for the sector have been appended in tabular form. In Section A, general action plan and in Section B, specific action plan with time frame along with key characteristics/operational controls/ comments and implementation agency have been presented.

Perspective and Contribution of Light Engineering Sector to the Economy

1.1 About the Research Study

This report is an outcome of a research study conducted by the author recently on Light Engineering Sector (LES). The report depicts the baseline profile, characteristics, performance, overall scenario, challenges & opportunities, recommendations and action plans pertaining to the Light Engineering Sector of Bangladesh. This research study entitled ‘National Consultation on SME Development with Challenges and Opportunities for Light Engineering and Metal Working Sector’ is one among the six studies of thrust sectors sponsored by SME Foundation in 2012.

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Thus the focus of the study is to produce a statically vivid picture of the sector by providing information on the functions, composition and the characteristics of the light engineering enterprises, problems & constraints and to create a baseline profile portraying overall scenario, performance and to formulate recommendations & action plans for development of the sector.

1.1.1 Methodology of the Research

The methodology of research study comprised of several basic activities:

1. Collection of literatures, materials on LEIs from home & abroad
2. Collection of previous documents and past research reports
3. Study of previous documents such as research report, Stakeholders’ consultation meeting, Focus Group Discussions (FGD) and workshop reports, Industrial Policy-2010, SME Policy Strategies-2005, Vision-2021, 6th Five Year Plan, PRSP, ICT Policy, Export Policy, Import Policy, SME Financing Policy of Bangladesh Bank, and other reports published by the donor communities, etc.
4. Review of the state of the art of the technologies in LES in home & abroad.
5. Arranging Focus Group Discussion (FGD) & other interactive programs.
6. Research and analysis.

7. Preparation of conclusions, recommendations, details industrial & technological features.
8. Preparation of Final report.

1.2 Role of Light Engineering Sector on the Economy

Light Engineering Industries (LEIs) have historically been acting a pivotal role in the industrial enterprise landscape locally and within economies globally. Especially, growth with clear benefits for poverty reduction puts a premium on integrating, productivity and profitability, Light Engineering Industries in the very process of economic growth. In the present era, all progressive countries as a part of their development strategy have been intensifying their efforts to develop Light Engineering Sector (LES) which acts as prime mover for growing a country's industrial base. Light Engineering Sector occupies a unique position in the economy of Bangladesh as well and plays a vital role in the socio-economic development of the country.

Before liberation of Bangladesh, mainly Non-Bengali people were involved in light engineering works. After liberation, huge local need of spare parts and capital machinery heralded the emergence of the sector. In Bangladesh emergence of providing support to this industry was first felt in eighties.

These industries have potentials to make significant contribution towards technological and economic development along with wide opportunities for employment generation. Analysis shows that these small & medium scale industries have made substantial contribution to Gross Domestic Product (GDP) during the last few decades and created appreciable employment opportunities. The sector has been playing a key role as support to all other industries by supplying various types of machinery and spare parts, and also industrial units and capital machinery. They provide strong & vital support to other sectors of the economy. It is estimated that there are more than 40,000 numbers of such industrial units in the country, which operate at variety of scales and capacities. These are located scattered around the country. Light Engineering (LE) units are scattered all over the country but situated mostly in the urban areas. Generally the density of these small and basic industries is higher in areas where density of other industries is also higher.

Major concentration of Light Engineering Industries (LEIs) showing cluster areas can be found in Dhaka, Chittagong, Pabna, Khulna, Bogra, Jessore, Rangpur, Gazipur, Narshindi, Narayanganj, Comilla, Kishorganj, Sylhet and Rajshahi. In general, light engineering industrial units produce products and offer relevant services mainly for local markets. Many LEIs products are import substituting. Very small number of LEIs can be found to produce for export. The Industries are called mother industry as this form the basic support for all other industries. As feeder industries, the LEIs provide its multi type products to other engineering as well as non-engineering sectors.

The LEIs form forward as well as backward linkages with other industries making a cluster network in profusion generating employment and contributing to the overall economy. However, such medium and large sized units with regular product lines adopt different process of marketing technique to merchandise their products. The over-riding vision must be for setting up a market-based economic order with a level playing field for all industrial enterprises, in which LEIs can aspire to opportunities of growth and wealth-creation commensurating with their own endowments and diligence, innovation and management commitment. In addition, the vision must lead to a priority in the delivery of government services so as to neutralize, on a continuing basis, the handicaps and irritants, which almost flexibly, tend to spring themselves upon LEIs in a selective manner.

Machinery and spare parts produced by the entrepreneurs of this sector are supplied to various mills and factories such as jute, cotton, sugar, paper, textile, garments, fertilizer, tea processing, ferry, railways, power plants, construction sector, transport, pharmaceuticals etc. Day to day technological progress, adaptation of innovative concept & technical expertise are the continuous process of activities in upholding a firm pledge to reach a sustainable position to meet the challenge in the local

as well as world market and the environment of globalization. It has been upholding its role in developing & maintaining mechanized agriculture, maintaining continuity of vehicular transports and production of capital machinery and equipment of various descriptions for industrial and engineering sector.



Figure 1: Our High Dream of Economic Prosperity of Bangladesh can be Fulfilled through LES

1.3 Some Pertinent Accreditation of Light Engineering Sector

- ❑ LEI has been declared as one of the five ‘Highest Priority Sectors’ by the Government of Bangladesh (Export Policy 2009-20012)
- ❑ This is regarded as the one of the priority sectors in the country as declared by the Government of Bangladesh (Industrial Policy 2010).
- ❑ The sector is one of the potential thrust sectors declared by the Government of Bangladesh (Industrial Policy 2010).
- ❑ LEI is recognized as a great contributor to the economy by producing ‘import substitute products’



Figure 2: Various Types Of Products are Being Produced by LES at Dholai Khal /Jinjira and Other Parts of The Country

1.4 Size Configuration of Light Engineering Industries in Bangladesh

With regard to Industrial Policy 2010, LEIs (manufacturing) can be regarded as those industries that possess fixed capital investment/ replacement cost (without the cost of land & industry building) less than Tk. 20 crore (or less than 150 workers) and for non-manufacturing enterprises (trading / service provider), replacement cost (without the cost of land & industry building) less than Tk. 10 crore (or employs less than 100 workers)

1.5 Perspective of Light Engineering Sector in Bangladesh

Most of the LEIs are operating scattered all over the country; majority of them grew up in areas where they found it prospective. Despite major impediment posed by the advent of modern technology for their future growth, already there has been a significant proliferation of LEIs in the country. So, there are some growth areas for LEIs spontaneously spread all over the country. One of the major characteristics of the LEIs is that, they serve the local needs and can function in any economic sphere of the country. Now there are strong backward and forward linkages between LEIs and other sectors of economy by supplying wide range of products.

LEIs in Bangladesh predominantly depend on conventional and indigenous technologies. The sector uses the conventional and old or semi-modern machines like, lathe, shaper, milling, etc. They are yet to introduce CNCs for machining operations. Use of Atomic Absorption Spectrometer for material testing is still to be found, even not many foundries have/use conventional (cheap but inaccurate and presently almost obsolete) chemical analytical laboratories for material testing. Most of them have to rely only on suppliers for material specifications. Usually materials are collected from the junk scrap. Thus most of the specification of the materials is not known. Precision, work speed and quality of product has become difficult.

It is worth mentioning here that, most of the developing countries around the world, have been providing institutional support services to their LEIs for quite a long time through setting up of different types of technical training centers to help their technical work force up date their knowledge of using new and appropriate machines. For example, a CAD CAM Center in Bangalore, India has been set up by the government of India in association with Auto Components Manufacturers Association (ACMA) to give LEIs the necessary technical support. But Bangladesh is yet to establish such centers. In various forum it was stressed the need to establish a 'Common Facility Center', for Light Engineering Industries (LEIs) with a view to extending necessary services to the sector including training on operation of modern and sophisticated machinery, product development, modern die making, modern foundry shop practices and testing of material and engineering products. Since the beginning of the industrialization process in Bangladesh, the market opportunity for LEI has been the most easily to avail. In every part of the country, LEIs are found the most.

From very small workshop with merely a welding set to moderately equipped workshop with machinery like, lathe, shaper, milling, planer, jig, boring, etc. are found in every districts of the country in large numbers. They are engaged in local repair and maintenance works and in producing replaceable items like, gears, shafts, crankshafts, pistons etc. to more complicated spare parts of automobiles, railway locomotives, marine transports, textile and jute mill, sugar mill, gas line fitting, etc. A few of them also make complete machinery for agro-processing, pharmaceuticals, workshop, jute and textile, garments, construction, water transport, etc. But LEIs in Bangladesh are dependent on conventional machines. They are yet to introduce CNCs for precision jobs and without which export of spare parts from Bangladesh may remain almost impossible. Besides, the country is yet to create much needed modern die making and modern foundry shop facilities. So, there still exist profitable gaps to be filled up by LEIs with modern equipments, these are:

- Modern workshop with numerical control or computer numerical control
- Modern die making shop with EDM s and CNCs.

- ❑ Modern foundry shop with Atomic absorption spectrometer for alloy and composite material casting.
- ❑ Precision sheet metal pressing workshop with hydraulic press and other precision machine
- ❑ Products of these LEIs, if established, will enjoy opportunities both in a local market, and in the export market taking advantage of the cheap labour and abundant gas resources to support the energy requirements particularly for the foundry shops.

1.6 Characteristic Features of LEIs in Bangladesh

1.6.1 Definition of LES

There is no universally accepted definition of LES. In Bangladesh LES consists of many engineering enterprises, a great majority of which are small in size. Enterprise development practitioners have defined as enterprises in LES are not large in size. Thus the first criterion for LES is that its consisting enterprises should be comparatively small in capital investment. Secondly, the production process must involve engineering or technology. Thirdly, the product variety encompasses metal products, and electrical, electronics and electromechanical products. Part of the manufacturing process or machine parts of LES may be made of ceramics, rubber or plastic. The following Figure 1 encapsulates the different aspects of LES.

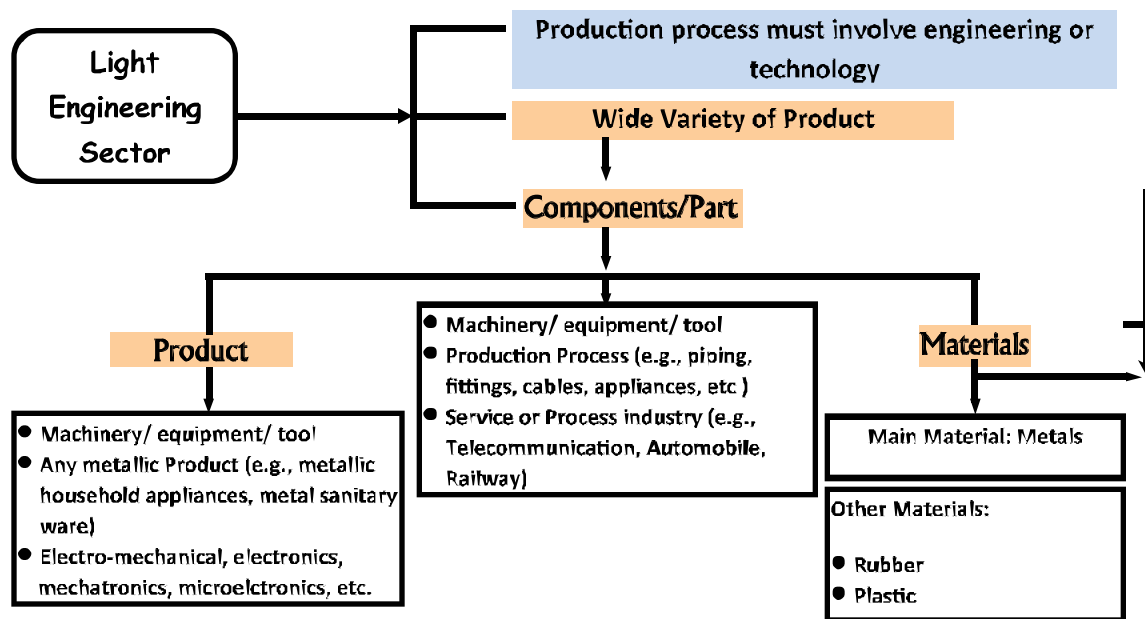


Figure 3: Definition & Classification of LEIs

1.6.2 Sectoral Highlights

- ❑ Around 40,000 LEIs are active all over Bangladesh;
- ❑ Around BDT 120, 000 Crore (US\$ 14.28B) investment in LES.
- ❑ Small Workshop Tk. 4-5 lac & Big workshop Tk. 20 crore
- ❑ LES contributes 2.29 % of GDP.
- ❑ Around 6 lac (0.6 m) people directly involved;
- ❑ Around 20 lac (2 m) people dependent with linkage industries of LEIs

- Around 60 lac (6 m) people are dependent on LES
- Around 1200 LEIs are enlisted in BSCIC under subcontracting scheme

1.6.3 Categories of LEIs

LES may be grouped under the following categories:

a) Foundries: Here cast metal products are produced. The items include volutes of irrigation pumps, iron parts of rice hullers, flour mills, etc. There are two types of foundry; one type uses iron and is called ferrous type foundries and the other type uses different non ferrous metals like aluminum, brass, lead, etc.

Foundry products include:

- Irrigation items: metal casing of pumps, liners for engines, different components of engines, pumps and power tillers, etc.
- Agricultural product processing equipment: rice hullers, oil expellers, paddy threshers, etc.
- Small spare parts for different engines including automobiles and different types of stop cock.

b) Machine shops: Machine shops use cast iron (foundry products) as basic materials and do the machining jobs. They produce finished form of all fabricated metal products. The product categories are the same as mentioned above under foundry shops.

c) Repair workshops: They do different types of repair jobs required by the agricultural, industrial or transport sector. They either directly contact clients to procure these jobs or receive job orders at their premises. They carry out the activities mostly by themselves. Only in some cases they have to go out for getting some jobs done in foundry or to other process facilitating units like electroplating, adding plastic components makers, etc.

1.6.4 Beneficiaries of LES Products

LEI known as the mother of heavy industries, is an important sector of the manufacturing sector. They support the industrial, agricultural and other sectors of the economy by manufacturing a wide range of spare parts, casting, moulds and dies, oil & gas pipeline fittings, light machinery, etc and by providing repair services.

Sectors Served by LES Sector are as follows.

1. Automobile
2. Railway
3. Bicycle and Rickshaw
4. Machine Tools
5. Jute & Textile
6. Chemical Industries
7. Sugar and Food Industries
8. Pharmaceutical Industries
9. Engineering and Metal Industries
10. Ship Industries
11. Agricultural sector
12. Oil and Gas line fittings
13. Electrical
14. Electronics
15. Telecommunication

LES manufactures spare parts for cement factories, paper mills, jute mills, textile mills, sugar mills, food processing industry, plastic industry, printing industry, fertilizer factories, railway, shipping, marine transport, automobiles, construction machinery, and pharmaceutical industry, just to name a few. Undoubtedly, LES caters to the basic requirements of industrialization and plays a key role in keeping other industries running. The beneficiaries of LEI's products are shown in Figure 2.

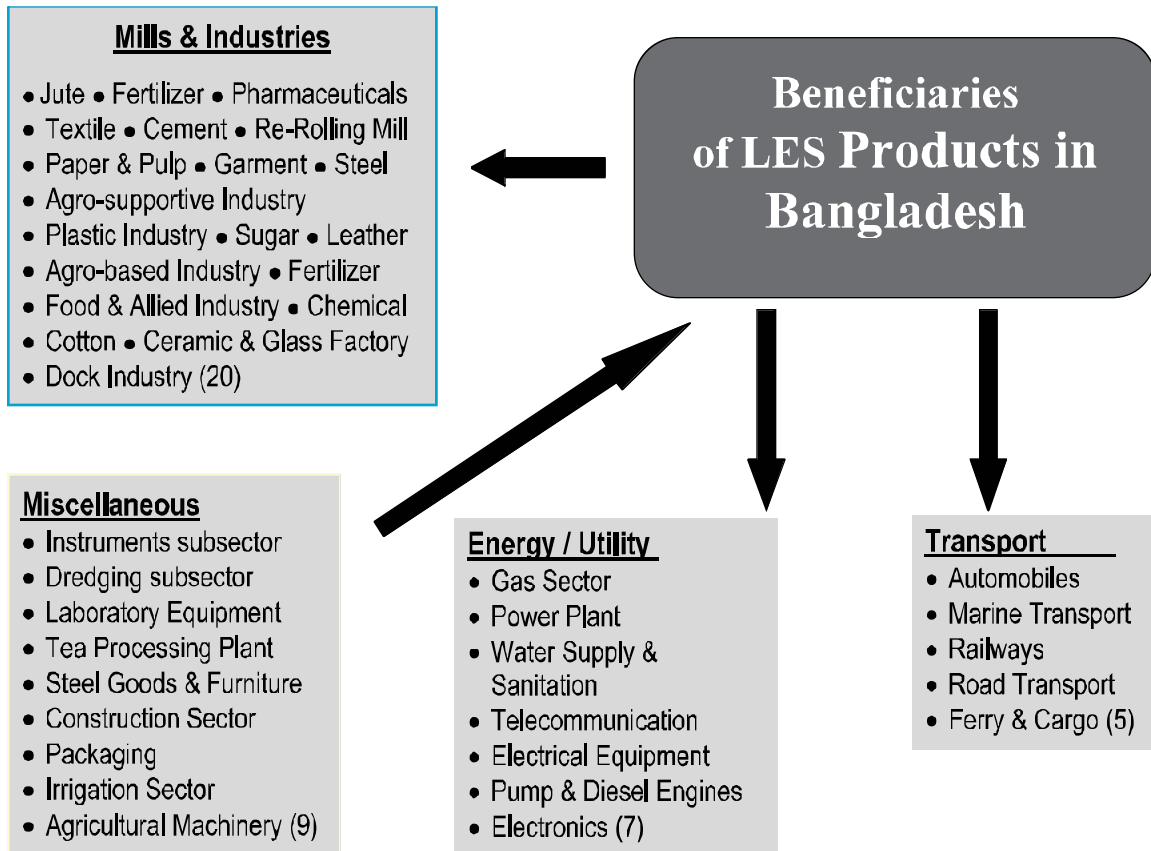


Figure 4: Beneficiaries of LES Products

1.7 An Abridged View of Light Engineering Sector:

- ❑ Light Engineering Sector (LES) have emerged as the cornerstone of development providing the platform for industrial growth, enhancement of trade and economic prosperity. The light engineering industries have potency to play a significant role in technological and economical development along with a vast scope of employment generation.
- ❑ The Government of Bangladesh has declared the sector as a most priority sector in its Export Policy 2009 – 2012 and thrust sector in its Industry Policy - 2010.
- ❑ Light Engineering Sector is classified as a sub-sector of Small & Medium Enterprises (SMEs). An estimate shows that there are about 42,000 light engineering industries in the country. According to the estimate around 0.6 million semi-skilled, skilled and technically educated people and innovative entrepreneurs are actively engaged with the sector.
- ❑ In Bangladesh, over 90 percent of light engineering industries are serving the local needs of the people. There are strong backward and forward linkages between the light engineering industries and other sector (such as agriculture, automobile, and transportation) of the economy in Bangladesh.
- ❑ There are about 1200 light engineering industries presently enlisted in Bangladesh Small & Cottage Industries Corporation (BSCIC) who are supplying various products (such as spare

parts, equipment, capital machinery) under sub contracting scheme.

- ❑ The product types of light engineering sector are: Automobile spare parts, Railway engine & rail line spare parts, Bicycle & cycle rickshaw, Machine tools, Jute & Textiles machines and spare parts, Chemical industries machines and spare parts, Sugar and food industries machines & spare parts, Engineering & metal industries spare parts, Ship industries spare parts, Agricultural machines accessories and spare parts. The light engineering industries of Bangladesh is currently producing more than 10000 types of quality machinery, spares and accessories.
- ❑ The consumer of light engineering products and services are both the public and private sector. Major public sector consumers are: Sugar and Food Industries Corporation, Bangladesh Chemical Industries Corporation, Bangladesh Railway, BRTA, BRTC, BIWTA, BIWTC, Port Authority, WASA, T & T, PDB, Public Health Engineering, Civil Aviation, Bangladesh Biman. The private sector is also the major consumer of the light engineering products.
- ❑ A number of potential export quality light engineering products are going to foreign market on direct and subcontracting means. These are spare parts of Paper & Cement mills, Bicycle, Fancy light fitting, Construction equipment, Battery, Voltage stabilizer, Iron chain, Cast iron articles, Carbon rod, Automobile spares, Electronics items, and Stainless steel wares.
- ❑ The infrastructure facilities (such as electricity, gas, transportation, and telecommunication) and labor cost are comparatively lesser than other countries as such the sector shows high potentiality of growth and development.

Light Engineering Sector: Macro Economic Environment Scenario and Analysis

2.1 Introduction

LE occupies a unique position in the economy of Bangladesh. It plays a vital role in the socio-economic development of the country. Light Engineering Industries (LEIs) Sector constitutes a significant segment of the economy of Bangladesh in terms of their contribution to employment, output, value addition and exports. The growth of the economy for alleviation of poverty and improvement of the well being of the people crucially depends on the development of the LEIs. Analysis shows that these small & medium scale industries have made substantial contribution to Gross Domestic Product (GDP) during the last few decades and created appreciable employment opportunities. These industries have potential to make significant contribution towards technological and economic development along with wide opportunities for employment generation. LEIs are well known as labour-intensive industries. They require less capital and generate more employment per unit of capital. They are also important in training of labour and in the diffusion of technology. They also lead to spatial distribution of light engineering enterprises and help reduce pressure of population in big cities. But their survival and growth require an enabling policy environment and infrastructural support. These small industries are engaged in manufacturing various import-substitute products and thus saving valuable foreign currency.

Manufacturing and processing activities in small and micro engineering enterprises contribute to the livelihood of huge number of poorest citizen. Viewing the employment potential, and its particular suitability for development, special emphasis should be placed in government policies to produce rapid growth in this sector. The LEIs depend less on imported inputs, can cater to both domestic and export markets and are better distributed regionally than larger firms. There are certain socio-economic advantages that the LEIs enjoy over the large-scale industrial units. The advantages are: lower capital investment, less hassle to get loan, lower job-creation cost, low risk factor, shorter start-up period, lower capital output ratio, less management problem, lower energy cost, moderate infrastructure requirement, promotion of entrepreneurial talents, more environment friendly production process, and promotion of agro - industrial linkages. These are also able to develop and function successfully in infrastructurally underdeveloped regions and markets. Moreover, these can help equitable distribution of the benefit of industrial development throughout the country. Because of large employment potential, less investment requirement and much suitability for uniform regional development, government policies always got special emphasis for rapid growth of this sector. It is evident that LEIs are vital element in the economic legacy of Bangladesh, and that there is much development potentiality in this sector especially to enter into the foreign markets.

2.2 Policies, Strategy Process and Macro Initiatives

Bangladesh has undertaken institutional and economic reforms to liberalize the regime for enterprise activity. These efforts are beginning to bear fruit. Market reforms have been implemented in the context of structural adjustment programs. The supply response is, however, weak. Over all, LEIs need to continue to restructure and rove their competitiveness. In recent years Government of Bangladesh (GOB) has taken bold initiatives for encouraging investment and promoting growth. Trade liberalization measures were introduced, exchange controls were eased, financial sector reforms were initiated and steps were taken to deregulate private investment. These initiatives do appear to reflect a major change in Government attitude to the private sector. It would be fair to say that these changes have brought about a very significant improvement in the investment climate. But it was not possible to attract the foreign partners in a big way. The pervasive network of Government

regulations and controls remains. Despite low wage rates and the generous tax & other incentives, foreign investors are yet to come to Bangladesh in a big way. Efforts must continue to improve the investment climate. This strategy may work over time. The creation of an enabling environment for LEIs activity is one of the most important roles of public policy intervention. Also essential are the institutional, legal and commercial frameworks that define the market conditions for transacting business. Competition policies can help strike a balance between and create a level playing field for light engineering enterprises

2.3 Geographical Distribution of LEIs in Bangladesh

The geographical distribution of Light Engineering Industries of Bangladesh is shown in Figure 5.



Figure 5: Geographical distribution of Light Engineering Industries in Bangladesh

2.4 Product Mapping of Light Engineering Industries in Bangladesh

Various products are produced by LES in different parts of the country Product Mapping of Light Engineering Industries in Bangladesh is depicted in Figure 6.

Product Country Map of Light Engineering Industries

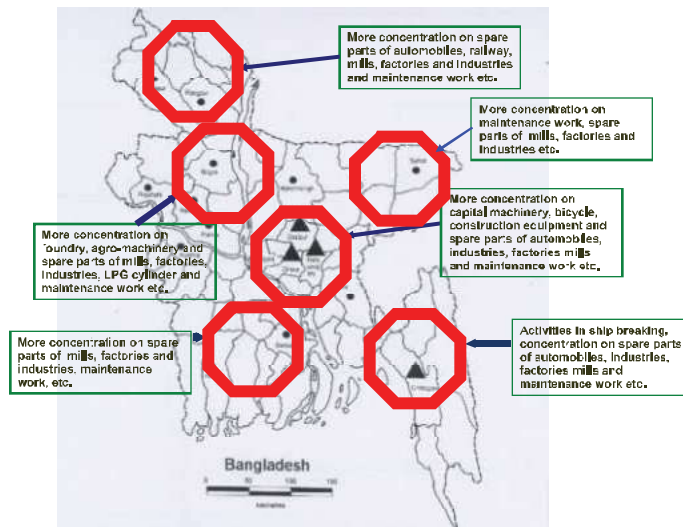


Figure 6: Product Mapping of Light Engineering Industries in Bangladesh

2.5 Products' Buyers' Map & Product's Distribution Channel of Light Engineering Sector

Various products are produced by LES in different parts of the country. Products' buyers' map & product's distribution channel of Light Engineering Industries of Bangladesh is depicted in Figure 7.

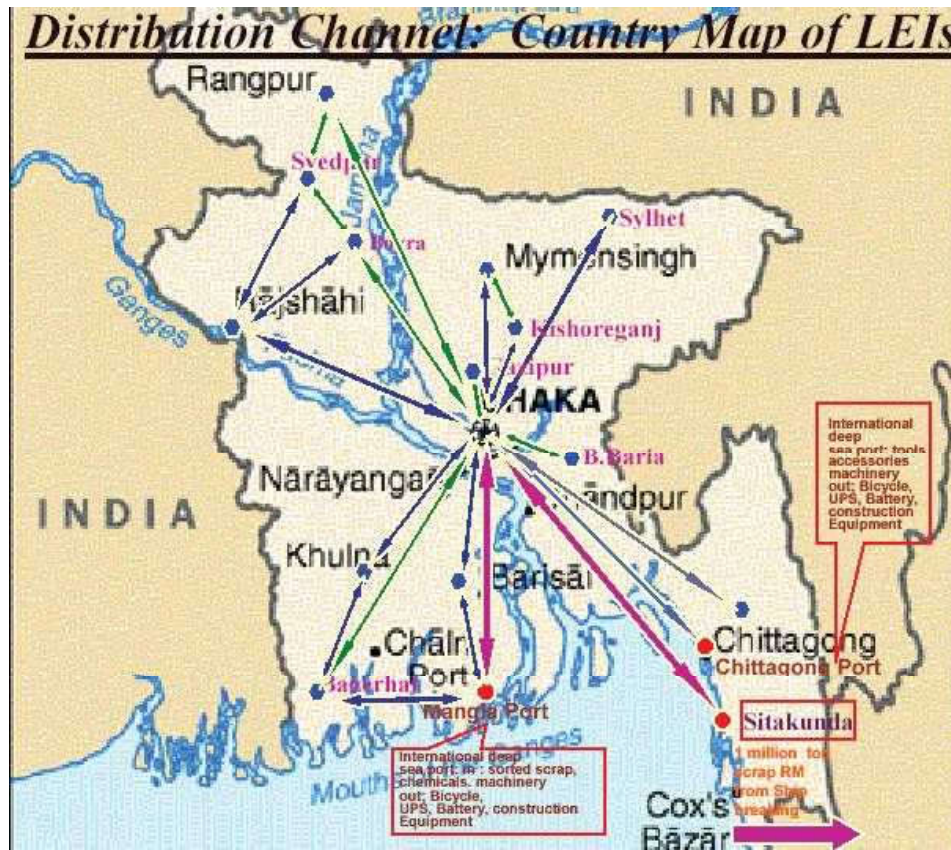


Figure 7: Light Engineering Products' Buyers' Map & Product Distribution Channel

Products and Raw Materials Profile of Light Engineering Industries

3.1 Gamut of Light Engineering Products in Bangladesh

The LEIs manufactures a very large number of products in each individual sector. They include both ferrous and non-ferrous metal and other relevant products made of subsidiary materials such as ceramic, plastic, etc. Major product groups are: agriculture machineries and spares, automobile parts and body, pipeline fittings, steel products, electrical appliances, spare parts for textile mills, flour mills, sugar mills, cement mills, and other mills & factories, castings, molds & dies, lathes, drilling and other machine tools, hardware products, machinery for process plants like sugar, flour, tea, fertilizer etc.

3.1.1 Product Lines

The LEIs manufactures a very large number of products in each individual sector. They include both ferrous and non-ferrous metal and other relevant products made of subsidiary materials such as ceramic, plastic, etc. Major product groups are: agriculture machineries and spares, automobile parts and body, pipeline fittings, steel products, electrical appliances, spare parts for textile mills, flour mills, sugar mills, cement mills, and other mills & factories, castings, molds & dies, lathes, drilling and other machine tools, hardware products, machinery for process plants like sugar, flour, tea, fertilizer etc.

The sector has been playing a key role as support to all other industries by supplying various types of machineries and spare parts, and also industrial units and capital machinery. Machinery and spare parts produced by the entrepreneurs of the light engineering sector are supplied to various mills and factories such as jute, cotton, sugar, paper, textile, garments, fertilizer, tea processing, ferry, railways, power plants, construction sector, transport, pharmaceuticals etc. Day to day technological progress, adaptation of innovative concept & technical expertise are the continuous process of activities in upholding a firm pledge to reach a sustainable position to meet the challenge in the local as well as world market and the environment of globalization. It has been upholding its role in developing & maintaining mechanized agriculture, maintaining continuity of vehicular transports and production of capital machinery and equipment of various descriptions for industrial and engineering sector.

Product lines of Light Engineering Sector are of quite wide range and diversified as well. The LEIs are engaged in manufacturing machinery and spare parts for various engineering and non-engineering sectors.

Automobile Sector: The areas of work in this sub-sector cover Bracket, Accelerator, Brake Drum, Bubble, Oil Expeller, Bumper, Bush, Carburetor, Clutch, Crankshaft, Cylinder, Dies, Differentials, Engine Over Hauling, Fans, Free Ball, Gasket, Gear & Pinion, Gudgeon Pin, Hatch Bolt, Head, Hubs, Jack, liner etc.

Marine: Accelerator, Bush, Crankshaft, Differential, Diesel Engine, Fans, Petrol Engine, Liner, Piston & Piston Ring, Marine Spare Parts, etc.



Bicycle

Agricultural Sector: The line of work of LES for this sector (Agriculture) mostly relates to Power Tiller & Spare Parts, Generator, Irrigation Pump, Crankshaft, Gear & Pinion, Piston & Piston Ring, Bearing Case & Cover, Bush, Chain Cover, Chassis Bas, Gland, Grass Cutting Machine, Garden Sprayer, Insecticides Sprayer, Hubs, Liners, Suction, Tube well etc.

Textile: Handloom, Power loom, Spare Parts of all Textile Machinery, Bobbin, Bracket, Carding, Die, Dye, Gear & Pinion, Liner, Pulley, Ring, Silver Can, Spinning Tubes, Spinning Can, Dobbins & Jacquards, Timing Wheel, Rubber Roller, Twisting Machine, Doubling Machine, Scroll Roller etc.



Shaper Machine



LPG Cylinder

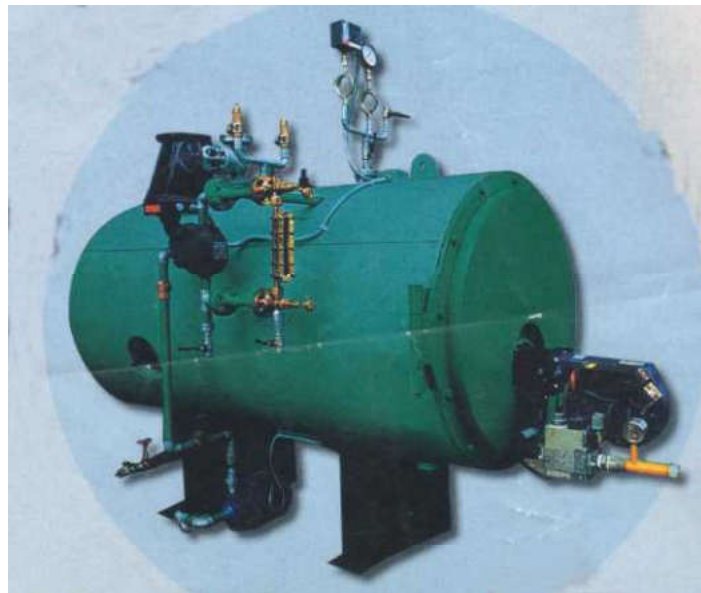
Capital Machinery: Lathe Machine, Packaging Plant Machinery, Precision Welding Machine, Power Loom, Biscuit & Bakery Plant, Washing Plant, Printing Machinery, Laminating Machine, Color Paint machine etc.



Locally Produced Low Cost Lift

Jute & Tea: Precision Winding Machine, Jute Mill Machinery Spares, Base Plate, Softener Machine, 48/64 Pair Roller, Spare Parts of Jargon Broad Loom, Complete Tea Processing Plant etc., are very well covered by LES.

Construction: Concrete Mixture, Brick Crasher, Crane, Grill & Window, Door, Grand Roller, Roof Whist Machine etc, are successful examples of the performance of LES.



Boiler

Food Processing: Biscuit & Bakery Plant, Spare Parts of Sugar Mills Machinery, Flour Mill, Shemai & Noodles Making Machines, Juice (Sugarcane) Machine etc., are very economically fabricated and supplied by the fellow members of LES.

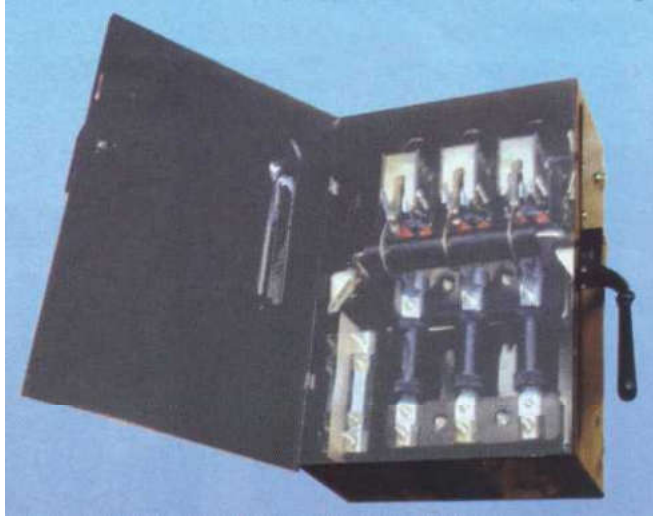


Furniture: Household furniture, office furniture & equipment etc., made of steel, wrought iron, fibre glass, laminated board, are the recent line of work which is well accepted in the market.



Hospital Furniture

Other Machinery & Spare Parts: All types of Bearing, All kinds of Pump, Gas Regulator, Lock Wing Cock, Forged Elbow & Service Tee, Cast Iron Elbow & other Spare Parts for Gas Sector, Machinery & Spare Parts of Poultry, Blister (Pharmaceuticals Sector) etc.



Metal Cad Switch



House Hold Appliances

3.2 Size of Global Market and Export from Bangladesh

Year: 2009-10

Export from Bangladesh

(million US\$): US\$ 311.09 m

Global Engineering Market US\$6 trillion (BDT 504 lac crore)

Source : The International Market information from "Engineering Vision 2010" – a Vision Document of Engineering Development Board (EDB), Pakistan

3.3 Raw Materials that are Used in LES

A wide range of raw materials and inputs are used by the engineering industries in Bangladesh. It is seen in Table 1 that the sources of metallic raw materials (both ferrous and non-ferrous) are: import, ship breaking scrap and local scrap. Among these, ship breaking scrap is the important source particularly for the light engineering industries. Ship breaking scrap industry (located in Chittagong) is also an important source of different used machines, both electrical and non-electrical, and instrument. The importers of raw materials are mostly based in Dhaka and Chittagong.

Polymers/resins are imported raw materials. Machinery is mainly imported. But in some industries, locally produced machines are also being used. Chemicals are mainly imported. Some companies

also use locally produced chemicals (e.g., sulphuric acid, ferrous sulphate etc.). Industrial gases except argon are local. Solid and liquid fuels are imported. But it is expected that local coal will be available soon from the Barapukuria coal mine.

Table 1 Major Raw Material that are Used in Engineering Sector

Raw Material/Input		Source	
Materials	Metals and Alloys		
	Ferrous	Steel	- Local steel mills/re-rolling mills - Ship Breaking Scrap - Import
		Steel scrap	- Import - Ship Breaking Scrap - Local scrap
		Pig iron/cast iron	- Import - Local scrap
		Ferroalloys	- Import
	Non-Ferrous	Copper, aluminum, tin, nickel, lead, zinc etc.	- Import - Ship breaking scrap - Local scrap
	Polymer/resin		- Mainly import -Local scrap
Non-metallic mineral based raw materials		- Mainly import - Local	
Machines and machine tools		- Import (new and reconditioned) - Ship breaking - Locally made	
Tools		- Mainly import - Local	
Electrical machines		- Import (new and reconditioned) - Ship breaking - Locally made	
Instruments, testing equipment etc.		- Import (new and reconditioned) - Ship breaking - Locally made	
Chemicals and paints		- Mainly import - Local	
Welding electrodes		- Mainly local - Import	
Industrial gases	Compressed air, oxygen, nitrogen argon	- local - Import	
Solid and liquid fuel	Coke	- Import	
	Coal	- Import (local in near future)	
	Diesel	- Import	
	Furnace oil	- Import	
Natural gas		- Local	
Electricity		- Local	
Packaging/Printing		- Local	

Technology Platform in Light Engineering Sector

4.1 Introduction

By technology platform, we generally mean the production techniques in use, the factor proportions prevalent in these vertical industrial sectors, bearing in mind that we shall need to use an acceptable definition of technology.

4.2 Overview on Manufacturing Process of LES

The main production processes used by ES and LES in Bangladesh are shown in Fig. 8. Casting, forging, rolling, extrusion, sheet metal forming, wire drawing, spinning are mainly used by different industries to shape a metallic component. After being shaped, the product may undergo heat treatment, surface finishing etc. However, as will be elaborated later heat treatment is used only to a very limited extent in this country. The production processes for each of the major metallic materials are indicated in Table 2.

4.3 Production Processes

Product line of Light Engineering Sectors needs standard & systematic production process. The production processes of LEIs are different for different products. Typical production processes are illustrated below (Fig 8 & 9):

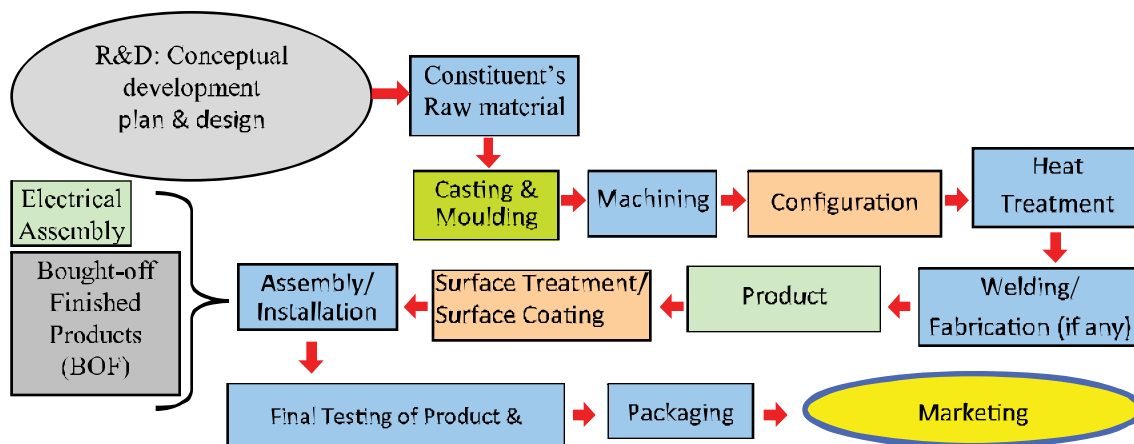


Figure 8: A typical Production Line of LE Products

Table 2: Production Processes Used for Major Materials

Processes	Ferrous			Non-Ferrous		
	Gray Iron/ Cast Iron	Cast Alloy	Plain Steel/ Alloy Steel	Carbon	Copper Alloys	Aluminum Alloys
Sand Casting	√		√		√	√
Permanent Mould Casting						√
Hot Rolling			√			
Cold Rolling			√			√
Forging			√			
Extrusion						√
Sheet Metal Forming (Shearing, Bending, Deep Drawing etc.)			√		√	√
Spinning						√
Wire Drawing			√		√	√
Heat Treatment*	√		√		√	√
Galvanizing	√		√			
Electroplating (Cu/ Ni/Cr)			√		√	
Welding	√*		√			√
Brazing/Soldering					√	√
Painting	√		√		√	√
Tube Forming			√			

*Used only to a very limited extent

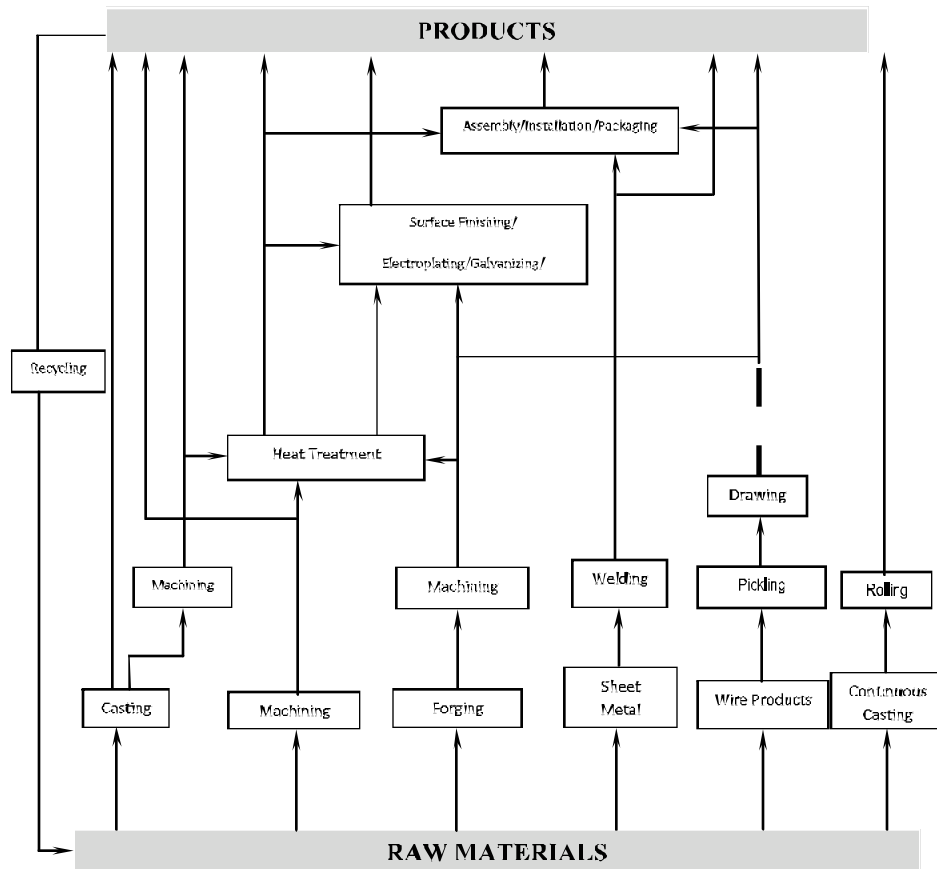


Figure 9: Typical Production Processes Used for Metallic Materials.

4.4 Technological and Quality Upgrading

Technological capability is a competitive differentiator of critical importance. This is especially true when the world of production and competition is a global village. China and India, especially China, is not just attracting very large dollops of foreign direct investment but also large and medium multinational companies who are eagerly transferring proprietary technologies to China and then training up the Chinese in using sometimes quite advanced technologies. That has raised the bar quite significantly for the competition, including what is a potential competition with a “long-shot” such as Bangladesh. This is why technological upgrading is exhibit number 1 when it comes to “binding constraint”. This is no longer a time for banal platitudes, of the kind that many government and donor pronouncements are made of. Nothing short of a very determined effort to draw level with, sometimes even leap-frog, a deadly serious competition is called for.

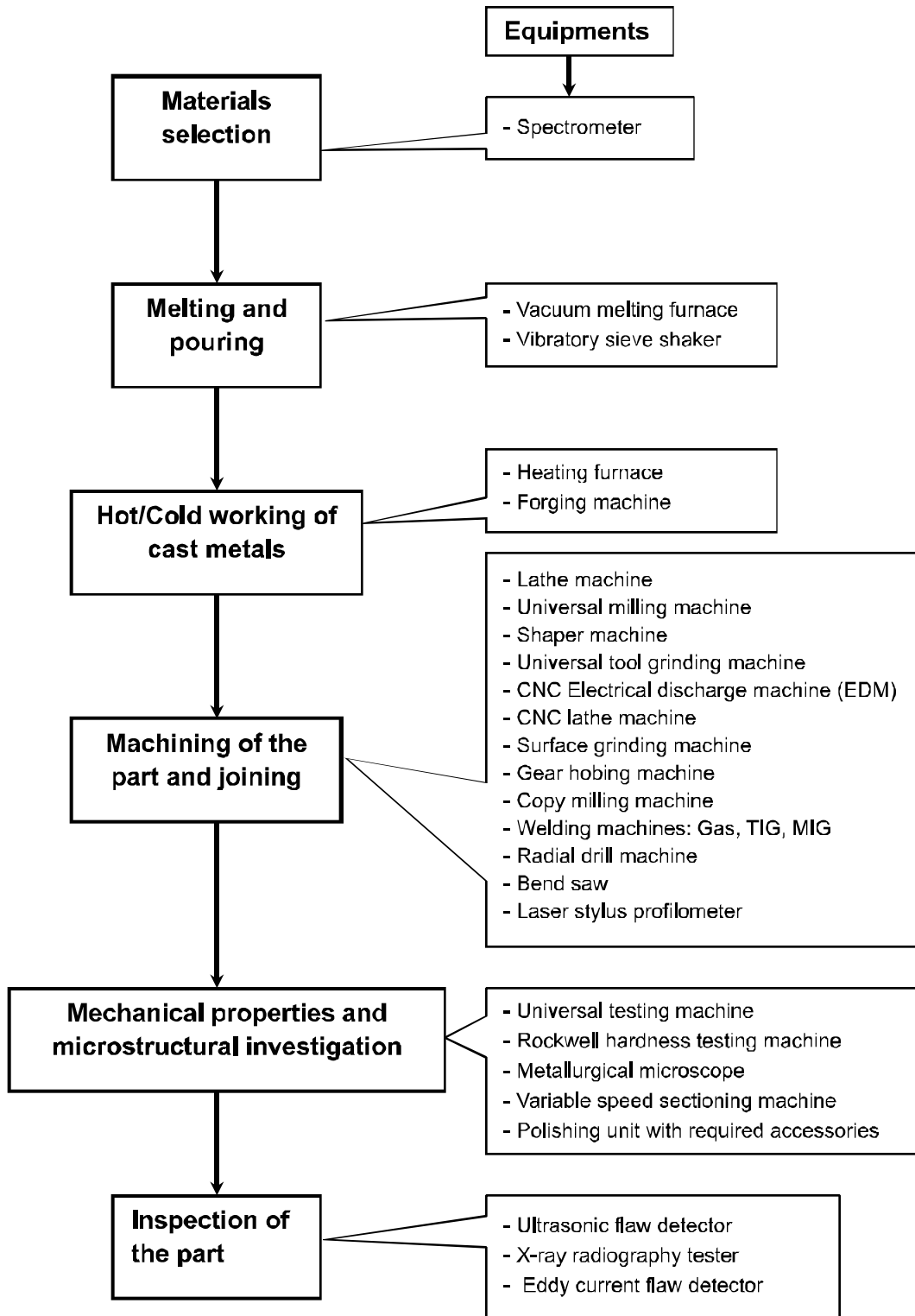
Technology embraces (i) manufacturing process; (ii) product functionality, durability and user convenience; (iii) product aesthetics; and finally (iv) the aesthetics and environmental dimensions of product packaging. Technology can-do that makes a difference thus is a versatile and challenging package. Stanford University technology historian Professor Nathan Rosenberg called science papyrocentric, something that loves publicity, but technology papyrophobic, something that loves anonymity. Profitable technology demands diligent digging and is inherently costly, because it is largely proprietary. The market for proprietary resources is always prone to imperfections, either because sellers have an insurmountable informational advantage, or because demand, discouraged by high prices characteristic of low initial volume, never picks up: a case of information asymmetry again. Asymmetries in access to credit markets --- another permanent fixture of under-development --- compounds the first problem. Plugging the competitive technological gap afflicting especially small enterprises will require accent on (i) attracting foreign direct investment (FDI) of the right kind; (ii) negotiation of minimalist “local-content” guarantees through the Board of Investment; (iii) scoping, and providing seed-money for, applied R & D under the aegis of the SME Foundation and the DCCI, for instance; (iv) determining requirements and funding for creating and/or augmenting the infrastructure of R & D, to name the four that come to the mind instantly. All of that will put a premium on deliberate, resolute and informed public interventions, including public-private partnerships, all executed cost-effectively and flawlessly. No doubt, in discharging that mandate, catalysts and providers will all require building of their own capacities, for conception, discovery and implementation. Above all, political will, at all levels of governance — within the government, in the civil-society organizations, in the private sector—will need to be stirred, marshaled and then aimed at this binding constraint. Technical universities, research institutions, training institutions will be better equipped and empowered to strengthen their R&D profiles from the perspectives of potential private sector adopters. The SME Web Portal will be leveraged up to the hilt for this end. Institutional reforms in terms of sharing the risks and returns to innovation between the private, often young, inventors/innovators and civil-society organizations, using market-friendly trade-off schemes will need to be experimented and then gradually brought into the mainstream.

4.5 Production Technique in Use in the Light Engineering Industries

Generally following steps are required to follow to develop a quality engineering products:

- a. Selection of materials for the product
- b. Shaping of the product by casting and/or working
- c. Machining of the product
- d. Heat treatment of the product made of steel or other non ferrous alloys
- e. Determination of mechanical properties viz., hardness, yield strength, ultimate tensile strength etc.
- f. Investigation of microstructure to develop the required properties of the products
- g. Quality assurance by identification of product defects

Figure 10 shows the schematic diagram of the production line of products with necessary equipments and machineries.



4.6 Technology Platform Analysis

Data from previous survey were analyzed. Results pertaining to the scenario of technologies and machinery in use in the Light Engineering Industries (No. of machines/equipment per establishment) shows that lathe machines, Spinner and Cutter are common tools in LEIs and in the order of highest number among other machine/equipment. Several scenarios can be visualized. Firstly, Light Engineering Industries are contingent on average number of equipment and machines. Secondly, the equipment that is required in converting metal into a spare parts or capital machinery is basic need of the industry to become higher level of enterprise. Thirdly, we define the technology platform for each type of establishment as a statement of capability expressed in the number of various machines and equipment.

Value Chain of Light Engineering Sector

The value chain of LEI describes the full range of activities, which are required to bring a product or service from conception, through the different phases of production (involving a combination of physical transformation and the input of various producer services), delivery to final consumers, and final disposal after use and recycling. The following figures (Fig. 11 to 13) show typical value chains showing various aspects of activities of LEI.

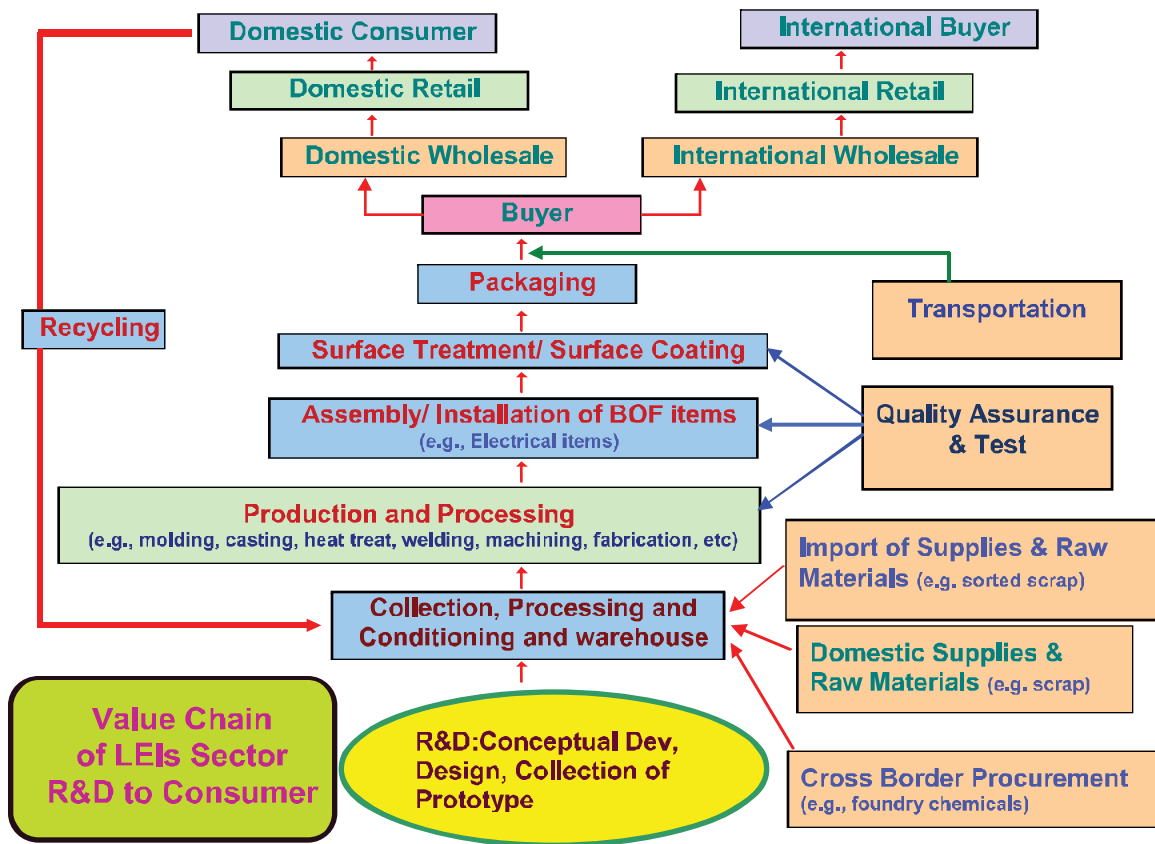


Figure 11: Holistic Value Chain of LES Products of Bangladesh

LES Value Chain – Bangladesh

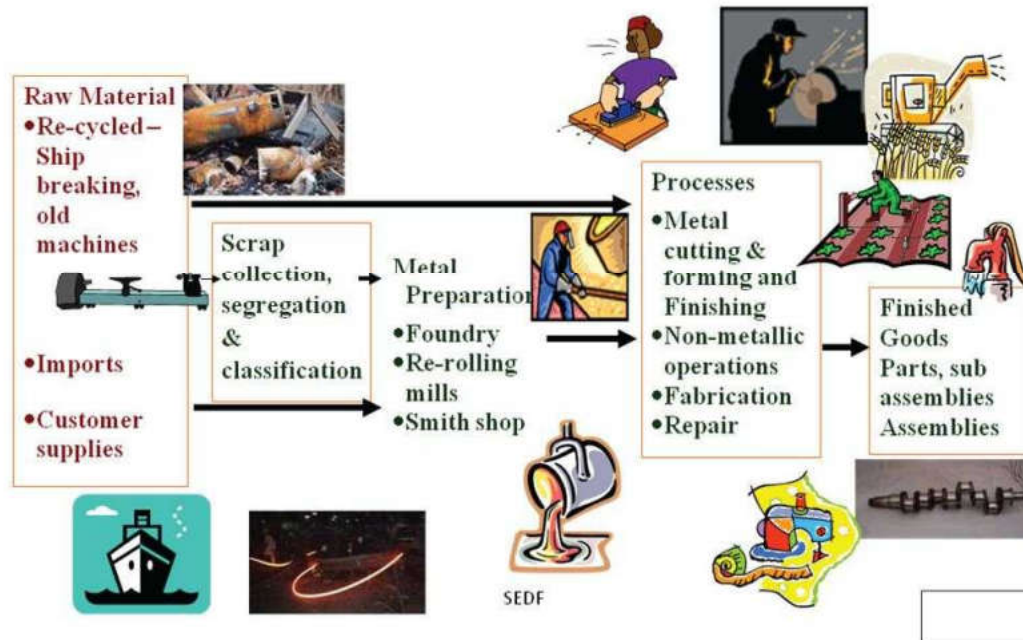


Figure 12: Process Value Chain of LES Products of Bangladesh

Generic Value Chain (Production) of LEIs

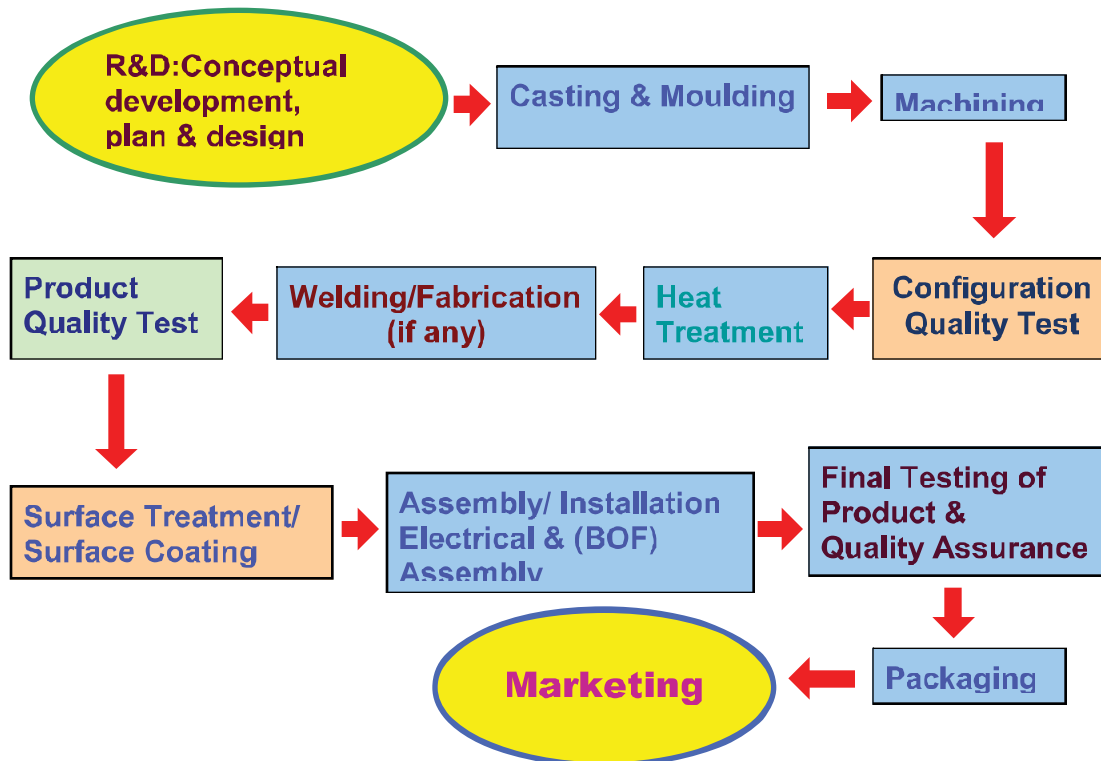


Figure 13: Generic Value Chain (Production) of LEIs

Problems and Hindrances in Light Engineering Sector

6.1 Major Problems and Hindrances

Major problems and hindrances in producing quality LES products are as follows:

(a) Problems Related to Raw materials

- Price hike (sky rocketing) of general raw materials such as scrap, sorted scrap, plain carbon steel, alloy steel, furnace oil, copper alloys, stainless steel etc.
- Required type and quantity of raw materials are not available all the time. Some essential raw materials possess high cost and the concerned industries do not possess the capability to purchase with such high price to meet the competitive challenge.
- Sometimes certain special and high quality raw materials are required for some specialized job. Normally, these quality raw materials are not available in the local market.

(b) Problems Related to Finance

- Lengthy and cumbersome procedure to receive bank loans.
- In many cases, it is difficult to get required amount of bank loan.
- Non-availability of sufficient working capital.
- Low tariff rate of imported goods that are competing with the local ones.
- It is difficult to get financial help for technological innovation and development and for risky investment.
- Non-availability of venture capital
- High interest rate on bank loan. For LEIs, the rate should be of single digit.

(c) Problems Related to Innovation Promotion and Management

- Due to non-availability of metal testing facility, it becomes difficult to identify the metal and its quality.
- Sometimes, efficient and skilled manpower is not available.
- Sometimes, space is not available for extension of the workshop.
- Lack of specified policies for price determination of a product which results fluctuation of the price too much and the owner faces the problem to cope with.
- It is difficult to get government contracts. Most of the time it become impossible to get a government contract.
- Load shedding problem in electricity supply.
- Non-availability of heat treatment facility
- Durability of the product becomes low due to lack of tempering facility though the product quality is high.

- Lack of skilled manpower required for product diversification.
- Sometimes it is not possible to make a better quality product due to limited purchasing
- Capacity of market.
- Lack of designing capability.
- Manual in Bangla is essential to make a better quality or modified product a new product. Manual in Bangla is not normally available in the market.
- Efficiency of workers declines due to low remuneration.
- Absence of R&D facilities.
- Lack of standard and quality of product (ISO 9000, ISO 9002, ISO 14000).
- Lack of knowledge on how and where to patent the product.
- Problems Relating to Marketing
- The price of local goods is high in comparison with foreign goods due to high production cost of local goods. Thus local goods cannot compete with the foreign goods.
- Lack of facility or capability of the owner to disseminate information about the workshop and its products.

6.2 Subcontracting vs. Public Procurement Regulation (PPR)

Subcontracting scheme was enacted in BSCIC by the Ministry of Industry in Oct, 1989. Until this year, 2012, total 1200 numbers of local subcontracting industries are enlisted in BSCIC.

They supply LE products to SOEs of about 1250 types.

Government has enacted PPR in 2003 which is conflicting with subcontracting regulation. PPR is threat for the local industries in doing subcontracting.

6.3 BITAC's Objective

BITAC (Bangladesh Industrial Technical Assistance Center) was established in 1960 to help LEIs. It was a technical service providing organization to proliferate engineering industries in the country. But in Nov, 2001, Ministry of Industry enacted a regulation for BITAC where it has been stated that BITAC has to earn revenue to meet its expenses partially (at least 50%). Thus BITAC has oriented its objectives and has become a commercial organization partially and its original objective has been deviated. It was said that state owned mills & factories must render compulsorily at least 20% job/supply parts to BITAC. This way BITAC has become some sorts of competitor to LEIs.

6.4 Points Came from Interactive Focus Group Discussion (FGD)

Interactive FGD (held at IAT, BUET, May 18, 2012)

In FGD, they focused the following problems of LE sector.

- Electricity: Unstable supply (Gas also)
(LES should be load-shedding free zone; different rate of electricity for LEI)
- Raw Materials Management: Unstabilized Price
(Cast RM fluctuate very much; difficult to compete with China)
- Land Scarcity (for establishing factory)
(land/plot with low price and in good environment required)

- Skilled & Educated Technician
- Bank Loan with simple terms & low Interest
- Advanced Machinery
(To provide with low interest rate; Govt to finance)

Interactive FGD (held at IAT, BUET, June 1, 2012)

In FGD, they identified the following problems of LE sector.

- Industrial Park/ EPZ for LES/ BSCIC

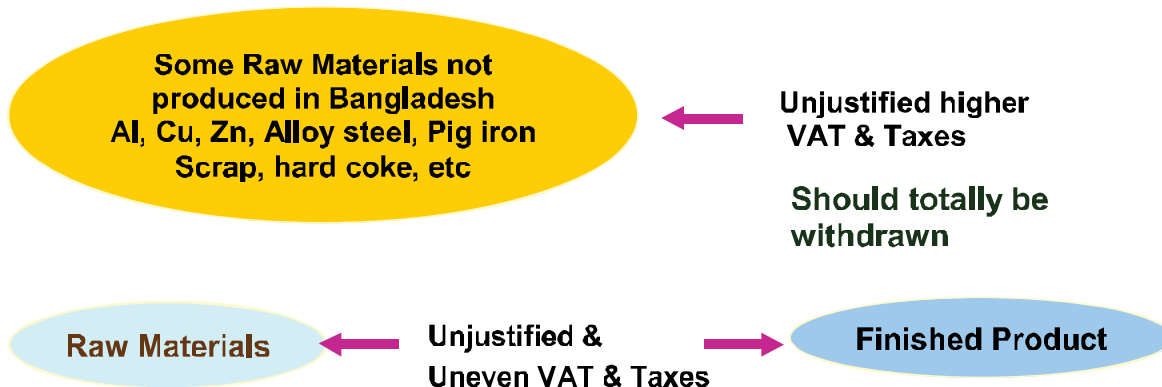
Industrial Park (100 bigha land is available in Bogra; acquired for doing heavy industry, has not been used)

- Training Workshop for Advanced Machinery
(in regular interval e.g. 3 months) Training Institute required.
- To allow Ship Breaking more & more
- Metal Testing Facility
- Marketing Problem/Export Facility
(Foreign market to be found out)
- Investment Capital & Working Capital
- Lack of facilities: Heat Treatment, Surface Treatment, etc.
(Products to be banned for import if these are produced locally)
- Product Certification & Standardization
(ISO Certificate)
- Administrative Harassment for Tax, VAT,
- Electricity, Environmental issue, etc
- Worker Turnover Problem (Shifting of Loyalty)

6.5 Duty, Tax and Tariff Anomalies

Our neighbor countries have enacted realistic, industry friendly Tax & duty framework for LES. But in the name of globalization due to various pressure group, we are unable to enact such framework. Some of the problems are:

- Unnecessary conditional rules in VAT exemption for local LES manufacturers (entrepreneurs do not get papers of RM purchases)
- No provision of VAT on Truncated Value as alternative option
- Imposition of VAT on repairing job during last care-taker government.
- Non-implement able ceiling of “Cottage Industry” status.



6.6 Institutional Weakness of Public and Private Sector

Poor institutional capacity (BSCIC, BITAC, BSTI, NPO, BMTF, Banks) is the prime deterrent to offer need-based services to LE firms

6.7 Technical Skill Development Organizations (Technical Educational Institutes)

- Weak linkage between industry and technical educational institutions.
- No funding facility for effective linkage between industry and technical educational institutions.
- Lack of initiatives for skill assessment to identify sector need-based skills.

6.8 Problem Pertaining to Prime Raw Material 'Steel'

Steel Making Mill: Chittagong steel Mill was only steel mill in the country has been closed several years before. 90% RM of LES come from ship breaking. With this RM, LES product can not reach to global standard. Now in the name of envion protection, a problem is going with this ship breaking industry.

6.9 Data Base of LES

No data base has been made for LES. Thus help can not be rendered by providing data for implementing various schemes & projects

6.10 Transfer of Advanced Technology

No institutional mechanism of transfer of advanced technology

6.11 Lack of Credit Facilities

- High interest rate
- Complexity of loan sanction procedure of bank and financial institution

6.12 Raw Materials Management

- Higher Price of raw materials (e.g., mild steel, cast iron, pig iron, hard coke, firebricks, electrode, graphite, furnace oil, etc.), : is a threat. Proper steps are to be taken to make reasonable price.
- Strong syndication & monopoly should be stopped
- RMs are to be imported by TCB
- Government should implement price control mechanism

- ❑ Supply chain of raw materials to be proliferated as present supply is not enough
- ❑ Required quality of raw materials to be ensured.
- ❑ Bonded ware facility for basic raw material can mitigate problems of raw materials.

6.13 Labour Turnover

Labour turnover is very high in Bangladesh. After acquiring skill, the employees shift or switchover to other company availing higher salary and/or facilities, promotion or organizational status.

6.14 Analysis pertaining to Problem of Access to Finance

Survey data of previous study were analyzed. Results pertaining to data on access to finance shows that the prominence of credit on the books of account of LEIs is important not for academic reason. It is for an entirely practical reason. And the reason is that the amount of credit is a major determinant of the per-worker output in the industry, even after controlling for several relevant variables. That is why it is important to profile both the Micro & Small and Medium & Large establishments in terms of the extent to which their credit “requirements” for access to finance at affordable rates of interest are acceded to. Entrepreneurs in the Micro & Small category are clearly credit-constrained. The Light Engineering Industries industry does not have much ‘access’ to non-institutional credit.

Export Strategy of LEI Products

7.1 Export of LEI products

Export of LEI products are done in the following manner

- Direct
- Subcontracting means
- Unofficial

7.1.1 Export items

General export items are:

Parts of Paper & Cement mills, Bicycle, Fancy light fitting, Construction Equipment, Battery, Voltage stabilizer, Iron chain, Cast iron articles, Carbon rod, Automobile spares, Electronics items, and Stainless steel wares. A/C & Refrigerators spare parts, Electric cable, small motors, pipe, tube, boiler, mold & dice, etc.

Rahimafroz is exporting Battery 'GLOBATT' in 42 countries

7.1.2 Countries Where LEI Products are Imported from Bangladesh

The LEI products are generally exported to the following countries:

Netherlands, Germany, Austria, France, India, China, Hong Kong, South Korea, Taiwan, etc.

7.1.3 Outsourcing of LEI Products

Many LEI products are outsourced in Bangladesh. Some of them are:

- Bicycle and Spare Parts
- Spare parts of Paper & Cement Mills Canada, Kuwait, Malaysia, Philippines
- Microelectronics: IPS, Voltage Stabilizer, Battery Charger-
- Spare parts of marine engine, trawler (cylinder, gasket, ring, etc.)- India, Myanmar

Japan, Canada, Malaysia and Some European countries are outsourcing auto parts in Bangladesh

7.1.4 Export Potency of Bangladesh

The infrastructure facilities (such as electricity, gas, transportation, and telecommunication) and labor cost are comparatively lesser than other countries. Thus Bangladesh can keep upper hand in price in the global market.



Export increased about 28 times during last 35 years

Figure 14: Export Trend of LEI Products

7.2 Export of Light Engineering Products– Domestic and Import Markets: Market Options Forecasting and Challenges

Marketing problem of LE products appears to be very crucial. For multitude of problems, LEI products could not yet significantly enter into export market. However, recently, it has been found that a number of LEI products are getting into global markets. Some of them are bicycle; some machines of garments industries such as boiler machine, washing plant; UPS, battery, voltage stabilizer, construction equipment, sanitary fittings, marine & sea trawler spare parts, battery charger, etc. some spare parts of paper and cement mills are exported to Canada, Kuwait, Malaysia & Philippines through sub-contacting. A huge opportunity and scope lies ahead for LEI value added merchandise in the export market. Marketing problem of LEI products seems to be very important for the sector. It is felt that the problem is more because of information gap. Probable users including private industries, entrepreneurs, bankers, lease financiers are not aware of the products and services available in the LE units. Use of E-commerce, coordination, exploration and adopting advance-marketing technique will give rise to better access in markets locally and globally.

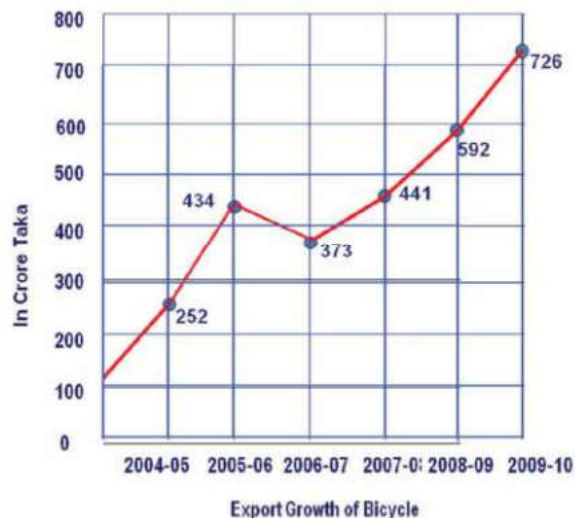


Figure 15 : Export Growth of Bicycle

The industries are called mother industry as this form the basic support for all other industries. As feeder industries, the LEIs provide its multi type products to other engineering as well as non-engineering sectors. Many LEIs products are import substituting. Small number of LEIs can be found to produce for export. In general, light engineering industrial units produce products and offer relevant services mainly for local markets. The LEIs form forward as well as backward linkages with other industries making a cluster network in profusion generating employment and contributing to the overall economy. However, such medium and large sized units with regular product lines adopt different process of marketing technique to merchandise their products. The over-riding vision must be for setting up a market-based economic order with a level playing field for all industrial enterprises, in which LEIs can aspire to opportunities of growth and wealth-creation commensurating with their own endowments and diligence, innovation and management commitment. In addition, the vision must lead to a priority in the delivery of government services so as to neutralize, on a continuing basis, the handicaps and irritants, which, almost flexibly, tend to spring themselves upon LEIs in a selective manner.

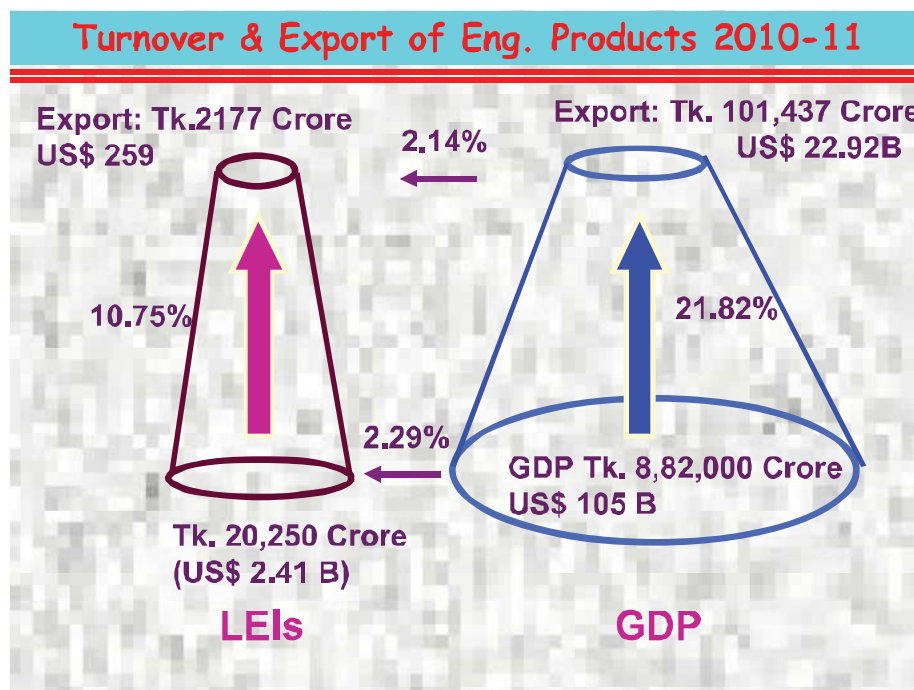


Figure 16 : Country's GDP & Export and LEIs Production & Export

7.3 Export Strategy for Selected Potential Products of Light Engineering Sector of Bangladesh

1. Proposals for export markets (sub sector: Agro tools & machinery)
 - a. Goods like sprayers: export markets; Ethiopia, Kenya, Uganda, Tanzania
 - b. Goods like concrete mixers, stone crushers, road rollers and vibrators: export markets; Ethiopia, Kenya, Uganda, Morocco, Burkina Faso & Tunisia.
 - c. Goods like scales, platform types from 100 kg – 1000 kg: export markets; Ethiopia, Kenya, Uganda, Burkina Faso.
 - d. Goods like marine engines and spare parts: export markets; Morocco, Algeria, Tunisia and Egypt.
 - e. Goods like water pumps, submersible and hand pumps: export markets; Ethiopia, Kenya, Uganda, Tanzania, Sudan.

2. Proposals for export markets (sub sector: Cast iron Products)

Here it is rational to say that the export activities should concentrate on EU (15 countries). This was mostly because Europe is potentially one of the most profitable markets in the world at the same time it is also very complex, competitive and a dynamic market. Environmental issues cause a lot of close down of cast iron factories in Europe. The focus should be on the most labour intensive items and items of weight for 2-10 kilo per items.

3. Proposals for export markets (sub sector: Automobile spare parts.

Phase I:

Concentrate on domestic market and substitute the imported parts. Concentrate on max 10-15 items to start with, with rather high volume and which fit into existing Bangladesh production machines available. Make special market survey including feasibility study.

Phase II:

Start export for selected items to: Dubai (huge trading center for spare parts for re-export to the African continent), but also start export to countries like Ethiopia, Kenya, Uganda, Tanzania, Sudan and Burkina Faso.

4. Proposals for export markets (sub sector: Bicycle).

Conduct a market survey on which countries in EU should be targeted to increase exports from selected sub-sectors such as the bicycles.

Growth Strategy, Conclusions and Recommendation to Spur Light Engineering Sector

8.1 Introduction

Growth strategy is primarily a matter in which development economists are interested. Because growth itself owes to two broad classes of source, a growth strategy will be about activities of canalization two kinds of resources into the industries of interest. The following is a definition of a growth strategy that we employ in this study of Light Engineering Industry:

“A growth strategy is a coherent organization of initiatives, especially by the government and public-private partnership (PPP) sector, that have demonstrably positive effect on both factor accumulation and factor productivity growth in the sector of interest”.

There are two keywords in this definition that it is worth drawing particular attention to. First, the initiatives must have a demonstrably positive effect on both factor accumulation and factor productivity growth, based on statistically significant regression coefficients. It is imperative that the initiatives and interventions that we highlight must pass muster based on rigorous statistical tests involving causalities that are theoretical sound and intuitive.

Presently, Bangladesh has an industrial policy 2010. Previously, Bangladesh has not had any systematic congenial industrial policy to speak of. But Bangladesh certainly needs to more to steer and target legitimate public and PPP assistance to ‘deserving’ establishments in ‘booster’ or ‘priority’ industries in LES.

8.2 Strategic Approach for Faster Development of Light Engineering Sector.

There is need for faster technological development in light engineering sector. Up gradation of research organizations involved in the field of science and technology is necessary. There is need for setting up centers of excellence in selected fields. Special emphasis has to be given to automobiles, agro-machinery and spare parts of mills, factories, and industries. Time bound programs may be drawn up for development, improvement and expansion of products & processes in the sector development. Policies for development of technology should be integrated with macro-economic, industrial, agricultural, commercial and educational policies. Entrepreneurs should be linked with the supply of technology. Special attention should be given to bring the fruits of scientific & technological innovation to the doorsteps of LEIs. LEIs can take advantage of wider diffusion of modern technology & benefit from the globalization process. Development of technology is a long run process within which short term strategies should be adopted for catering to the immediate needs of the economy. LEIs should be able to take advantage of the benefits of progress in technology.

Access to credit and equity capital is important for all LEIs. Financial institutions tend to favour large enterprises. One approach, which has proved highly successful in Asia, is the establishment specialized credit institutions for small enterprises. Community-based banks have also been effective. The experience of specialized small scale lending to low income groups, the example of Grameen Bank, shows that group solidarity, can serve effectively as collateral. In order to assist LEIs development, developing countries like Bangladesh need to establish an appropriate capital market infrastructure. Sound development of the stock market can be supportive of the LEIs. Multilateral and bilateral donors are invited to continue to provide adequate financial support and technical assistance for the implementation of national strategies for enterprise development and in particular for LEIs. The local financial institutions will have to give priority to meet the financing needs of LEIs.

The creation of an enabling environment for entrepreneurship and enterprises creation is one of the most important roles of the government. An important aspect of the enabling environment is the quality of the working relationship between the government & the private sector. Government should ensure a transparent, predictable and supportive commercial and legal framework. Strategies for enterprise development should be formulated in close consultation with the private sector.

Light engineering enterprises play a role in industrial, technological and trade development. They are more adaptable, flexible and innovative. Support services for LEIs should cover areas such as management, product development, marketing, packaging, accounting, banking, legal services, quality control, etc. As globalization process proceeds, the need for multilateral approach to issues connected with internationalization of enterprises will become more pressing. Small enterprises are confronted with difficult challenges concerning the financing of their development, marketing activities, access to international markets, the introduction of advanced technology, lack of capability to approach or seek assistance. Although a number of national and international agencies working towards achieving similar goal for the growth of this industry none of them so far concentrated on developing the export market yet. Institutions like BUET, BITAC, BISCIC etc., international donors like JICA and different other donor funded projects like Practical Action, USAID, KATALYST etc. have been working in this sector through conducting market research, facilitating market linkages at domestic level, capacity building of human resources, upgrading technical skills and introducing modern technology, especially for foundries and machine shops. These initiatives have supported the entire sector to advance towards getting ready to cater to export market. Therefore, an export market strategy for the overall sector has had become a necessity to move forward with coordination among all these actors (donors, development projects, public and private institutions, etc.) to complement each other with their activities/programs to develop the LE sector.

8.3 Main Challenges and Objectives

There are lot of challenges of diversified nature that have to be faced to proliferate LES. For promoting LES and enhancing their competitiveness, strong institutional network would be needed to provide support in a variety of ways. The key areas of institutional support needed for the development of LES include information, training and counseling, technology, finance, market, industrial extension and management development. Trade bodies should be more responsive in the delivery of promotional and other supportive measures for rapid LES development. The first step is to make firms fully aware of the competitive challenges they have to face. The next step is to help LEIs prepare to meet the challenge by understanding their strengths and weaknesses and providing the inputs they need to help them upgrade. Product items produced in the sector (LES) should be of required configuration and quality. The export items should conform to export standards.

Trade Promotion Organizations such as the different Chambers of Commerce & Industry, and Trade & Industrial Associations will have to play a crucial role to meet the challenges of LES. The LEIs as industrial units will not be in a position to tackle many issues. They will have to get solution through the trade bodies, government agencies, etc. It will be extremely useful to set up a central fund by the trade bodies to deal with various settlement cases with substantial contribution from the government. In order to realize the full potential of the industry all the stakeholders need to be committed to finding lasting solutions to the prevailing problems in the sector and to follow the under mentioned objectives and implement the prioritized activities:

Objective 1. Enacting Appropriate Policy Measure: To update and implement the Bangladesh LEI policies based on a public private dialogue in order to reduce import items, facilitate access to equipments and support export transactions

Objective 2. Access to Finance: To allow LEIs to access finance for rehabilitation and adequate technology access

Objective 3. Up gradation of Technology: To move gradually from first to new generation machinery and improve quality monitoring and source of reference

Objective 4. Capacity Building and Skill Development: To upgrade agro machinery, automobile spares and foundry technical workforce skills and to build marketing and management skills for factories and foundries entrepreneurs in order to respond to the markets demand

Objective 5. Adopting Advanced Marketing Technique: To strengthen LEIs Trade Support Institutions with marketing tools and techniques in order to develop and make visible LEIs' national products on the domestic and international markets

8.4 Conclusions and Recommendations

8.4.1 Special Economic Zone (SEZ) and Industrial Park

Special economic zone and industrial park are required for LEIs due to following reasons

- To maximize synergy among establishment
- To stimulate efficient use of skilled labour, land, infrastructure, energy and other resources
- To facilitate backward, horizontal and forward, linkages with local industries
- To trigger a significant flow of foreign and domestic investment

Presently Investment of 300 entrepreneurs in this sector is stopped and awaiting for space. If Government take initiative beside investment, there can be 50 Lac of new employment in next 5 years.

In Bangladesh, land acquisition is the top problem in implementing such program.

Clustering and Central Facility will facilitate following

- A clustered industrial zone is required to share common facilities and special services
- Exclusive industrial zone with all facilities is required
- To increase quality, competitiveness, etc. and to reduce price
- Central Common Facilities: Jobbing, Testing Lab, R&D and Training

8.4.2 Time Bound Vision and Global Approach

All industrialized country similar to Japan, China, Taiwan, South Korea had formed their founding base with light engineering industries. They all at the beginning developed a robust LE sector first, then with this base industrialization process heralded and got momentum.

A pragmatic time bound vision for LES is required to develop for Bangladesh which will harness the time framed fast development of the sector. India & Pakistan has made time bound vision document to proliferate this sector. But in Bangladesh such thing has not been done.

Bangladeshi Products has earned reputation in LES products in the meanwhile. But sufficient production is not there to meet the local demand

8.4.3 Recommendation to Mitigate Duty, Tax and Tariff Anomalies

Suggestion 1: Simplified VAT Payment System

The indigenous Light Engineering Industries (LEIs) should be given the opportunity of simplified VAT payment based on total turnover. The limit for VAT free turnover should be judiciously determined with lessons from neighboring countries.

Suggestion 2: 4 Layer Duty System

Elementary RM: 2% duty

Essential elements to make a machine : 5%

Intermediate or SKD Elements: 15%

Finished Product: 30%

Suggestion 3: Option of VAT payment: Using Truncated Value

Those who are unable to pay VAT by calculation and can not take rebate, a second option for them can be given assuming 20% value addition and using truncated value , 3% VAT can be charged.

Body for Tax policy Formulation

Tax policies should be formulated by a body in NBR, with representative from relevant ministries, manufacturers, trade associations and experts from the civil society.

Rationalization of Tax Structure on the Imported Raw materials and Components

Rationalization of tax structure on the imported raw materials and components of LE products that are not made locally should be given priority and settled to allow a competitive edge to local LE industries. Necessary rectification of import duties that directly or indirectly inhibit growth of the LE sector should be judiciously settled.

Mindset of NBR People

The mindset of NBR people, who favor importing of finished products than the production of the same within the country, needs to be seriously addressed and streamlined for the sake of overall development of LE industry in Bangladesh.

Under-invoicing and Associated Fraudulence & Corruption

The National Board of Revenue (NBR) should be equipped with raw material price database to prevent under-invoicing and associated fraudulence & corruption.

8.4.4 Recommendation Pertaining to Tariff Policy

- In surrounding countries, cottage industry <Rs. 30 lakh excluded from duty.
- VAT at manufacturing stage should be exempted on those items whose import VAT has been exempted (e.g. LP gas cylinder).
- Furnace oil, lubricant oil; import duty to be reduced from 30% (LEIs demanding to 7.5%).

8.4.5 Access to Finance

LE entrepreneur should get bank loan in single digit interest rate and without collateral. EEF (Entrepreneur's Equity Fund) should include LE project. LES should be included in re-financing program of Bangladesh Bank.

8.4.6 Infrastructure Development

1. LES Industrial Park: In Asia, industrialized countries have developed SMEs through clustering approach (planned industrial park). No one in Bangladesh
2. LES Common Facility Center: Jobbing, Testing Training, Trouble Shooting, R&D, Quality Certificate. No one in Bangladesh
3. Metal Industry Research Institute: For LES capacity development & research, many Asian countries possesses such institutes. No one in Bangladesh

4. LES Special Economic Zone (SEZ)

5. LES Cluster Industrial Town

8.4.7 Required Initiatives on Policy and Politico-Legal system

Policy Responses

- Formation of Time Bound Vision Document Named ‘Light Engineering Vision Document -2015’
- Enact Special cluster zone law.
- Enact Competition law

A Comprehensive Sectoral Policy for LES Alone

Since Light Engineering (LE) is considered to be a thrust sector by the Govt. (as reflected in the Industrial Policy), a comprehensive sectoral policy for LE alone be formulated to overcome the barriers and curb corruptions, and to provide a clear road map for the sector to flourish and contribute to economic growth of the country at desired level.

8.4.8 Technological Development

- Modern workshop with numerical control (NC) or computer numerical control (CNC) machines, Optical Emission Spectrometer, Atomic Absorption Spectrometer, X-ray radiography tester, etc.
- Modern die making shop with CNC EDM
- Modern design office using CAD, CAM, CIM, Optical 3D Copier design facilities
- Modern foundry shop for alloy and composite material casting with induction furnace, Upgraded Double Bush Copula, etc
- Precision sheet metal pressing workshop with hydraulic press and other precision machine

Technical Capacity Building of Support Organizations

Since LEIs require a high level of technical up gradation that should occur at both regional and rural levels, BITAC, BSCIC, BMTF, BSTI, Technical Universities, Polytechnic Institutes should be better equipped and staffed with technical experts to create a platform for the LE entrepreneurs to have adequate access to all forms of technical and industrial assistance.

CNC Machine and other Advanced Machinery System,

Following are needed presently in Bangladesh on urgent basis

- Skilled Operator
- Programmer
- Trouble Shooter

SME Foundation has given a VMC (CNC) machine to BITAC facilitating cost of around Tk 70 lac) in 2012 on condition that BITAC will provide various services of the machine to the Light Engineering Sector. The prime objective is to familiarize CNC system to LES and develop a pool of professionals pertaining to CNC system.

BITAC (Bangladesh Industrial Technical Assistance Center)

BITAC has recently submitted a proposal to establish a 'Tool Institute' in BITAC. The proposal is presently under process at the ministry. If fund is allocated, then the proposed institute will be able to develop professionals on three crucial areas of CNC system namely, operation, programming, and trouble shooting. BITAC has recently opened a support cell in this respect. But one thing BITAC has no R&D facility. A common facility center is required to facilitate R&D of LE products.

High Precision Heat Treatment Facility, Machining facility, Surface Treatment Facility, etc.

High precision heat treatment facility, machining facility, surface treatment facility etc. with low cost should be developed for LES in different parts and hubs of LES in the country

Materials Selection Facility

Since material selection is one of the prime criteria to produce quality LES products, facility should be developed so that appropriate materials can be identified and selected.

R&D Prioritization

It is needed to prioritize items in R&D based on local & foreign demand of LES products.

CFC (Common Facility Center) and Testing Facility

There is dearth of testing facility in the country. Modern testing facility for both raw materials and finished product has to be developed. There is no alternative but to establish CFC. CFC should include facilities such as R&D, new product development, testing, training, certification, etc. Recently, BITAC has sent a proposal to the ministry to establish a 'Testing Institute' in BITAC.

Design Office

Design development and prototype making are important tasks in the value chain. Design office with 3-D copy milling machine is required in modern design office

Certification and Accreditation

A credible certification and accreditation authority should be established.

8.4.9 Recommendation Pertaining to Technology & Finance

- Allow to bring used machinery
- University-Industry Liaison program: Fund required for Technology innovation
- Pilot Technology Up-gradation project
- Include LES in the policy of Loan disbursement of banks & financial institution
- Include LES in the policy of Loan disbursement of Bangladesh Bank
- Include LES in the Entrepreneur Equity Fund (EEF) of Bangladesh Bank
- Enact Credit Guaranteed Scheme & Credit Insurance Scheme for LES

8.4.10 Modern Foundry

Following options can be considered to upgrade foundry

1. Upgraded Copula Furnace: Double Blast Copula (DBC)
2. Induction Furnace
3. Induction Furnace with spectrometer or Atomic adsorption spectrometer

In Bogra, DBC furnace has been installed which is a upgraded furnace than conventional copula furnace.

8.4.11 A Model to make a Consortium for Entrepreneurship



New product development and new entrepreneurship can be done with above consortium. The university graduate is the new entrepreneur who with help of an experienced LES entrepreneur and an expert can be successful in the new venture. The expert can be any one such as researcher, university professor, technologist, professional in the related field, etc.

Secondly tripartite consortium can be developed with BUET, BITAC and the entrepreneur to make a new venture.

8.4.12 A Suggestion for Investment that is needed for machinery and Technology Up gradation

Investment Needed for 15% of LEIs

15% of 40,000 = 6000 Nos.

6000 Nos. x Tk. 2 Crore (Average) = Tk. 12,000 Crore

This amount Tk. 12000/- Crore can be invested in short term, medium term and long term

SHORT TERM Investment: for 5% industries

Tk. 4,000 crore

MEDIUM TERM Investment: for 5% industries (Thus totaling 10% industries)

Tk. 4,000 crore

LONG TERM Investment: for 5% industries (Thus totaling 15% industries)

Tk. 4,000 crore

Result

Production of additional Import Substitute Products

and export = Tk. 3,000 Crore per annum

8.4.13 To strengthen University-Industry Linkage

Govt. should allocate adequate fund to strengthen university-industry linkage. Once universities will receive fund from govt, they will go to industrial clusters and give onsite solution to the entrepreneurs.

8.4.14 Environmental and Occupational Health

LEIs should consider environmental and occupational health hazard.

8.4.15 Some Reformative Measures

1. Sub-contracting to be proliferated at micro & macro level
2. Under-invoicing to be mitigated using policy model
3. Women Entrepreneurship to be promoted

8.4.16 Road Map for the Next Five Years

- Light Engineering Industrial Park.
- CNC System Training Center.
- Cluster based Common Facility Center.
- Modern Induction Furnace Projects.
- Develop and Implement Auto-Industry Road Map.
- JVs in highly technological sub-sectors of light engineering sector including auto parts, foundry, mould, CNC Technology Training Center.
- Setting-up of Common Facility Centers (functions: R&D, Special Jobbing, Training, testing, design, accreditation & certification,
- Setting-up of Individual Specific Facility in Industry(such as heat treatment plant, surface coating plant, specialized testing lab)
- Technology Incubation Centre
- Technology Transfer Centre
- Technology Innovation Centre

8.4.17 Future Areas of Growth

- Modern Induction Foundry
- Modern Die & Mould Factory
- Auto Parts
- CNC Technology Training Center
- Die Casting project.
- Powder Coating Plant.
- Metal and product testing facilities
- Heat Treatment Facility
- EDM & Wire Cut

8.5 Policy Matrix for Public-Private Partnership for LEIs Development

Sl.	Strategic Goal	Policy Strategy	Areas of Partnership	Partner Institution
Government Organization				
1.	Mainstreaming LEIs as a crucial sector in National Development Plans	<ul style="list-style-type: none"> • LEI focus PRSP • LEI focus Perspective Plan 	<ul style="list-style-type: none"> • By providing inputs in preparing PRSP with specific focus on development. • Rationalize ADP towards enterprise development. • Assist in preparing database on LEIs. • By providing service for monitoring and evaluating projects related to Enterprise Development. 	Ministry of Planning <ul style="list-style-type: none"> • BBS
2.	Creating and enhancing an enabling policy environment for LEI Development	<ul style="list-style-type: none"> • Pro LEI industry policy • Up to date LEI policy strategies 	<ul style="list-style-type: none"> • In preparing schemes relating to small and medium industries. • By providing inputs and assist in preparing industrial policy. • By providing inputs and assist in preparing LEI policy strategies. • Assist in promotion of foreign investment in small and medium enterprises and international investment problems. • Industrial exhibitions and demonstrations of LEI products. • Promotion Sericulture. • Coordination of the development work of small-scale industries. • Coordination of matters to rural industrialization. 	Ministry of Industries (MOI)
3.	Foster Competitiveness of LEIs through Integration into the World Economy	<ul style="list-style-type: none"> • Export policy for LEI Development • Import Policy for LEI Development 	<ul style="list-style-type: none"> • By providing inputs in preparing Pro-LEI Import Policy. • By providing inputs in preparing Pro-LEI Export Policy. • By providing inputs in preparing Pro-LEI Tariff Policy. • By keeping liaison with Missions abroad through MOC for export promotion. • Organize LEI Product fair or other trade fair related with LEIs. • Advocating for insurance coverage for LEIs. 	Ministry of Commerce (MOC)
4.	Create macroeconomic environment for LEI development	<ul style="list-style-type: none"> • Fiscal Policy • Monetary Policy • Strengthen Access to finance 	<ul style="list-style-type: none"> • Providing more financing through allocation of more funds for credit wholesaling to LEIs. • Linkage with Development Partners through ERD for 	Ministry of Finance (MOF)

Sl.	Strategic Goal	Policy Strategy	Areas of Partnership	Partner Institution
4.			investing Light Engineering Industries development projects. <ul style="list-style-type: none"> • By providing inputs of LEI friendly Fiscal Policy and Banking policy. • By providing inputs for LES friendly monetary policy. • Assist in preparing Bangladesh Economic Review in the area of LEI development. 	
5.	Create as skill labour force for LEI development	<ul style="list-style-type: none"> • Labour Policy • Promote skill formation • Advocate Labour welfare 	<ul style="list-style-type: none"> • By providing inputs in preparing Labour Laws and Policy and also in Manpower Policy • Welfare of labour working in the LEIs. • By providing comprehensive dispute settlement system without hampering industrial relation. • Industrial employment and social security. • Assist in Industrial and labour disputes. • Assist in preparing labour statistics. • Labour research. • Assist in preparing National Policy regarding labour and industrial welfare of LEIs. 	<ul style="list-style-type: none"> • Ministry of Labour (MOL)

Government Organization

6.	Enhancing and promote environment friendly enterprises.	<ul style="list-style-type: none"> • Promote environment friendly enterprise development • Awareness building in proper way of waste management 	<ul style="list-style-type: none"> • By providing inputs in preparing LEI friendly environment policy, forest policy. • By advocating entrepreneurs for using effective waste management system. 	Ministry of Environment (MOE)
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Agencies

7.	Strengthen R&D for LEI development	<ul style="list-style-type: none"> • Promote technological research on LEI related issues 	<ul style="list-style-type: none"> • Working together to initiate, promote and guide scientific, industrial and technological research for LEI development. • To adopt measures for the commercial utilization of discoveries and invention of LEI development. • To collect and disseminate information of scientific, industrial and technological matters related to LEIs. 	Bangladesh Council for Scientific and Industrial Research (BCSIR)
8.	Create macroeconomic environment for LEI development	<ul style="list-style-type: none"> • Make the BSCIC industrial Estates more effective and active. • Modernize BSCIC design centers. 	<ul style="list-style-type: none"> • By keeping the help line centers established in the BSCIC estates updated and informative and make it more user friendly. • By creating new avenues for the BSCIC industrial estates for making the estates active and useful. 	Bangladesh Small & Cottage Industries (Corporation (BSCIC)

Government Organization				
8.			<ul style="list-style-type: none"> By providing updated information about Design for the BSCIC design centers. Searching new potential sectors for investment. 	Bangladesh Small & Cottage Industries Corporation (BSCIC)
9.	Technology and Human Resource Upgrading		<ul style="list-style-type: none"> Review current technology and assess training needs, incentive structures and barriers. Coordinate with providers of vocational training to identify needs and develop links with LEIs. 	Bangladesh Industrial and Technical Assistance Centers (BITAC)
10.	Strengthening Capacity building for LEI development	<ul style="list-style-type: none"> Entrepreneurship development and improvement of industrial extension service for LEI Management development of private sector entrepreneurs. 	<ul style="list-style-type: none"> Guide emerging issues and services for new LEI entrepreneurs. Work together for preparing stakeholders requirements for HRD and Skill development. Research on relevant issues, problems & prospects of the LEI, as well as independent studies on different LEI related areas. Provide job oriented information for assessment of training needs. Cooperate in preparing market oriented TOT course. 	Small & Cottage Industries Training Institute (SCITI) BIM.
11.	Building a Pro LEI tax structure	<ul style="list-style-type: none"> Tax Policy 	<ul style="list-style-type: none"> Rationalize TAX policy in a LEI friendly manner 	National Board of Revenue (NBR)
12.	Export Promotion of LEI products	<ul style="list-style-type: none"> Pro LEI Export Policy 	<ul style="list-style-type: none"> Jointly organize LEI product fair in home and abroad 	Export Promotion Bureau (EPB)
13.	Promote Standard and Quality of the LEI products	<ul style="list-style-type: none"> Production certification system. Product labeling 	<ul style="list-style-type: none"> Joint together in the area of Product Certification by BSTI and make it more easy for LEIs. Advocating and enhancing awareness in the field to Product Labeling Services by BSTI 	Bangladesh Standards & Testing Institution (BSTI)
14.	Ensure equipment and machinery safety for LEIs	<ul style="list-style-type: none"> Boilers inspection 	<ul style="list-style-type: none"> Awareness building to the entrepreneurs on Boiler issues Work together for arranging Boiler Certificate more easy for LEIs. 	Chief Inspector of Boilers

Banks and Financial Institutions				
17.	To ensure access to necessary working capital as well as medium & long term finance by strengthening the collateral system and by providing a greater range of products from a wider variety of financial institutions.	<ul style="list-style-type: none"> Increase Access to finance to LEIs through Credit wholesaling 	<ul style="list-style-type: none"> Credit wholesaling to the private commercial banks and other financial institutions. Capacity building specifically on LEI lending, risk management and LEI credit issues among the Banks and other PFIs involved in LEI financing 	AB Bank Limited, BRAC Bank, Standard Chartered Bank, The Citibank Ltd., Prime Bank Ltd., LBL, PHOENIX Leasing and Investment Ltd., IDLC, MIDAS Financing Ltd.

Research Institutes and Association				
20.	Enhancing Research works	<ul style="list-style-type: none"> • Research works • Knowledge Dissemination 	<ul style="list-style-type: none"> • Research work • Joint together in organizing policy dialogue related to LEIs • Information sharing 	Micro Industries Development Assistance and Services (MIDAS) Bangladesh institute OF development studies (BIDS), Center for Policy Dialogue.
Universities				
21.	<p>Crete an research oriented entrepreneurship development</p> <p>Seeding entrepreneurship in young minds: LEIs industry academia bonding</p>	<ul style="list-style-type: none"> • Research work • Case Studies • Technological innovation • Business administration • Gender and LEI development 	<ul style="list-style-type: none"> • Collaboration research work related to LEIs. • Cooperation in technological innovation and dissemination, adaptation, indigenous technology. • Work together in the area of business management and entrepreneurship issues • Information sharing • Guide to the potential researchers for higher studies on LEI issues. • Develop new entrepreneurs. 	<ul style="list-style-type: none"> • Bangladesh University of Engineering & Technology (BUET) • University of Dhaka 1. Department of Economics 2. Department of Finance 3. Department of Gender and Women Studies. • Institute of Business Administration (IBA) • Dhaka University of Engineering & Technology (DUET) • IIUT • North South University (NSU) • American International University of Bangladesh (AIUB) • Ahsanullah University • Northern University Bangladesh (NUB)
Trade Bodies				
	Promotion of Public Private Partnership	<ul style="list-style-type: none"> • Develop a specific consultation process with business associations and other stakeholders to foster public private partnership. • Formulate a plan to enhance capacity of the business associations to provide policy advocacy on behalf of LEIs. 	<ul style="list-style-type: none"> • Work together for formulating database on individual entrepreneurs and established linkages. • Guide and work together with the trade bodies for providing business support services to the individual entrepreneurs • Capacity building in a participatory approach among the trade bodies. • Work together in the area of IP by identifying IP related entrepreneurs • Promoting LEI products by organizing product fairs. • Identify regulatory barriers of LEI development • Providing business support service • Work together for providing feedbacks and suggestions for national policies and strategies. • Joint together in assessing investment potentials, specially in case of FDI for LEIs. 	<ul style="list-style-type: none"> • The Dhaka Chamber of Commerce and Industry (DCCI) • Federation of Bangladesh Chamber of Commerce and Industry (FBCCI) • Chittagong Chamber of Commerce and Industry (CCCI) • National Association of Small & Cottage Industries of Bangladesh (NASCIB) • Women Entrepreneurs Association of Bangladesh (WEAB) • metropolitan chamber of Commerce and Industry (MCCI).

Strategy and Action Plan of Light Engineering Sector

9.1 Strategy and Action Plan

Strategy and action plan have been group into 5 agenda

9.1.1 Agenda 1: To Enact Appropriate Policy Measures.

To update and implement the LEI policies of Bangladesh based on a public private dialogue in order to reduce import items, facilitate access to equipments and support export transactions

The objective targets to implement policy measures at macro level such as pro-LEIs industrial policy, export & import policy, tariff policy; raw materials & other materials procurement & supply policy, incentive policy, revitalize support institutional capacity, implementation of standardization & certification system; development of infrastructure, sectoral economic zone, interlink ages and networks.

Government, through the trade policy has a greater role to play to ensure that a stable macro-economic environment is created for businesses to thrive well and grow and assure foundries, manufacturers, retailers and exporters to have a long-term vision.

9.1.2 Agenda 1: Implementation Road Map (in order of implementation priority)

Public Private Dialogue

- ❑ Establish a public private dialogue allowing government and private sector to ensure that a stable macro-economic environment is created for businesses to thrive well and grow and assure foundries, manufacturers, retailers and exporters to have a long-term vision...

Implementation partners: Min. of Industries, Min. of Commerce, Min. of Finance, Donor agencies, EPB, SMEF, BPC, BEIOA, FBCCI and DCCI, Trade Bodies and Associations, Chambers, etc.

- ❑ Build a public private dialogue to improve the existing policy taking into consideration new elements such soft loan (low interest), incentives, taxes, etc. Develop national financing programmes for foundries and factories under specific conditions...

Implementation partners: Min. of Industries, Min. of Commerce, Min. of Finance, Donor agencies, EPB, SMEF, BPC, BEIOA, FBCCI and DCCI, Trade Bodies and Associations, Chambers, etc.).

- ❑ Work closely with light engineering association in other countries...

Implementation partners: Min. of Industries, Min. of Commerce, BUET, Donor agencies, EPB, SMEF, BPC, BEIOA, FBCCI and DCCI, Trade Bodies and Associations, Chambers, etc.

Strengthen institutional capacities and improve communication

- ❑ Revitalize institutional capacity of associated support public/Government organizations such as BSCIC, BITAC, BMTF and EPB

Implementation partners: BSCIC, BITAC, BMTF, Ministry of Industries, Ministry of Commerce, EPB, SMEF, BEIOA, BPC, FBCCI and DCCI, Trade Bodies and Associations, Chambers, etc.).

- ❑ Develop communication and interaction between private sector, R&D Institutes and universities. Create internship...

Implementation partners: Ministry of Industries, Ministry of Commerce, Ministry of Finance, Donor agencies, EPB, SMEF, BEIOA, BPC, FBCCI and DCCI, Trade Bodies and Associations, Chambers, etc.

- ❑ **Strengthen the institutional support for the further development of the industry...**

Implementation partners: Min. of Industries, Min. of Commerce, Donor agencies, EPB, SMEF, BPC, BEIOA, FBCCI and DCCI, Trade Bodies and Associations, Chambers, etc.

- ❑ Find alternative suppliers of raw materials in order to minimize the costs. If possible have always-alternative suppliers in order to avoid a breakage in the supply chain.

Implementation partners: Min. of Industries, Min. of Commerce, Donor agencies, EPB, SMEF, BEIOA, BPC, FBCCI and DCCI, Trade Bodies and Associations, Chambers, etc.

- ❑ Use provision on WTO rules of LDC...

Implementation partners: Min. of Industries, Min. of Commerce, Donor agencies, EPB, SMEF, BEIOA, BPC, FBCCI and DCCI, Trade Bodies and Associations, Chambers, etc.

Make government to support Sector needs

- ❑ Reform the existing policy and based on a public private dialogue develop a new one...

Implementation partners: Ministry of Industries, Ministry of Commerce, Donor agencies, EPB, SMEF, BPC, BEIOA, FBCCI and DCCI, Trade Bodies and Associations, Chambers, etc.

- ❑ Deliberate government policy to support activities to the sector

Implementation partners: Ministry of Industries, Ministry of Commerce, Ministry of Finance, Donor agencies, EPB, SMEF, BPC, BEIOA, FBCCI and DCCI, Trade Bodies and Associations, Chambers, etc.

- ❑ Introduce policy and mechanisms against dumping foreign goods...

Implementation partners: Ministry of Industries, Ministry of Commerce, Ministry of Finance, Donor agencies, EPB, SMEF, BPC, BEIOA, FBCCI and DCCI, Trade Bodies and Associations, Chambers, etc.

- ❑ Introduce rules for standardization...

Implementation partners: Ministry of Industries, Ministry of Commerce, BSTI, Donor agencies, EPB, SMEF, BUET & other Universities, BPC, BEIOA, FBCCI and DCCI, Trade Bodies and Associations, Chambers, etc.

- ❑ Develop an import policy for raw material...

Implementation partners: Ministry of Industries, Ministry of Commerce, Ministry of Finance, Donor agencies, EPB, SMEF, BPC, BEIOA, FBCCI and DCCI, Trade Bodies and Associations, Chambers, etc.

- ❑ Ensure better access of the enterprises to communications, water and especially energy supply. This requires efforts of the government and private companies in the corresponding sectors for infrastructure development and increase and uninterrupted service supply

Implementation partners: Ministry of Industries, Ministry of Commerce, Ministry of Finance, Donor agencies, EPB, SMEF, BPC, BEIOA, FBCCI and DCCI, Trade Bodies and Associations, Chambers, etc.

- ❑ Facilitate import of raw material through incentives

Implementation partners: Ministry of Industries, Ministry of Commerce, EPB, SMEF, BPC, BEIOA, FBCCI and DCCI, Trade Bodies and Associations, Chambers, etc.

- ❑ Coordinate forecast of demand of steel...

Implementation partners: Ministry of Industries, Ministry of Commerce, EPB, SMEF, BPC, BEIOA, FBCCI and DCCI, Trade Bodies and Associations, Chambers, etc.

- ❑ Quality raw materials and testing facilities: Government subsidized on quality assurance facilities...

Implementation partners: Ministry of Industries, Ministry of Commerce, Donor agencies, EPB, SMEF, BPC, BEIOA, FBCCI and DCCI, Trade Bodies and Associations, Chambers, etc.

- ❑ Impose rule on trade license, awareness through workshops and seminars...

Implementation partners: Ministry of Industries, Ministry of Commerce, BSTI, BITAC, Donor agencies, EPB, SMEF, BPC, BEIOA, FBCCI and DCCI, Trade Bodies and Associations, Chambers, etc.

- ❑ Arrange financial support to arrange export promotion activities...

Implementation partners: Ministry of Industries, Ministry of Commerce, Ministry of Finance, Donor agencies, EPB, SMEF, BPC, BEIOA, FBCCI and DCCI, Trade Bodies and Associations, Chambers, etc.

- ❑ Establish Patent Right Act to protect the R&D cost of organizations that invest in R&D...

Implementation partners: Patent & Trade mark office, Ministry of Industries, Ministry of Commerce, BUET, Donor agencies, EPB, SMEF, BPC, BEIOA, FBCCI and DCCI, Trade Bodies and Associations, Chambers, etc.

- ❑ Revise policy that only allows steel mills to import scrap; it does not allow the manufacturers to import scrap and make dependent on the importers completely...

Implementation partners: Ministry of Industries, Ministry of Commerce, EPB, SMEF, BPC, BEIOA, FBCCI and DCCI, Trade Bodies and Associations, Chambers, etc.

- ❑ Facilitate import of reconditioned machines without tax for commercial purpose; sunset industries could be brought in our country at a cheaper price...(Implementation partners: Ministry of Industries, Ministry of Commerce, BUET & other universities, Donor agencies, EPB, SMEF, BPC, BEIOA, FBCCI and DCCI, Trade Bodies and Associations, Chambers, etc.).

9.1.3 Agenda 1: Anticipated Outputs

1. A public private dialogue is set up in order to develop a new LEIs trade policy
2. A new LEIs trade policy is issued
3. Government is providing mechanisms to financing modernization of LEIs under certain terms and conditions

9.2.1 Agenda 2: Access to Finance

To allow LEIs including foundries to access finance for rehabilitation and adequate technology access

The objective entangles activities to facilitate access to finance through implementing various measures such as enacting bank and financial institution's pro-LEIs financing policy, implementing congenial micro credit, credit wholesaling, factoring, etc. To carry out LEIs and foundries rehabilitation or access to adequate technology, entrepreneurs need to access finances from commercial banks or financial institutions. For years, they have bemoaned the lack of affordable access to finance, as banks requirements are too high together with the interest rates. It is imperative that the cost of investment capital is affordable and simplified to warrant improvements in all stages in the value chain. Improvements in the production, technology, transport, communication, energy, infrastructure, all require some investment of some sort.

As a success story to follow and under the ITC project "Bangladesh Leather Service Centre for export development", Government and commercial banks of Bangladesh agreed to lend full support for developing a dedicated credit line - at favorable interest rate and to the extent possible collateral-free - for micro and small enterprises in the leather sector. Artisans are estimated at more than fifteen thousand distributed in several clusters of Muchi-Rishi communities (a leather artisan community) producing traditional leather goods.

The Abdel Monem Foundation, upon advice of the Credit Development Forum – to whom the Gramscen Bank created by the Nobel Prize Dr. Md. Yunus is also affiliated – has joined the initiative. The Foundation, under the guidance of Dr. Atiur Rahman, Chairman of the Forum, organized a panel discussion with the participation of major banks and the Central Bank of Bangladesh. The Foundation is sponsoring a survey of the clusters to determine needs and services required. Other banks, e.g. Sonali Bank and Janata Bank, have joined the initiative and are providing support in terms of staff for carrying out the survey and for setting up a database of micro enterprises. Other credit institutions have manifested the interest to join in. Facilitating access to credit is considered one of the pillars for sector development from artisan to industrial level. The keen interest manifested by the banking system proves the conviction that the leather sector can play a crucial role in export development and that the Service Centre is seen as a catalyst to this process.

9.2.2 Agenda 2: Implementation Road Map (in order of implementation priority)

Access Mechanisms to finance

- ❑ Integrate in the LEIs Value Chain mechanisms allowing all the steps of the VC to access to finance from banks, government agencies and other financial service institutions...

Implementation partners: Min. of Finance, Min. of Industries, Min. of Commerce, Bangladesh Bank, Commercial Banks, Financial organizations, EPB, NBR, SMEF, BPC, BEIOA, FBCCI and DCCI, Trade Bodies, Professional Associations, Chambers, etc.

- ❑ Undertake a study comparing the LEIs financing mechanisms and bank interest rate existing in neighbouring countries and competitors countries and based on that develop appropriate reforms to build a better financial environment...

Implementation partners: Ministry of Finance, Ministry of Industries, Ministry of Commerce, Bangladesh Bank, Commercial Banks, Financial organizations, EPB, NBR, SMEF, BPC, BEIOA, FBCCI and DCCI, Trade Bodies, Professional Associations, Chambers, etc.

- Develop a dialogue with banks to improve mechanisms to provide finance to the sector at lower rates and learning from the previous failures. Single digit interest rate should be introduced and the interest calculation must be standardized.

Implementation partners: Min. of Finance, Min. of Industries, Min. of Commerce, Bangladesh Bank, Commercial Banks, Financial organizations, EPB, SMEF, BPC, BEIOA, FBCCI and DCCI, Trade Bodies, Professional Associations, Chambers, etc.).

- Hedging on bank exchange rates. Banks and credit agencies availing credit could facilitate by having a reduction of interest rates and softening collateral requirements to access credit. This could be achieved through corresponding macroeconomic and structural policies directed to lowering risks in the economy, inflation and strengthening banking and credit system Capital investment interest rate and running capital interest rate should be different. Banks should disburse a significant amount of 30-40% of the total credit amount to the LE industries as loans

Implementation partners: Min. of Finance, Min. of Industries, Min. of Commerce, Bangladesh Bank, Commercial Banks, Financial organizations, EPB, SMEF, BPC, BEIOA, FBCCI and DCCI, Trade Bodies, Professional Associations, Chambers, etc.

Equipment investment

- Encourage and promote leasing programmes or grants to help SMEs modernize their equipment and increase volumes and quality products...

Implementation partners: Min. of Finance, Min. of Industries, Min. of Commerce, Bangladesh Bank, Commercial Banks, Financial organizations, EPB, NBR, SMEF, BUET, BITAC, BPC, BEIOA, FBCCI and DCCI, Trade Bodies, Professional Associations, Chambers, etc.

- Coordinate investment in new technology/machines...

Implementation partners: Min. of Finance, Min. of Industries, Min. of Commerce, Bangladesh Bank, Commercial Banks, Financial organizations, EPB, NBR, SMEF, BUET, BITAC, BPC, BEIOA, FBCCI and DCCI, Trade Bodies, Professional Associations, Chambers, etc.

- Coordinate investments in new machinery and equipment in order to utilize this investment as much as possible. ...

Implementation partners: Min. of Finance, Min. of Industries, Min. of Commerce, Bangladesh Bank, Commercial Banks, Financial Organizations, EPB, NBR, SMEF, BUET, BITAC, BPC, BEIOA, FBCCI and DCCI, Trade Bodies, Professional Associations, Chambers, etc.

Equity investment

- Remove barriers to equity investment in LEIs. Identify the barriers that exist and which are slowing down the process to equity investment in LEIs...

Implementation partners: Min. of Finance, Min. of Industries, Min. of Commerce, Bangladesh Bank, Commercial Banks, Financial organizations, EPB, NBR, SMEF, BPC, BEIOA, FBCCI and DCCI, Trade Bodies, Professional Associations, Chambers, etc.

- ❑ Encourage and promote venture capital mechanisms allowing foreign investment to be attracted to the LEIs sector opportunities...

Implementation partners: Min. of Finance, Min. of Industries, Min. of Commerce, Bangladesh Bank, Commercial Banks, Financial organizations, EPB, NBR, SMEF, BPC, BEIOA, FBCCI and DCCI, Trade Bodies, Professional Associations, Chambers, etc.

Communication

- ❑ Build effective communication with banks by organizing seminars where bankers and stakeholders will exchange views and find solutions through an action plan to develop appropriate financial services for allowing the sector to access financing...

Implementation partners: Min. of Finance, Min. of Industries, Min. of Commerce, Bangladesh Bank, Commercial Banks, Financial organizations, EPB, NBR, SMEF, BPC, BEIOA, FBCCI and DCCI, Trade Bodies, Professional Associations, Chambers, etc.

- ❑ Create a fund to allow TSIs employees to have access to trainings in their specialty...

Implementation partners: Min. of Finance, Min. of Industries, Min. of Commerce, Donor agencies, EPB, SMEF, BPC, BEIOA, FBCCI and DCCI, Trade Bodies, Professional Associations, Chambers, etc.).

- ❑ Create a fund or a mechanism to facilitate financing for stakeholders to prepare and participate with effectiveness to trade fairs...

Implementation partners: Min. of Finance, Min. of Industries, Min. of Commerce, Donor agencies, EPB, SMEF, BPC, BEIOA, FBCCI and DCCI, Trade Bodies, Professional Associations, Chambers, etc.

- ❑ Create a LEIs export group to examine how to simplify the export process development of document for bank such as a single window...

Implementation partners: Min. of Finance, Min. of Industries, Min. of Commerce, Bangladesh Bank, Commercial Banks, Financial organizations, EPB, SMEF, BPC, BEIOA, FBCCI and DCCI, Trade Bodies, Professional Associations, Chambers, etc.

- ❑ Training entrepreneurs on how to have access to finance (export financing, capital investment, joint ventures) Organize training and seminars with different bank who is specialized and professionals in the different finance areas, investment in capital goods – rental arrangements and or leasing arrangements available. Here it could be both bankers and other financial institutions. Find out what are their requirements and terms for entering such arrangements

Implementation partners: SMEF, EPB, BPC, BUET, DU, BIM, BEIOA, FBCCI and DCCI, etc.

9.2.3 Agenda 2: Anticipated Outputs

1. New financial mechanisms allow to have access to financing under appropriate and acceptable conditions
2. Entrepreneurs have a better understanding on how to access to export financing
3. Government support the sector financing under specific actions
4. Bank officers are better informed about stakeholder's financial requirements
5. TSIs are proposing new financial services to sector stakeholders
6. With bank facility the raw materials can be purchased in bulk at lower prices

9.3.1 Agenda 3: Technology Up-gradation

To move gradually from first to new generation machinery and improve quality monitoring and source of reference

Under the jurisdiction of this objective various activities to implement measures for technology up-gradation & development, technology transfer & dissemination, integration of modern machinery & production system, R&D, empowerment with ICT to be implemented including articulation of quality assurance system. Establishment of facility centers are essential to strive for development of diversified new & quality products for export. Enterprises should be flexible enough to involve step-by-step quality monitoring systems and procedures at each stage in the production cycle to aid corrective measures where variances arise.

It is imperative that the sector streamlines testing operations to ensure quality compliance for products destined for local or international markets, to allow foundries to access spectrometer and also to facilitate import of raw material. Also, build capacities for manufacturers to meet export requirements in terms of quality and production volumes through training involving Quality control and Quality assurance (Qc/Qa) and Good Marketing Practices (GMP).

9.3.2 Agenda 3: Implementation Road Map (in order of implementation priority)

First Generation

- ❑ Upgrade to better moulding and melting processes with available technology in the market
Implementation partners: BSCIC, BUET, BITAC, SMEF, NPO, BPC, BEIOA, FBCCI, DCCI, Trade Bodies & Associations, Chambers, universities and institutions etc.
- ❑ Assistance should be provided so that machinery manufacturers and electronic firms can interact with each other in an effort to upgrade local products. BUET can provide assistance in this connection
Implementation partners: BSCIC, BUET, BITAC, SMEF, NPO, BPC, BEIOA, FBCCI, DCCI, Trade Bodies & Associations, Chambers, universities and institutions etc.
- ❑ Collect and disseminate regularly all available data and technical information on local foundries and assist in updating practices and improving the product
Implementation partners: BSCIC, BUET, BITAC, SMEF, NPO, BPC, BEIOA, FBCCI, DCCI, Trade Bodies & Associations, Chambers, universities and institutions etc.
- ❑ Technical support services should be provided to the local machinery manufacturer so as to enhance their capability of machine design. BUET can provide assistance in the machine and product design
Implementation partners: BSCIC, BUET, BITAC, SMEF, NPO, BPC, BEIOA, FBCCI, DCCI, Trade Bodies & Associations, Chambers, universities and institutions etc.
- ❑ Carry out a R&D on local sand, molding processes and new material besides cast iron
Implementation partners: BSCIC, BUET, BITAC, SMEF, NPO, BPC, BEIOA, FBCCI, DCCI, Trade Bodies & Associations, Chambers, universities and institutions etc.
- ❑ Design specific programmes for R&D institutes and Public organizations. How can the production process be simplified, how can the wear and tear parts be strengthen in order to avoid breakage – break downs – and save parts for same by the customers. Make tests of machines – short and long terms tests in order to evaluate and see the capacity and the strength of the machines/equipment before starting exporting

Implementation partners: BSCIC, BUET, BITAC, SMEF, NPO, BPC, BEIOA, FBCCI, DCCI, Trade Bodies & Associations, Chambers, universities and institutions etc.

- ❑ Interchange of technology and training

Implementation partners: BSCIC, BUET, BITAC, SMEF, NPO, BPC, BEIOA, FBCCI, DCCI, Trade Bodies & Associations, Chambers, universities and institutions etc.

New Generation

- ❑ Investigate which countries are going from 1st generation of different products to 2nd generation in order to be “first” in the market at the right time and with the right price. Develop a study on new generation technology on how to adapt it to Bangladesh. Implement activities in accordance with work plan

Implementation partners: BSCIC, BUET, BITAC, SMEF, NPO, BPC, BEIOA, FBCCI, DCCI, Trade Bodies & Associations, Chambers, universities and institutions etc.

- ❑ Replace gradually the first generation machinery with new machinery capable of providing the machining services in much better accuracy

Implementation partners: BSCIC, BUET, BITAC, SMEF, NPO, BPC, BEIOA, FBCCI, DCCI, Trade Bodies & Associations, Chambers, universities and institutions etc.

- ❑ Develop use of material such as carbon steel, alloy steel, etc of known specifications for quality and high performance products. However such materials are not readily available in the local market. Since the volume of demand of such material is low at present, local importers do not appear to be interested to import them. Local producers that have the ability to produce alloy steel do not produce them as standard product, mainly because of lower demand. Establishment of linkage among importers, producers and consumers of raw materials may help in making the required raw materials available. ...

Implementation partners: Min. of Industries, Min. of Commerce, Min. of Finance, Donor agencies, EPB, SMEF, BPC, BEIOA, FBCCI and DCCI, Trade Bodies and Associations, Chambers, etc.

Source of Reference

- ❑ Develop a local expertise for servicing and application in the metal industries and centre for metallurgical as a source of references for local foundries

Implementation partners: BSCIC, BUET, BITAC, SMEF, NPO, BPC, BEIOA, FBCCI, DCCI, Trade Bodies & Associations, Chambers, universities and institutions etc.

- ❑ Recommend entrepreneurs to be flexible enough to involve step-by-step quality monitoring systems and procedures at each stage in the production cycle to aid corrective measures where variances arise

Implementation partners: BSCIC, BUET, BITAC, SMEF, NPO, BPC, BEIOA, FBCCI, DCCI, Trade Bodies & Associations, Chambers, universities and institutions etc.

- ❑ Streamline testing operations to ensure quality compliance for products destined for local or international markets, to allow foundries to access spectrometer and also to facilitate import of raw material

Implementation partners: BSCIC, BUET, BITAC, SMEF, NPO, BPC, BEIOA, FBCCI, DCCI, Trade Bodies & Associations, Chambers, universities and institutions etc.

- ❑ Build capacities for manufacturers to meet export requirements in terms of quality and production volumes through training involving Quality control and Quality assurance (Qc/Qa) and Good Marketing Practices (GMP).

Implementation partners: BSCIC, EPB, BUET, BITAC, SMEF, NPO, BPC, BEIOA, FBCCI, DCCI, Trade Bodies & Associations, Chambers, universities and institutions etc.

- ❑ Support on exposure to modern machines and technology through workshops, exhibition and discussions with foreign suppliers. SEDF has worked in the similar field to upgrade technology and had created some linkages with a few institutions and organizations in Indian for ensuring incessant communication mechanism, however this could be taken to an advance level with collaboration to pertinent national institutions to arrange workshops, exhibitions and other meaningful events.

Implementation partners: BSCIC, BUET, BITAC, SMEF, NPO, BPC, BEIOA, FBCCI, DCCI, Trade Bodies & Associations, Chambers, universities and institutions etc.

- ❑ Set up a basic requirement of testing and control laboratory in Dhaka & Bogra and other districts which provide services in area of chemical composition analysis (spectrometer), physical properties testing (tensile test and Brinell hardness test), microstructure analysis, sand testing and heat treatment facility

Implementation partners: BSCIC, BUET, BITAC, SMEF, NPO, BPC, BEIOA, FBCCI, DCCI, Trade Bodies & Associations, Chambers, universities and institutions etc.

Take facility from 5 BITAC (Dhaka, Chittagong, Khulna, Chandpur, and Bogra)

Implementation partners: BITAC.

- ❑ Develop quality gradually into world-class quality

Implementation partners: BSCIC, BUET, BITAC, SMEF, NPO, BPC, BEIOA, FBCCI, DCCI, Trade Bodies & Associations, Chambers, universities and institutions etc.

- ❑ Arrange to have Spectrometer, physical properties equipment and sand testing facilities for foundries for producing casting of international requirement.

Implementation partners: BSCIC, BUET, BITAC, SMEF, NPO, BPC, BEIOA, FBCCI, DCCI, Trade Bodies & Associations, Chambers, universities and institutions etc.

- ❑ Establish a common export-packing branch

Implementation partners: BSCIC, BUET, BITAC, SMEF, EPB, NPO, BEIOA, BPC, FBCCI, DCCI, Trade Bodies & Associations, Chambers, universities and institutions etc.

- ❑ Get Internet access – develop Light Engineering IT centers

Implementation partners: BSCIC, BUET, BITAC, SMEF, NPO, BPC, BEIOA, FBCCI, DCCI, Trade Bodies & Associations, Chambers, universities and institutions etc.

- ❑ Build a monitoring cell comprised of public-private partnership to monitor the initiatives taken to improve the technical capacity of the sector, this monitoring cell should be led by the private sector; SME Foundation, BSCIC, Investment Board etc. could be the potential partners for the monitoring cell

Implementation partners: private sector; SMEF, BSCIC, Board of Investment etc.

- ❑ Develop quality management guideline for BITAC, SMEF, BSCIC, EPB, NPO, BMTF and develop collaboration between academia and practical experienced people to improve the technology

Implementation partners: BITAC, SMEF, BSCIC, EPB, NPO, BMTF

9.3.3 Agenda 3: Anticipated Outputs

1. Lower production costs
2. Shorten delivery time (which is very important for overseas export)
3. Better quality standards and better and uniform products
4. The buyers will be aware of Bangladeshis products
5. Arrange seminars for stakeholders (success stories – discussion of individual problems)
6. Increased production and lower production costs and more profit to stakeholders
7. Produce casting to international standards and specification
8. Increase the production output through proper working practice
9. By coordinating of activities: lower export/promotion/marketing costs
10. Know how concentrated in one place for export procedures, and market knowledge
11. Promote a wide range of Light Engineering products internationally
12. Modernization of the facilities will increase the productivity, casting yield, quality improvement and higher profit.

9.4.1 Agenda 4: Capacity Building and Skill Development

To upgrade skills of technical workforce of machinery, automobile spares and foundry, and to build marketing and management skills for factories and foundries, entrepreneurs in order to respond to the markets demand

The objective encompasses capacity building of the enterprises and the sector, including development of human resources, entrepreneurship, corporate management capability through training and other measures. This would lead to the development of a skilled and qualified workforce for the LEIs factories and iron & steel foundry. Training should be designed targeting 2 categories of people: i) management & ii) workers/technicians. Governments of countries embarking upon industrialization should plan early for the growth of an efficient light engineering sector especially foundry industries. The light engineering sector is essential to the industrial development of a country because they providing replacement parts for almost every machinery that are used in agriculture, transportation, construction, water supply and sanitation facilities and so on. Hence, this will avoid long delay in obtaining them from the original manufacturer or from more industrialized neighbouring countries.

The small, primitive and poorly equipped light engineering industries making substandard products must be modernized to enable them to produce products of commercial quality that are acceptable in international markets. So, quality standards must be high and production facilities such as testing and control laboratory is a must in order to be competitive in the international market. Manager, engineers and technicians must be trained to use modern processes, equipment and the best practices in every step of production processes. Training on continuous improvement in engineering, technical knowledge and test and inspection shall be held regularly so as to provide them with the latest technology and innovation. Good management practices should be made under favourable atmosphere for the people to effectively and safely work. Arrange awareness programme on global markets and competitive Bangladeshi advantages who are working in agricultural related activities could be partners in exploring and carrying out interventions in this sector. Follow the best practices in other countries (i.e. India, Malaysia) in developing and improving skills of human resources in similar circumstance. High profile organizations need to be brought in to work culture needs strong coordination among them.

On the job training or apprenticeship short training for the fresh graduates. Selection of trainers and trainees is important in order to carry out fruitful training programs. Developing relevant and appropriate curriculum for training is very important Vocational training institutions should refresh and review their training targeting to improve capacity of the workers/technicians group. Regular short dialogue is required to find out the areas to improve the capacity. Coordination among laboratories and workshops. Training manual written in a simplified way in Bangla should be given to the trainees so that they can use these effectively and decentralizing the training programs should be carried out all over Bangladesh. Training needs to be participatory by contributing a portion of the fees but at the same time it needs to be sustainable to some extent. Training need assessment is required among entrepreneurs and their workers.

9.4.2 Agenda 4: Implementation Road Map (in order of implementation priority)

1. Training for improving technical skills of foundry and manufacturing

Manufacturing Industries /Agro machinery and Automobile spares

- ❑ Develop specialized technical training on metallurgical technology. Technical training should be provided to the machine shop personnel to improve the quality of their work. Formal training/courses on machining are available under technical and vocational education program

Implementation partners: SMEF, BUET & Other Universities & Institutions, BEIOA, BSCIC, BITAC, NPO, MAWTS etc.

- ❑ Develop specific programmes of training on LEIs machine technology (such as CNC,EDM, etc) Focus on 1st generation of machines and especially the finish of the products: Welding and how to make “nice” welding, drilling machines, bending machines, cutting machines, lathe machines, lock/punching machines. Know how to clean and prepare the equipment before painting. Carry out a first painting and second painting of the equipment to be exported. Introduce quality control and how to measure the quality. Export packing is also very important and how to fix box sizes in order to maximize the content in a container either a 20 ft or a 40 ft container. Trainings on machining allowances and tolerances and operation of CNC machinery such as lathe, milling and boring

Implementation partners: SMEF, BUET & Other Universitaires & Institutions, BEIOA, BSCIC, BITAC, MAWTS etc.

- ❑ Organize training on Mechanical design, CAD, CAM. The business support institutions (i.e. BITAC, BUET, etc.) could offer these training commercially. These institutions should have wide circulation among the entrepreneurs and re-design their course according to market demand.

Foundry

- ❑ Organize training on welding. Formal welding training/courses for technicians are available under technical and vocational education program.

- ❑ Implementation partners: SMEF, BSCIC, BUET & Other Universities & Institutions, BEIOA, BITAC, NPO, MAWTS etc.

- ❑ Develop training on pattern making, mechanical design, CAD, CAM

Implementation partners: SMEF, BSCIC, BITAC, BUET & Other Universities & Institutions, BEIOA, NPO, MAWTS etc.

- ❑ Develop trainings on practical technology of casting covering the product development and casting design, pattern making, standard practices in moulding process, standard practices in melting cast iron using cupola and induction furnaces and test inspection and counter measures of casting defects. SEDF has brought an expert from India to introduce upgraded technology and to set up induction furnaces in 2 foundries in Bogra on test basis.

Implementation partners: SMEF, BSCIC, BEIOA, BITAC, BUET & Other Universities & Institutions, NPO, MAWTS etc.

- ❑ Train the managers, engineers, skilled technicians on quality and technical knowledge of foundry technology on the regular basis covering both the practical as well as technical theory and methods

Implementation partners: SMEF, BSCIC, BITAC, BUET & Other Universities & Institutions, NPO, BEIOA, MAWTS etc.).

- ❑ Develop trainings and organize workshops for entrepreneurship development; strengthen entrepreneurs' motivation and business entrepreneurial culture

Implementation partners: SMEF, BUET & Other Universities & Institutions, BEIOA, BIM, BSCIC, etc.

2. Training for improving management and commercial skills of foundry and manufacturing

- ❑ Develop trainings on sales management, marketing and how to prepare and organize participation in international trade fairs, on distribution channels, on gathering and analyzing information related to products, market segments or competitors, and on how to target specific countries

Implementation partners: SMEF, FBCCI, DCCI, BUET, BEIOA, BIM, DU, BSCIC, etc.

- ❑ Develop trainings on accounting management. Find out which currency to use. How long the offer can be valid or make the contract terms subject to any currency fluctuation in order not to “loose” on the currency and any other issue related to payment and minimizing the commercial risk

Implementation partners: SMEF, BIM, BSCIC, BITAC, BUET & Other Universities & Institutions, BEIOA, etc.

- ❑ Develop trainings on logistics. Find out the best and most efficient way to transport the goods to the buyer, how to get the products to the harbour, where to make the packing into container – at the warehouse – or at a forwarding agents place. How to stow the container in order to avoid damage during transportation. What type of shipments to use and what packing is needed to prevent any transportation damage, what type of insurance?

Implementation partners: SMEF, BIM, BUET & Other Universities & Institutions, BEIOA, BSCIC, etc.

- ❑ Develop trainings on e-commerce (using the e for enterprises directly or through e-centres hosted in TSIs. Investigate whether the products are normally traded through these channels. Find out if the target buyers are end-users or importers or agents before selecting this way of trading

Implementation partners: SMEF, BIM, IEB, BSCIC, BITAC, BUET & Other Universities & Institutions, BEIOA, MAWTS etc.

- ❑ Trainings on export processing, finance, marketing and regulations Ask different bankers with experience in handling export document. What regulations do exist in the country and what regulations do the importing countries have

Implementation partners: SMEF, FBCCI, DCCI, BUET & Other Universities & Institutions, BSCIC, BEIOA, etc.

- ❑ Develop trainings for entrepreneurs on export processing and export financing mechanisms such as L/C matters Organize with export qualified and oriented bankers seminars training how to prepare required export documents in order to meet L/C and other requirements. This could be export invoice, packing list, certificate of origin, Bill of Lading, quality certificates etc

Implementation partners: SMEF, EPB, BPC, BUET & Other Universities & Institutions, BIM, BEIOA, FBCCI and DCCI, etc.

- ❑ Train Light Engineering stakeholders on communicative English. Organize special training in English for export managers and stakeholders in communications with potential customers. This is for writing and speaking.

Implementation partners: SMEF, BUET & Other Universities & Institutions local training institutes, BEIOA, etc.

- ❑ Train producers/exporters on how to approach banks, on how to manage credits and on how to develop a constructive relationship with banks and on import process

Implementation partners: SMEF, EPB, BPC, BUET & Other Universities & Institutions, BIM, BEIOA, FBCCI and DCCI, etc.

- ❑ Develop specific training programmes for foundries and factories on quality control and best practices. Prepare and have drawings of each and every part with reference numbers, which have to be manufactured before assembling the machine/equipment. Check the raw materials, measure all parts before start assembling/welding the machine/equipment. Measure the machine/equipment after assembling according to drawings. Check the cleaning of the machine/equipment before painting. Check the painting (thickness etc) Check the export packing

Implementation partners: SMEF, BSCIC, BUET & Other Universities & Institutions, BEIOA, BITAC, NPO, MAWTS etc.

3. Other Trainings and best practices

- ❑ Visit to other foundries especially outside Bangladesh to experience the best working practices in foundries producing cast iron with cupola or induction furnace. SEDF has already taken initiatives in this regard and has had sent a group of foundry owners to India for an extensive study tour in collaboration with pertinent associations from both the countries. Another group from BEIOA has been sent to China to visit the light engineering workshops and trading sector.

Implementation partners: Min. of Industry, Min. of Commerce, SMEF, BPC, SEDF, BUET & Other Universities & Institutions, BEIOA, NPO, etc.

- ❑ Organize regular group training courses in the scope of quality control and safety awareness

Implementation partners: SMEF, BSCIC, BUET & Other Universities & Institutions, IEB, BITAC, BEIOA, FBCCI, DCCI, etc.

- ❑ Train and arrange counseling desk in EPB, BPC, FBCCI and DCCI. Build the capacity of these organizations to offer specific services needed the sector stakeholders

Implementation partners: EPB, BPC, BEIOA, FBCCI and DCCI, etc.

- ❑ Build capacities by training the banks to assess credit requests for the sector to understand the sector preoccupations

Implementation partners: SMEF, BIM, EPB, BPC, BUET & Other Universities & Institutions, BEIOA, FBCCI and DCCI, etc.

- ❑ Make donor funds available (like the Danish DANIDA or EU) for training of students in technical schools, a forum for product development could also be created

Implementation partners: SMEF, SEDEF, DANIDA, CIDA, DFID, EPB, BPC, BUET & Other Universities & Institutions, BIM, BEIOA, FBCCI and DCCI, etc.

- ❑ Develop new entrepreneurship programmes especially from qualified graduates

Implementation partners: SMEF, BUET & Other Universities & Institutions, BIM, EPB, BPC, BEIOA, FBCCI and DCCI, etc.

9.4.3 Agenda 4: Anticipated outputs

1. The technical level of the employees is raising in different kind of technologies
2. Training programmes institutions are proposing to employees updated programmes and entrepreneurs supported by the government are developing a timetable allowing employees to attend to the training programmes
3. The entrepreneur's skills in sales, marketing, management and finance are at the level of the competitors
4. Trainings programmes institutions are training new entrepreneurs in the LEIs and also are updating their programmes for sustaining the skills level of the entrepreneurs
5. Private sector, R&D institutes and Universities are aligning their activities
6. The castings produced are of acceptable quality as required by international market.

9.5.1 Agenda 5: Adopting Advanced Marketing Technique.

To strengthen LEIs TSIs (Trade Support Institutions) with marketing tools and techniques in order to develop and make visible LEIs national products on the domestic and international markets.

This objective corresponds to facilitation of implementation of strategic marketing measures using advanced marketing techniques both for domestic and international markets. Establishment of display centers and proliferate international trade & export and to search for new markets. Market data is widely available but the sources are widely fragmented and data poorly disseminated. Modern technology that readily allows instant availability is not fully utilized. Skills in interpreting data are lacking. Light Engineering expertise and feedback from overseas clients and embassies in key countries is lacking

Information and communication flows to local and export markets needs to be strengthened through database creation of exporters and buyers of respective products, information dissemination through market bulletins and information exchange, and exporters and manufacturer meetings. Effective export marketing and promotion are increasingly dependent upon establishing a brand image either individually or collectively. Trading platforms are always a place where relevant information and potential opportunities could come up and make export a success and a reality.

9.5.2 Agenda 5: Implementation Road Map (in order of implementation priority)

Make the products visible in the domestic and international markets

- ❑ Establish a common export/marketing office/company
Implementation partners: Min. of Industries, Min. of Commerce, Min. of Finance, Donor agencies, EPB, SMEF, BPC, BEIOA, FBCCI and DCCI, Trade Bodies and Associations, Chambers, etc.
- ❑ Establish a brand image either individually or collectively. Trading platforms are always a place where relevant information and potential opportunities could come up and make export a success and a reality...
Implementation partners: Min. of Industries, Min. of Commerce, Min. of Finance, Donor agencies, EPB, SMEF, BPC, BEIOA, FBCCI and DCCI, Trade Bodies and Associations, Chambers, etc.
- ❑ Adopt advanced marketing technique with commensuration of economical status of the target market...
Implementation partners: Min. of Industries, Min. of Commerce, Min. of Finance, Donor agencies, EPB, SMEF, BPC, BEIOA, FBCCI and DCCI, Trade Bodies and Associations, Chambers, etc.
- ❑ Investigate the possibilities to be supplier to different European manufacturer – start in small scale and develop this in a way that the Bangladesh manufacturer can take over more and more and maybe end up with manufacturing complete machinery for European exporters. This has been practiced in many African countries and could also be adopted in Bangladesh.
Implementation partners: Min. of Industries, Min. of Commerce, Donor agencies, EPB, SMEF, BPC, BEIOA, FBCCI and DCCI, Trade Bodies, Professional Associations, Chambers, etc.
- ❑ Prepare better catalogues/ brochures in perfect English...
Implementation partners: EPB, NBR, SMEF, BUET & Other Universities & Institutions, BITAC, BPC, BEIOA, FBCCI and DCCI, Trade Bodies, Professional Associations, Chambers, etc.
- ❑ Organize and centralize through EPB the collection of products of small enterprises in order to show them at the international fairs as the small entrepreneurs do not have the capacity to attend those kind of international events to showcase their product
Implementation partners: Min. of Industries, Min. of Commerce, Min. of Finance, Donor agencies, EPB, SMEF, BPC, BEIOA, FBCCI and DCCI, Trade Bodies and Associations, Chambers, etc.
- ❑ Establish price preference for SMEs as practiced by India and other developing countries...
Implementation partners: Min. of Industries, Min. of Commerce, Min. of Finance, Donor agencies, EPB, SMEF, BPC, BEIOA, FBCCI and DCCI, Trade Bodies and Associations, Chambers, etc.
- ❑ Arrange for periodic permanent exhibition of locally produced non-electrical and electrical machinery in the country...

Implementation partners: Min. of Finance, Min. of Industries, Min. of Commerce, Bangladesh Bank, Commercial Banks, Financial organizations, EPB, NBR, SMEF, BPC, BEIOA, FBCCI and DCCI, Trade Bodies, Professional Associations, Chambers, etc.

- ❑ Ensure entrepreneurs participation in LE international trade fair

Implementation partners: Min. of Industries, Min. of Commerce, EPB, SMEF, BPC, FBCCI and DCCI, Trade Bodies, Professional Associations, Chambers, etc.

Access to market information and dissemination

- ❑ Develop an information flow network to disseminate market, prices and technical information...

Implementation partners: Min. of Industries, Min. of Commerce, Min. of Finance, Donor agencies, EPB, SMEF, BPC, BEIOA, FBCCI and DCCI, Trade Bodies and Associations, Chambers, etc.

- ❑ Strengthen commercial representatives in the embassies in order to “sell” the LE products

Implementation partners: Min. of Industries, Min. of Commerce, EPB, SMEF, BEIOA, FBCCI and DCCI, Trade Bodies, Professional Associations, Chambers, etc.

- ❑ Organize and structure Market data access. The sources are widely fragmented and data poorly disseminated. Modern technology that readily allows instant availability is not fully utilized. Skills in interpreting data are lacking. Light Engineering expertise and feedback from overseas clients and embassies in key countries is lacking

Implementation partners: Min. of Industries, Min. of Commerce, Min. of Finance, Donor agencies, EPB, SMEF, BPC, BEIOA, FBCCI and DCCI, Trade Bodies and Associations, Chambers, etc.

- ❑ Improve and strengthen flows of Information and communication to local and export markets through database creation of exporters and buyers of respective products, information dissemination through market bulletins and information exchange, and exporters and manufacturer meetings...

Implementation partners: Min. of Industries, Min. of Commerce, Min. of Finance, Donor agencies, EPB, SMEF, BPC, BEIOA, FBCCI and DCCI, Trade Bodies and Associations, Chambers, etc.).

Communication within the sector and with abroad

- ❑ Contact and collaborate with foreign trade organizations through local associations (e.g. BEIOA)

Implementation partners: EPB, Min. of Industries, Min. of Commerce, Min. of Finance, Donor agencies, EPB, SMEF, BPC, BEIOA, FBCCI and DCCI, Trade Bodies and Associations, Chambers, etc.

- ❑ Develop locally CNG 3 wheelers and BITAC can take initiatives to develop the local expertise; this technology can be brought from India in order to create an import substitute.

Implementation partners: BITAC, Min. of Industries, Min. of Commerce, Min. of Finance, Donor agencies, EPB, SMEF, BPC, BEIOA, FBCCI and DCCI, Trade Bodies and Associations, Chambers, etc.

- ☐ Arrange regular meetings between Buyers and producers

Implementation partners: EPB, Min. of Industries, Min. of Commerce, Min. of Finance, Donor agencies, EPB, SMEF, BPC, BEIOA, FBCCI and DCCI, Trade Bodies and Associations, Chambers, etc.

- ☐ Implementation partners: Ministry of Industries, Ministry of Commerce, and Ministry of Finance, Donor agencies. 99% of locally made products are meeting the domestic demand but the existing local demand is much higher which is being supplied partially by the imported products at this moment, JICA has taken a similar initiative with a step further where they have conducted an extensive study on the domestic market comparing supply and demand capacity of the local producers and buyers. The finding then was disseminated among the pertinent parties for match making between buyers and sellers. This initiative has been an excellent start to foster growth of import substitute products' market, which in return will complement the export market to grow as the production capacity will increase and quality will be improved in time.

Implementation partners: EPB, SMEF, BPC, BEIOA, FBCCI and DCCI, Trade Bodies and Associations, Chambers, etc.).

- ☐ Design website for LE products, General entrepreneurs do not know who could provide them this kind of specialized services, hence, a cell could be opened to offer these services to entrepreneurs...

Implementation partners: Min. of Industries, Min. of Commerce, Min. of Finance, Donor agencies, EPB, SMEF, BPC, BEIOA, FBCCI and DCCI, Trade Bodies and Associations, Chambers, etc.

9.5.3 Agenda 5: Anticipated outputs

1. Better world wide knowledge on Bangladeshi products
2. A New International Network is developed for Bangladeshi enterprises
3. TPOs (Trade Promotion Organizations) are strongly supporting the LEIs
4. Access to international market information and e-commerce centres are facilitating access to buyers

Annex -1: List of resource person at the validation workshop

SL	Name	Organization & Designation
1.	Syed Rezwanul Kabir	SME Foundation Royal Tower, 4 Panthapath, Kawran Bazar, Dhaka - 1215 Managing Director & CEO
2.	Mr. Md. Mujibur Rahman	SME Foundation Royal Tower, 4 Panthapath, Kawran Bazar, Dhaka - 1215 Deputy General Manager Policy Advocacy and Research Wing
3.	Mr. Mohammed Shahabuddin	National Board of Revenue (NBR) Former, Member Flat # 5C, House # 46 (Yasmine's Regency), Road # 10 A, Dhanmondi R/A, Dhaka-1209
4.	Prof. Dr. Md. Aminul Islam	Department of Materials and Metallurgical Engineering, Bangladesh University of Engineering & Technology, Dhaka-1000 Head of the Department
5.	Mr. A.K.M Rafiqul Islam	SME Cell, Ministry of Industries Government of Bangladesh Shilpa Bhaban, 91, Motijheel C.A, Dhaka-1000 Deputy Secretary
6.	Mr. A.K.M Farid Uddin Ahmed	Export Promotion Bureau (EPB) TCB Bhaban, 1, Kawran Bazar Dhaka-1215 Assistant Director
7.	Mr. Sukamal Sinha Choudhury	SME & Special Programmes Department, Bangladesh Bank, Motijheel C/A, Dhaka - 1000 General Manager
8.	Md.Mahbub-Ul-Alam	Bangladesh Textile Mills Corporation BTMC Bhaban, 7-9, Kawran Bazar, Dhaka-1215 General Manager (Technical)
9.	Eng. Md. Mahabubur Rahman	Technology Division, Bangladesh Small and Cottage Industries Corporation (BSCIC) 137-138 Motijheel C/A, Dhaka - 1000 General Manager
10.	Md. Abul Kashem Titu	Mafia Engineering 48/2 Hazi Dewan 2nd Lane Lalbag, Dhaka - 1211 Proprietor
11.	Dr. Ihsanul Karim	Bangladesh Industrial Technical Assistance Centre (BITAC) Tejgaon I/A, Dhaka-1208 Director
12.	Engr. Jalal Uddin	Bangladesh Industrial Technical Assistance Centre (BITAC) Tejgaon I/A, Dhaka-1208 Executive Engineer
13.	Mr. Masum Talukder	Bangladesh Engineering Shilpa Malik Samity, 38, Tipu Sultan Road, Dhaka Consultant

SL	Name	Organization & Designation
14.	Mr. Abu Monzoor Sayeef	SME Foundation Royal Tower, 4 Panthapath, Kawran Bazar, Dhaka - 1215 Program Manager
15.	Ms. Shabina Nahid Labib	SME Foundation Royal Tower, 4 Panthapath, Kawran Bazar, Dhaka - 1215 Program Manager
16.	Mr. Akhil Ranjan Tarafder	SME Foundation Royal Tower, 4 Panthapath, Kawran Bazar, Dhaka - 1215 Program Officer
17.	Mr. Md. Joynal Abdin	SME Foundation Royal Tower, 4 Panthapath, Kawran Bazar, Dhaka - 1215 Program Officer
18.	Mr. Mohammad Khaleduzzaman Talukder	SME Foundation Royal Tower, 4 Panthapath, Kawran Bazar, Dhaka - 1215 Program Officer

Opportunities and Challenges of “Agro-processing/agri-business/plantation agriculture/specialist farming/tissue-culture Sector” in Bangladesh

Professor Md. Moslem Ali*

Preface

Bangladesh is an agro-based developing country having large population, including large cheap workforce, favorable climate and suitable soil condition for the natural growth of wonderful varieties of great quantity of Agro products. Agro-processing is considered as the techno-economic process carried out or applied for conversion and handling of agro-produces to make it usable as food, feed, fiber, fertilizer etc. In this paper an attempt has been made in a simple manner to bring to focus the present scenario and status of food processing, fisheries, livestock including poultry industries falling under the SMEs, its evolution in the development process, opportunities and potentialities, constraints and weakness etc. This is followed by some split recommendation and strategic action plan for sustainable growth.

Introduction:

Agro-processing appears to be highly potential sector, can be considered as sunrise sector, for its attractive growth. But this is not yet significant against the potential, still unexplored and untapped. This sector can alone accommodate 25% of our un-employed, unskilled labor force and add valuable contribution in our economy, provided small and medium scale industrial enterprises of this sector are encouraged to grow in massive way throughout the country. These integrated efforts with its spontaneous growing power can make our beloved country a strong player both within and the outside Bangladesh in economic field. The strength of growth of this sector lies in addition to enhanced production, processing with diversification, product development, improved storage and transport system, high quality, shelf life, efficient post harvest management, protection from all types of hazards etc. through modern scientific knowledge and skill.

To enable to form comprehensive ideas on the agro-processing sector consisting of food including fruits and vegetable, fish, feed, dairy poultry & meat etc. in its present condition and status, sub-sector wise different figures or charts are given below:

1. Agro-processed Food

Bangladesh is predominantly an agriculture based developing country. It is very thickly populated; about 142.3 million people live in nearly 1, 47,570 sq. km. of land. Density of population is 943 per sq. km. Though the country is in a developing process it has encouraging economic growth rate of nearly 6.2. Major and single sectoral contribution to the total Gross Domestic Products (GDP) comes from agriculture, which is nearly 20.24%. This sector alone absorbs around 48.1% of the labor force.

Agro-Processing is closely related and dependant on agriculture. Agricultural crops are the main raw materials of agro-processed products. Increase or decrease of manufacturing, export and the price of the agro-processed products depend largely on the increase or decrease of the yield or production of agro-products, the raw materials.

* Advisor, Bangladesh Agro-Processors' Association (BAPA)

At present through the use of partially mechanized process for cultivation, comparatively improved seed, use of fertilizer and insecticides, irrigation system etc, it has been possible to make quite significant increase in the production. In addition, the policy of the present government to provide various types of facilities and incentives has greatly encouraged the farmers to make such positive contribution in the production which has resulted almost self-sufficiency in rice production against all other crops.

During 1998-99 and 2009-10 productions of main crops were 152432 & 171612 thou M. Tons, for vegetables 4264 and 10119 thou M. Tons, for important fruits 1402 and 3621 M.Tons and, for the production of condiments and spices 395 and 1350 M. Tons respectively.

It is evident that productions in different fields have been considerably increased along with the increase of population in last 12 years. But this is not indeed enough and matter of our complacence in the perspective of the survival of the vast number of people in Bangladesh in the coming years. Still now Bangladesh imports different kinds of food products from outside for consumption. The number of unemployed people both educated and uneducated is vast. The export of agricultural products and earning of foreign currency is not up to the expectation. Moreover according to the Vision 2021 to build Bangladesh, a middle income and technology based country, it will be necessary to reduce poverty level to 15% from present 45%, to supply standard nutritional food for 85% people and overall achievement of annual growth rate of 10% and for that we must keep on trying vigorously to increase the production of agricultural crops much more. This is possible to a great extent, through adoption of appropriate steps to override the existing constraints yet facing the growth process in the agro-sector.

Barriers/Constraints impeding accelerated growth of Agricultural products:

1. Absence of correct mechanism plan for the purchase/ collection of crops from the farmers on genuine price in time.
2. Inadequate storage facilities, collection center in rural areas during harvesting time.
3. Failing to supply far more improved seeds, pure fertilizer and pesticides by the relevant authority.
4. Inadequate fund for R & D for continuous improvement in the relevant areas/fields, viz. quality, quantity, product diversification, innovation, off-season variety, nutritional value, etc.
5. Insufficient training system to the farmers for proper harvesting, grading, storing, packaging, cool transport system etc. for their crops or products.
6. Lack of necessary awareness among the growers, dealers, processors, regarding SPS measures to maintain quality, shelf-lives of their products.
7. Lack of planning/ strict supervision for the balanced mode of cultivation to ensure the balanced need of the local consumers as well as the interest of the country.
8. Lack of easily available adequate modern equipments, machineries/ tools, irrigation facilities for massive cultivation and harvesting purpose of agricultural crops.
9. 1743000 acres fallow lands are still outside cultivation.
10. Loss of cultivable lands due to too much fragmentation.
11. Absence of farm insurance policy.

Production of agro-processed food products in last 5 Financial Years:

Growth in approximate production apparently retarded due to constraint in energy supply.

Financial Year (FY)	Tons	Growth over the previous year
2006-2007	95032	118.68 %
2007-2008	195632	77.20 %
2008-2009	243366	14.83 %
2009-2010	271072	13.87 %
2010-2011	295025	5.42 %

Source: Bangladesh Agro-Processors' Association (BAPA).

Exports: In the early years of this newly growing sector i.e. before 2000, the export of agro processed food products was limited and the earning was not worth mentioning. In 2001-02 it was nearly US\$ 21.56 million which grew up to US\$ 56.00 million in 2010-11, quite encouraging in view of the present cloudy world economic recession.

Export Earnings in last 5 Financial Years:

Financial Year (FY)	Million US\$	Growth over the previous year
2006-2007	22.94	118.68 %
2007-2008	40.65	77.20 %
2008-2009	46.68	14.83 %
2009-2010	53.68	14.99 %
2010-2011	56.00	4.32 %

Source: Export Promotion Bureau (EPB) and BAPA

Major Exported Agro-processed food Products: Juice, drinks, puffed rice, snacks, spices, chana-chur, biscuit, pickle, vermicelli, potato flakes/starch, jam-jelly, candy, mustard oil, flattened rice, snacks etc.

Major Agro-Food Exporting Companies: PRAN Group, IBCO Food Industries Ltd., Eurasia Food Processing (BD) Ltd., Square Consumer Products Ltd., Raj-Kamal Corporation, Bonoful & Co., BD Group, Aline Food Products Ltd. ACI Group, Haser Mohammed Automatic Rice Mills, Abul Khair Group, Prome Agro Food Products, etc.

Countries where Exported: Over 76 countries in 5 continents. Major Countries are : UAE, KSA, India, UK, USA, Bhutan, Malaysia, Kuwait, Singapore, Qatar, Somaliland, De Djibouti, Nepal, Angola, Bahrain, Australia, Guinea Bissau, Ghana, Senegal, South Africa, Canada, Jordan, Italy, etc.

Constraints related to issues of Agro-Processed Food Processing:

1. Lack of efficiencies of the officers/personnel engaged in SMEs for production, packaging, quality maintenance, shelf-life of the agro-processed products and export documentations.
2. Lack of adequate delicate and special type of policy for co-operation from Govt. like incentives, tax-VAT exemption to the SMEs favorable for their establishment of factories.
3. Lack of supply of modern machineries, tools, helpful for SMEs at relatively low cost to provide strengths to be competitive against adverse climate.
4. Easy non availability of fund for running business by the SMEs.
5. Lack of laboratory facilities for testing of processed products at low cost exclusively for SMEs.
6. Absence of automation process w.r.t. information, management and distribution particularly useful for SMEs.
7. Lack of continuous supply of electricity & gas.

8. Lack of modern packaging industries for agro-processed products.
9. Lack of specialized cold storages for raw materials of agro-processing industries, especially for fruits & vegetables.
10. Lack of strategic plan and committed business efforts with a view to explore new world markets for the products of the growing SMEs.
11. Absence of specialized multi disciplinary institute capable of solving various issues related to modern agro-processing techniques, quality control and export management, etc.
12. Lack of special allotment for R & D to address all genuine requirements related to issues in the agro-processing sector specially under SME category.
13. Lack of standard testing labs and equipments to issue necessary certificates to meet the international requirement for compliance.

2. Fish Sector

The fish and fisheries are integral part of the culture and heritage of Bangladesh. The sector plays a significant role in nutrition, employment generation, poverty alleviation and foreign exchange earnings. It contributes 4.07% to GDP and 4.90% to foreign exchange earnings through export. Fish provides 60% of national animal protein consumption.

Processing Plants: The Public Sector Corporation and the Private Organization have setup about 145 shore based export oriented fish processing plants and 931 fish hatcheries at Dhaka, Chittagong, Khulna, Jessor, Satkhira, Bagerhat, Cox's Bazar, Chandpur, Kishorganj, Sylhet, Patuakhali, etc. These plants produce Fresh Water Shell On (FWSO), Ser Water Shell On (SWSO), Peeled and Deveined (P & D), Peeled and Undeveined (PUD), Shrimp products in the most hygienic and sanitary condition under the supervision, control and guidance of foreign trained handling and processing experts. At all levels, USFDA registrations and directives of the European Communities concerning the production and exportation of frozen foods are strictly followed.

Fishery Resources: There are 4 categories of major fisheries resources, those are i) Inland open water ii) Inland closed water iii) Brackish water and iv) Marine Water

Inland Fisheries: In early sixties inland fisheries contributed about 90% of total fish production of the country. Now only about 41% of total fish production comes from inland open waters. There are 260 fish and 24 prawn species in inland fresh water in the country.

Marine Fisheries: The Bay of Bengal is situated in the South of Bangladesh. There is a total of 166,000 sq. km. water area including Exclusive Economic Zone (EEZ). Fishing is only confined within 100-meter depth. About 127 trawlers, 44,000 mechanized and non-mechanized boats are engaged in fishing. Pelagic and deep-sea resources are still untapped. There are 475 fish and 36 shrimp species in marine water in the country. About 12 exotic species are being uncultured in the country.

Fish Production

Average annual growth rate of fish production is around 5%. Inland open water is the major source of fish production in the country. But production from closed water bodies is increasing very sharply due to dissemination of adaptive technologies and effective extension services rendered by DoF. In the year 2008-09 total fish catch was 27.02 lakh metric ton (MT) in which only 5.15 lakh MT. was marine fish whereas, in 2002-03 total fish-catch was 19.98 lakh MT. of which marine 4.32 lakh MT.

The quantity of production of hatching from the hatcheries was 56354 kg during 2009.

Fresh Water Fish: Carps, Common Carps, Snake-Heads, Barbs Shad, Eel, Mullets etc. The large fishes are processed in whole headless, belly clean (IQF) state of sliced/fillets/steaks and small fishes and processed in whole block frozen state.

Sea Water Fish: Prompfrets, Jewfish, Indian Salmon, Shad, Caffish, Ribbonfish, Mullet, Tena, Mackerel, Cockup, Red Snapper ets. are processed in whole, headless, belly clean (IQF) state or sliced/fillets/steak in Block Frozen state.

Exports of fish products: Major export items of fish products are raw shrimp block frozen, IQF shrimps and white fish, PUD & P&D shrimp block frozen, consumer pack of raw frozen shrimp, dry, salted & dehydrated fish and a little quantity of value added shrimp products. In 2008-2009 and 2002-2003 frozen shrimp and fish was exported by 117.31 and 75.57 mill.lbs of which value was Mill.US\$ 454.53, Tk. 3127.16 crore and Mill.US\$ 321.81, Tk. 1863.27 crore respectively.

Importing Countries: Major importing countries are European Countries, USA and Japan. About 98% of the total export to those countries and rest South-East Asia & Middle East.

Constraints: Some constraints in fish sector are discussed below:

a. Constraints specific to fisheries: The weaknesses of the fisheries sector, in particular the Department of fisheries as: i) lack of sufficient technical capability in fisheries development planning; ii) lack of clear definition and assignment of functional responsibilities for fisheries extension and other support services; iii) complicated and time wasting administrative and financial control procedures; iv) lack of trained manpower; v) inadequate career planning and development.

b. Environmental Constraints: Investing in Bangladesh is relatively more risky when compared to the other neighboring countries. Such as risk and uncertainty are directly related to the annual occurrence of severe cyclones, monsoon rains and floods. **c. Institutional Constraints:** Institutional tension and rivalry observed between and among the various fisheries agencies in the country. As a result, sufficient quantities of fingerlings are not produced to meet the country's requirements for fingerlings. **d. Market Constraints:** The marketing channel and middleman chain is quite long. There are simply too many middlemen. So the price margin from the producer to the consumer is thus large.

The following constraints to be addressed to increase the marine production in a sustainable manner: i) lack of awareness about mariculture like cage culture; ii) lack of appropriate technology for mariculture which will be best fit for our country; iii) inadequate infrastructures in relation to information & communication, transportation, hatcheries for seeds, market, etc. iv) lack of skill human resources in this field; v) the areas for mariculture not yet effectively demarcated by the Govt.; vi) lack of finance to the sector.

3. Livestock

Livestock plays an important role in the national economy of Bangladesh with direct contribution of around 3% to GDP and providing 15% of total employment in the economy. About 75% people rely on livestock to some extent for their livelihood, which clearly indicates that the poverty reduction potential of the livestock sub-sector is high.

It is an established fact that high quantity animal protein in the form of milk, meat and eggs is extremely important for the proper physical and mental growth of human being. In our country around 8% of total protein for human consumption comes from livestock. Hides and skin of cattle, buffaloes, goats and sheep are valuable export items, ranked third in earnings after RMG and shrimp.

There are 506.52 lakh livestock in the country (2009-10). Despite highest cattle densities in the country, the current production of milk, meat and eggs are inadequate to meet the current requirement and the deficits are 85.9%, 77.4% and 73% respectively.

The PRSP stresses the importance of the livestock sub-sector in sustaining the acceleration of poverty reduction. The dynamic potential of this emerging sub-sector thus requires critical policy attention.

Dairy:

The consumption of milk and milk products in Bangladesh is very low even when compared to neighboring countries. The average daily consumption is 42 ml per day/person against a recommended allowance of 250 ml/day. Bangladesh would currently need to import or produce five times its current production if it is to meet the WHO recommend action for daily requirement. Thus there is a huge requirement.

Nature of Industry/Farm: The opportunity for development of large-scale dairy is limited in the country due to scarcity of land. So the potential for development of smallholder dairy is high. Over the last few years, small-scale dairy farming has increased significantly with the support of credit, feed, veterinary services and provision of self insurance system.

Traditionally the industry has been dominated by the Ghos community who collected milk from houses/farms and processed them into ghee, curds, sweets and other products. Liquid milk only had informal supply structure and in fact constituted a small portion of the total market. However with the development of the collective model of BMPCUL, the market for milk began to expand and surplus milk made its way to the cities as a processed package products.

Baghabari area, Sirajganj district was a traditional milk producing area. BMPCUL's brand name Milk Vita organized farmers in the Baghabari area into cooperatives and started collecting milk in the area. It set up a pasteurization plant. Milk Vita enjoyed a virtual monopoly for two decades before new entrants such as BRAC dairy, PRAN, RD, Vitalac dairy etc entered the market.

Production: 2.37 million tons Milk is produced in 2009-10 whereas in 2003-04 the quantity was 1.99 million tons.

Constraints: Dairy farming in Bangladesh is affected by myriads of constraints such as: i) limited knowledge and technical skills of smallholder dairy farmers; ii) scarcity of feeds and fodder; iii) poor quality of feeds; iv) frequent occurrence of diseases; v) limited coverage of veterinary services including poor diagnostic facilities; vi) lack of credit support; vii) limited milk collection and processing facilities and low prices at collection points; viii) lack of insurance coverage; ix) absence of market information; x) lack of appropriate breeds and xi) absence of regulatory body.

Poultry:

The needs of the growing population highlight the need for planned breeding of poultry birds to cope with the higher demand. In this context, planned breeding of poultry that started from the 1980s is now a well established field of activities in the country.

According to statistics available from operators in the sector, there are now about 8 grand parent stock farms, 130 parent stock farms and hatcheries, 100,000 commercial poultry farms and 2707.10 lakh poultry in the country. The sector is also poised to grow rapidly. The poultry industry is not only meeting local needs very substantially; it has also found newer opportunities from value addition. Food industries have grown up, based on chicken that produce soups, nuggets, sausages and other products in accordance with the changing preferences of the customers. Some of these local poultry-based and value-added products have found some export markets as well. The export trend looks otherwise encouraging.

But the faster and fuller realization of the potential of this sector also requires government's supportive measures. A great deal of resources was lost in this sector in recent years from avian influenza and the consequent culling of birds. One estimate says that some Tk 550 billion could have been lost, thus, in 2007. Specially, governmental supervision to create conditions for healthful

breeding of the birds in the farms, is crucial. Thus government has to conduct always extensive countrywide monitoring and preventive activities to detect cases of bird flu and offset any turn towards its break-out in epidemic form.

Over 1 million people involved in Bangladesh's poultry industry have lost their jobs due to outbreaks of avian influenza, according to the Bangladesh Poultry Farm Protection National Council. Last year, the country's poultry farmers supplied 25 million eggs and 1.7 million kilograms of chicken meat to the local market. The overall supply has gone down around 22%, though Govt began providing Tk 200 (US\$2.75) against each bird-flu affected chicken to minimize financial losses to farmers. Local poultry farmers are afraid of the production of eggs and meat may go down 50% as the recent decision of the Govt to reduce the compensation rate. This step may adversely affect 1.5 million people directly and indirectly involved in the sector losing their jobs.

Constraints:

The constraints facing the sector in general include : i) lack of infrastructure beyond the Upazila Head Quarters for providing services to poultry farmers; ii) shortage of skilled manpower; iii) shortage of quality chicks and breeding materials; iv) shortage of poultry, feed/feed ingredients and high prices; v) poor quality of inputs; vi) lack of quality control facilities for medicine, vaccines and biological products, feed and feed ingredients, chicks, eggs and birds; vii) drug and vaccine residues in poultry meat; viii) shortage of vaccines; ix) lack of organized marketing systems; x) poor provision of veterinary services; and xi) insufficient credit and capital specially for SMEs.

Meat:

Around 3.5 million cattle are slaughtered annually in the country of which 40% are imported through cross-boarder trade. Around 15 million goats are slaughtered annually mostly of local origin. Of the total slaughter of cattle and goats, around 40% is sacrificed on individual level during the holy Eid-ul-Azha, a great festival of the Muslims in the country.

Constraints:

Increased demand for quality meat, beef production has become an important income generating activity of small farmers and a potentially important tool for reducing poverty. Beef production is considered to have high income generating potential, but faces constraints such as lack of appropriate breeds, knowledge gaps of farmers, lack of proper veterinary services and quality feeds. Most meat is handled under unsatisfactory sanitary conditions in both rural and urban areas. There is generally poor pre-slaughter conditions, sanitation, and removal of waste materials and disposal of offal.

Meat Processing Industry:

There is only one private meat processing industry in the country named Bengal Meat processing industry Ltd. in Pabna. It is the only export oriented meat processing company in Bangladesh. The company provides fresh, hygienic and Halal meat. Bengal Meat is ISO 22000:2005, HACCP and Halal certified. It has been regularly exporting cattle and goat to Kuwait and Dubai with a high degree of success over the past few years. Bengal Meat is also a regular supplier of beef and mutton to five star hotels like the Westin, Radisson and Pan Pacific in Dhaka city. Production capacity is 20 tons of meat per eight hour shift. It has its own veterinarians present at the processing factory to carry out ante mortem and post mortem on the cattle and goat, hence ensuring a consistent and high quality of meat.

Production: 1.26 mill tons meat are produced in 2009-10 whereas in 2003-04 the quantity was 0.91 million tons.

4. Feeds and Fodder Management

The acute shortage of feeds and fodder is one of the single most important obstacles to livestock and fishery development in Bangladesh. It is needed per month around 1500 tons feed for poultry sector, 60000 tons for fishery sector, 2000 tons feed and fodder for cattle in the country.

Constraints:

The main constraints for feed and fodder management include: i) shortage of feeds and fodder; ii) scarcity of land for fodder production; iii) seasonal fluctuation in supply of feeds and fodder; iv) low quality feed; v) high feed prices and vi) poor husbandry practices.

Feed Resources:

Feed resources for large livestock are primarily deprived from crop residues and cereal by-products as well as grasses, tree leaves and aquatic plants. Very little grain is available for animals. Feed concentrates contribute only a small portion of the feed. Feed resources for scavenging rural poultry comprise scattered grains from threshing floors, left over grains, pulses, broken rice, kitchen wastes, green grasses, insects, worms, left over boiled rice, etc. Because of increasing demand for human food, land is intensively used for cereal production. Neither sufficient grazing land, nor space land is available for growing fodder.

Most of the dairy and poultry farmers are facing the problem of adulterated and inferior quality of commercial feeds and feed ingredients. Feed labeling and control is inadequate. There are around 70 feed millers in the country. Most of those millers do not disclose the necessary information on the packaging with regard to feed composition, ingredients, date of manufacturing, date of expiry, storage guidelines, energy level, and protein and vitamin contents.

Financial Express cited the case of maize, which is the basic raw material for making chicken feed. It needs to be imported. The industry importers have requested for fiscal incentives to facilitate cost-effective import of maize and other feeds. There are other raw materials and medicines which need importing for the poultry industry and its importers also expect the government to opt for some worthwhile fiscal concessions in this connection.

5. Tea Processing

The Bangladesh Tea Industry is one of the major sources of income for the national exchequer. Tea is one of the most important non-alcoholic beverage drinks worldwide and has been gaining further popularity as an important 'health drink' in view of its purported medicinal value. World tea production has been showing an annual increment of 3% while in Bangladesh the production has increased by 1.84% and contributes 1.37% in export in the world tea trade.

Tea Products:

Tea (*Camellia sinensis* L.) belongs to the family Theaceae. The economic importance of the genus *Camellia* is primarily due to use as tea. Tea was initially used as a medicine and subsequently as beverage and now has proven well to be a future potential as an important raw material for the pharmaceutical industry. Tea is mainly consumed in the form of 'fermented tea' or 'black tea'. However, 'non-fermented' or 'green tea' and 'semi-fermented' or 'oolong tea' are also popular in some countries e.g. Japan and China. Apart from being used as beverage, green leaves are also used as vegetable such as 'leppet tea' in Burma and 'meing tea' in Thailand.

Production:

Bangladesh is producing more than 60 million kg. of tea annually from about 55000 hectares of land. It can earn foreign exchange equivalent to about 390.87 million taka annually by exporting 2283 ton of tea. Tea cultivation in Bangladesh is spread over the hilly zones on the eastern part mainly in four

districts, Sylhet, Moulvibazar, Habiganj and Chittagong. Recently tea is cultivated in the northern district, Panchagar. The prospect seems to be quite bright. There are 116 tea factories for processing tea products in Bangladesh and about 1 lakh workers are engaged in those factories.

Constraints:

The tea industry is facing a multitude of problems: i) lack of capital and modern machinery; ii) lower market value of made tea in comparison to increasing production cost; iii) lower yield per hectare in comparison to increasing domestic need; iv) lack of modern techniques for measuring quality of tea; v) lack of perennial water source for irrigation during dry season or during prolonged drought; vi) lack of medical facilities for labor and lack of infrastructure.

In Bangladesh, there is thus dire need to focus attention on improvements in the tea manufacturing sector covering quality of tea, its productivity, and cost of production as well as the marketing system.

Co-operation from Govt. and other Organizations: Considering the potentialities of Agro-processing sector, Govt. has treated it as one of the Thrust Sectors. Govt. and other agencies have been providing different kinds of facilities to the agro-sector. The facilities worth-mentioning are:

- a) Introduction of cash incentive/ subsidy against the export of agro-processed products.
- b) Facilities like GSP, SAFTA, CO, etc. are also enjoyed by the exporters of agro-processed products.
- c) Tax exemption at the time of establishment of the industries for processing of locally produced fruits and vegetables.
- d) Reduced rate of tax on the import of machineries for agro-processing plants.
- e) Tax-bond and duty draw-back facilities are provided for the raw materials used in the export purposes.
- f) VAT exemption is granted on fresh fruits, vegetables, grains, liquid milk, etc. produced in the country.
- g) VAT exempted in the production level of the packaged products like liquid milk, ghee, butter, rice, flour, shoji, bread, mustard oil, etc.
- h) VAT free at the import level of the products like lentil, peas, onion, garlic, dry chilies, turmeric, etc.
- i) FBCCI, EPB, APBPC, ILO, SMEF etc. are cooperating with this sector in capacity building on various fields.

Opportunities /Strengths of agro-processing:

1. Scope for the growth of raw materials in plenty.
2. Cheap labor force.
3. Social acceptability of agro-processing as an important area and the continuous support from the government for further growth.
4. Vast domestic market.
5. Competitive production price and the popularity of Bangladeshi processed products in the expanding ethnic and other markets all over the world.

Threats:

1. Competition from global players.
2. Flight of trained manpower to other industries and other professions due to better working conditions and facilities prevailing there.
3. Rapid developments of our contemporary other industries and its latest requirements may lead to fast obsolescence.
4. Frequent spread of diseases in epidemic form in poultry sub-sector.
5. Uncontrolled use of antibiotic and feed in the fishery sub-sector.

Plan and Strategy:

From the consideration of providing balanced food, constituting starch, vegetable and fruits, protein (from fish, meat, milk etc.) for ensuring necessary caloric and nutrition to our people, particularly the children and for creating foreign market of processed food items, the following points should be kept in mind to build up 'Objectives' to serve the SMEs interest, exclusively needed for its growth and sustenance.

Objectives:

1. Massive establishment of processing industries all over the country.
2. Minimize product losses.
3. Add maximum value.
4. Achieve high quality standards.
5. Keep processing cost low and sustain competitiveness.
6. Ensuring fair share of added value to the producer keeping in mind the interest of growers as well.

Recommending Ways to address the constraints for favorable growth of SMEs in Agro-processing sector:

To execute the well designed and adopted plan, the following steps deemed to be taken for the accelerated growth of SMES.

1. Need based training for the stake-holders/ officers/ employees/ workers for capacity building through skill development.
2. For the sake of fast and extensive development of agro-processing sector, 100% rebate on taxes in the factories and comprehensively reduced tax and VAT in different cases should be considered.
3. To ensure easy mechanism of financial support to agro-processing enterprises under SME category for procurement of machineries, tools, running business for fast growth of SMEs.
4. To determine the quality and level of the processed products and earn confidence of the consumers, services of testing labs should be cheaply and widely made available.
5. The services of existing testing labs (BSTI, BCSIR and the Like) should be made of international level and must possess accreditation from the international agencies for ensuring our food safety.

6. A central information centre should be established to provide online necessary information regarding products, marketing, quality and safety, diseases, preventives, export, etc. according to specific requirements of the SMEs.
7. For continuity in the production process, uninterrupted supply of energy must be ensured, if necessary through seeking joint efforts.
8. Multi-purpose modern packaging industries for better shelf-life and attraction with necessary information for all types of consumers should be established.
9. The agro-processing factories/farms, not in production, should be brought under operation.
10. Agro-processing industrial zone or parks for SMEs should be established where raw materials like fruits, spices and vegetables are grown in plenty. For that all infra-structure including quickest transport system and uninterrupted facilities should be provided to make those centers as the hubs of vigorous relevant activities.
11. Adequate facilities and incentives/ subsidies to the agro-processing stake-holders under SME category for all sub-sectors should be continued for the next 10 years to promote the growth in agro-processing sector.
12. The old and classical methods still in use in a great number by SMEs in the agro-processing sector should be replaced by modern scientific methods.
13. To develop appropriate technologies for mariculture, most suitable for our country considering its climate, market and social condition.
14. Adequate and effective measures to be adopted to check and prevent diseases from spreading in the epidemic form for livestock. Necessary drugs and training should be instantly available.
15. To improve the quality of our livestock, a properly funded and monitored cross breeding program as well as selective breeding program is essential to create climatized breeds that will produce optimally in our environment.
16. A dairy/poultry development board should be formed to promote the production and consumption of dairy/poultry.
17. Establishment of small but model type of enterprises engaged in the production of milk, poultry, meat, fish, fodder and feed should be encouraged and implemented all around the country to meet extreme protein deficiency and for rural employment.
18. Govt. should try seriously and take effective steps to remove different types of tariff and non-tariff barriers created or imposed by the unfriendly agencies in case of export & import.
19. Local and foreign fair should be arranged to give exposure of SME's products through sincere and strategic plans prepared jointly by the govt. agencies and related SMEF.
20. Establishment of specialized cold storage for raw materials and processed products.
21. Sub-sector wise well-developed Research Institute for the agro-processing sector (livestock, fish, food, feed, etc.) could be established to carry out research for creative and promotional activities in various aspects and continue strengthening.
22. To establish a multi-disciplinary institute for recipe development, innovation of the products, patent making, practical training for different courses for the people of SMEs and for supervising the activities of agro-processed products and for dissipation of knowledge amongst the SMEs.

Conclusion:

Despite all constraints and weaknesses agro and agro-processing sector has proved to be the only path of panacea for the whole nation today by supplying no. one basic need, the food and also earning valuable foreign currency through export, market of which is really expanding. We must not forget the fate of jute sector which was the no. one source of our national earning. After its set back, garments sector had a striking progress but again, this is also looking pale in the stage of world trade today. So parallel to garment sector, all out efforts with sincere commitments, the concerned authorities should get into action plan of implementation, not just in stereo type way but with strong determination as conditions and climates are really favorable for our loving agro-based nation.

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Annex -1: List of resource person at the validation workshop

SL	Name	Organization & Designation
1.	Syed Rezwanul Kabir	SME Foundation Royal Tower, 4 Panthapath, Kawran Bazar, Dhaka - 1215 Managing Director & CEO
2.	Mr. Md. Mujibur Rahman	SME Foundation Royal Tower, 4 Panthapath, Kawran Bazar, Dhaka - 1215 Deputy General Manager, Policy Advocacy and Research Wing
3.	Mr. Raju Ahmed	R M P Manufacturer (Pvt) Ltd. 50, Shiddeswary Circular Road (1st Floor), Dhaka-1217 Managing Director General Secretary, Bangladesh Agro Processor's Association (BAPA)
4.	Mr. Mohammed Shahabuddin	National Board of Revenue (NBR) Former, Member Flat # 5C, House # 46 (Yasmine's Regency), Road # 10 A, Dhanmondi R/A, Dhaka-1209
5.	Dr. Sultan Ahmed	Bangladesh Agricultural Research Council, Farmgate, Dhaka - 1215 Chief Scientific Officer (Ag. Engg.)
6.	Mr. A.K.M Rafiqul Islam	SME Cell, Ministry of Industry Government of Bangladesh Shilpa Bhaban, 91, Motijheel C.A, Dhaka-1000 Deputy Secretary
7.	Mr. S.M. Mohsin Hossain	SME & Special Programs Department Bangladesh Bank, Motijheel C/A Dhaka - 1000 Joint Director
8.	Mr. Mohammad Ali	Ahz Agro-Ind(Pvt) Ltd House #34, Road # 27 Old, 16 New, Dhaka-1209 Head of Operations
9.	Lt. Col. (Rtd.) Chowdhury Farid Ahmed	Prome Agro Food Industries Limited 46 Abdullahpur, Uttara, Dhaka - 1230 Executive Director
10.	Mr. Md Khairul Anam	Globe Soft Drinks Limited House # 251/(New), Road# 13/A(New), Dhanmondi R/A, Dhaka-1209 Director, Sales & Marketing
11.	Mr. Md. Abdur Rouf	Export Promotion Bureau TCB Bhaban, 1 Kawran Bazar Dhaka - 1215 Deputy Director

SL	Name	Organization & Designation
12.	Mr. Debashis Sinha	Danish Foods Ltd Shanta Western Tower Level-13, Bir Uttam Mir Shawkat Eoad, 186 Tejgaon I/A, Dhaka-1208 Manager, Export
13.	Mr. Md. Taibur Rahman	Bangladesh Agro Processors' Association (BAPA), House # 15, Road # 16 (New), 27 (Old), Dhanmondi, Dhaka-1207 Secretary
14.	Mr. Md Iqtadul Hoque	M/s. Ahmed & Co. Kapasias Bazar, Kapasia, Gazipur Proprietor
15.	Dr. Barun Kanti Saha	Institute of Food Science and Technology (IFST), BCSIR, Dhaka Principal Scientific Officer
16.	Mr. Mostafa Kamal	Raj-Kamal Ever Best Corporation 1077, Malibag Chowdhury Para, Dhaka Managing Director
17.	Mr. Sheikh Shafiqul Alam	Eurasia Food Processing (Bd) Limited, Gouripur, Ashulia, Savar, Dhaka. General Manager
18.	Mr. Abu Monzoor Sayeef	SME Foundation Royal Tower, 4 Panthapath, Kawran Bazar, Dhaka - 1215 Program Manager
19.	Mr. Akhil Ranjan Tarafder	SME Foundation Royal Tower, 4 Panthapath, Kawran Bazar, Dhaka - 1215 Program Officer
20.	Mr. Md. Joyntal Abdin	SME Foundation Royal Tower, 4 Panthapath, Kawran Bazar, Dhaka - 1215 Program Officer

Opportunities and Challenges of “Leather Making and Leather goods Sector” in Bangladesh

Mohammed Abdul Maleque*

Preamble

Bangladesh has adopted an export-led growth strategy for its economic development, and has witnessed an average expansion of 6% per annum over the last few years. With a population of 160 million, it is essential for the country to maintain sustained export-growth to accelerate development and gradually alleviate poverty. The leather, footwear and leather goods sector has been a contributor to the country’s export growth, and is currently the fourth largest export-revenue earning sector.

Leather Sector: The contribution of the sector is currently US\$ 700 million (estimated). The following table represents the trend of Bangladesh Leather Sector for recent years including the target of 2009-2010. But following the revival from the global downturn, Bangladesh Leather Sector regained its previous status within one year. The recent growth of footwear and leathergoods sector made a huge significance over the export of leather products. It is estimated that current year’s export of leather and leather products would cross 700.00 Million \$.

Table: 1: Bangladesh Export Statistics.

Sub-sectors	2006-07		2007-08		2008-09		2009-10		2010-11 (6 Months-upto Dec. 2010)	
	Value	%	Value	%	Value	%	Value	%	Value	%
Leather	266.08	64.4	284.41	61.5	177.32	46.5	226.10	49.2	128.72	43.0
Leathergoods	11.03	2.7	8.87	1.9	16.89	49.1	29.06	6.3	25.34	8.5
Footwear	135.94	32.9	169.60	36.6	186.93	4.4	204.09	44.5	145.01	48.5
Total	413.05		462.88		381.14		459.25		299.07	
Variation %	+ 14.78		+12.06		-17.66		+20.49		+30.24^{aj}	

Source: Bangladesh Export Promotion Bureau

The main destination of Leather from Bangladesh is Hong Kong, China, Japan, Vietnam, Italy, Germany etc. But important fact is that, a huge quantity of leather and leather merchandise exported to Hong Kong, which are re-exported to Europe and North America. The buying agency of top brands buy leather from Bangladesh through Hong Kong.. Leather exported to China, Vietnam and Italy are used to manufacture finished product (shoes and leathergoods) for re-export.

Footwear: In spite of the global downturn, the footwear sub-sector of Bangladesh have managed to maintain its trend of development and earned revenues around USD 186 million in 2008-09, which is around 10% more than the previous year. The growth continued for the year 2009-10. So within 5

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years export of footwear from Bangladesh became more than double. The EU is the biggest destination for footwear exports with a 60% share, followed by Japan with 30%, and the rest of the world accounting for 10%.

Meeting with representatives of the footwear sub-sector highlighted their thought and sentiment about the business in general. The businesses view their products as price and quality competitive. Footwear manufacturers in the country rate themselves as being able to respond quickly to buyer inquiries, possessing the ability to offer competitive prices, quality products, and prompt fulfilment of orders. Furthermore, the advantage of tax exemption is an important element to import from Bangladesh.

The main destinations of Bangladesh Footwear export are Japan, Italy, Spain, USA, Germany, Fiji Island, UK Middle East etc. Italy and Japan has some joint venture production plant in Bangladesh and recently a Korean Company is setting up a huge plant in Chittagong EPZ.

Leathergoods: The leather goods sub-sector in Bangladesh earned export revenues of USD 29.06 million during 2009-10. Which is almost double than the previous year. Over the past three years, the substantial growth of export of Bangladesh leathergoods indicates a huge potential in this sub sector. This sub-sector displays diversity in enterprise dynamics that is unique, in that it encompasses enterprises that are well-set in product development and manufacturing processes, as well as those that are smaller (mostly SMEs) and still trying to define their competitive competencies. Although limited in number, enterprises of this sector are trying their best to expand their market in EU, as an effect they participated in MIPEL 2008 Fair in September and intend to continue the participation in the year to come with the help of EPB or donor agencies.

The main destination of Bangladeshi Leathergoods are Germany, Australia, Italy, UK and other European countries.

There are three large business association which are active while some other small association (mostly cooperative society) are in operation for their mutual benefits.

BFLLEA

There is a well founded and strong association in Leather Industries called “Bangladesh Finished Leather & Leather goods & Footwear Exporters Associations” (BFLLEA) which operates with over 80 members (reportedly) in this Association. Most of the members do carry on export business of Crust/Finished leather while some of them are also simultaneously engaged in the production of footwear and leather goods (ladies bags etc) in addition to their regular leather business. Some time trading is done under different name (s) as well. Both the associations (BFLLEA & BTA) are situated in Hazaribagh, Dhaka.

Members of BFLLEA are fairly large tanneries. Two associations (BFLLEA, BTA) are directly associated with BSCIC authority, Ministry of industries, in respect to shifting process (Hazaribagh Tanneries) to a new location i.e. leather village at Savar, Dhaka where a CETP (Central Effluent Treatment Plant) is planned to be set-up and installed. It is estimated that the shifting process will take place within next 3 years (2012-2014). This is a big issue related to environmental aspect as a whole. There are pressure from EU and other world community in maintaining environment friendly working condition in the arena of leather industries at large.

BTA

In a recent interview (2010) with Secretary General of Bangladesh Tanners’ Association (BTA), Dhaka, the following information were available. BTA was established as far back as in 1958 and registered in 1964. There are two categories of Members in BTA. Those who own a tannery, are regular members and those who are connected with leather business, are associate members.

Total number of enrolled numbers of BTA is ± 150. Out of these 150, 20-25 units are reported to be

fairly large. 70-80 units are considered to be of medium size. 50 units are learnt to belong to small groups.

60-70 tannery owners are engaged in the export business of leather (Crust & Finished). Some how or other, some overlapping in the membership process between BTA & BFLLEA, is inevitable / unavoidable.

Larger units of BTA are engaged in the production of Crust and partly in Finished leather and they export almost the whole output. A very small percentage of the output (say 3-5%) is estimated to be sold in local market. This output mostly relates to left-over, drop-outs of finished leather from export and specifically finished buffalo & cow leather for leather sandal slippers production in general and partly leather insole and sole (pit tanning). However, a good part of this local sale relates to MATHALI (skin of Head of cows/buffalo/and even goat and sheep, and some part is from TENGRI (local word), the skin from knee to hoof.

Many of the medium size tanneries do not have required machinery and equipment for production of Crust/Finished leather. However, they do go for “job work” in other mechanized tannery and finally export crust/finished leather and/or sell it partly in local market. Small tanneries are mostly engaged in “job work” assigned by other traders in leather business. The output is wet-blue and in specific cases it is “wet-white” as well in limited scale. They are also forward linker to larger tanneries producing crust and finished leather.

LFMEAB

There is also a relatively new association called “Leather goods & Footwear Manufacturers Exporters Association of Bangladesh” (LFMEAB). It is learnt that there are about 60 members in the association. About 30 units are operative and engaged in export trade. Most of them are footwear industries. There are about 5-6 units of leather goods which are sizable and in regular operation having export business in appreciable quality and value. Some of the units also export leather goods made of “Ostrich bird” leather - a very high value merchandise.

Other Associations in Leather Sub-Sector

In addition to the said three important and prominent associations in the whole leather trade (leather processing, production of footwear and leather goods etc); there are some other associations such as Bangla Craft, Handi Crafts association, Paduka Samity (Association of Shoes mostly dealing with PVC, Rubber/EVA based footwear) and many similar trade associations. A few members of Bangla Craft, Handi Craft associations are learnt to be engaged in producing leather goods, footwear (Handi Crafts type such as Kolapuri Chaplis etc) and they export sizable output of their production. But, in general, these associations are not so much related to footwear and leather goods like BFLLEA, BTA, LFMEAB. In other words, we can safely count on these three associations in leather sector although quite a number of relatively small manufacturers and exporters are not enrolled in any of these three association (perhaps, in view of higher amount of fees for enrollment etc.).

Challenges and opportunities in leather sector of Bangladesh

1. Leather processing industry (tannery operation) as illustrated in the flow chart falls into the following principal stages of production
 - 2.1.1. Raw hide to wet blue (or wet white)
 - 2.1.2. Wet blue (or wet white) to crust leather
 - 2.1.3. Crust leather to finished leather.
 - 2.1.4. Use of Finished leather for production of footwear and leather goods.
2. Primary challenge in the whole business of hides and skin is related to:

- 2.2. Flaying of hides
- 2.3. Preservation process of hides and skins.
- 2.4. Tanning technology (further upgrading for production of finished leather)
 - 2.4.1.1.1. Flaying of hides (mostly cow & buffalo) is still a cumbersome process. Of course, flaying of goat skin and sheep skin is much simpler and therefore flay cuts are almost absent. Because of absence of abattoir / mechanized (or semi-mechanized) slaughterhouse, flay cuts obviously became inevitable.
- 3.1. ITC Geneva through its project did carry out some work on this area and a few semi-mechanized flaying frame (static Flaying Frame-SFF) was installed. It requires a big support from City Corporation. Without this, this program can't be put into full fledged practice. This system has been in good practice in Nicaragua & some other African Countries. The illustration and some photograph is annexed as Annex - 2.
- 3.2 Through ITC Geneva's project it was very well circulated to the leather industries through newsletter etc. Physical demonstration was also made.
- 4.0 Throughout this project a two day workshop was organized under the auspices of DCCI and the following subjects were covered:
 - Quality control vis a vis step by step process in Tannery Operation (Raw hides to finished leather)
 - Tannery Management with special emphasis on costing
 - General Global Overview of leather trade.

An estimate shows that hides and skin with flay cuts amounts to significant retardation in value to the tune of 20-25%. Big animals (some cow and buffalo) are subjected to relatively more flay cuts.

From the above description, it is evident that primary challenge remains i) Correct Flaying of hides, ii) Appropriate preservation of hides. If this issue could be meaningfully addressed (through a well integrated abattoir and mechanized flaying), a value addition of 15-20% would be in place.

5. The next challenge is related to inadequate use of technological development with regard to finishing process of leather which is estimated to cover 20-25% value addition as compared to crust output.

Currently (as of 2011) about 70-75% output in leather industry is related to crust and the rest 25-30% in the finished leather. In crust full veg, full chrome, semi chrome, veg re-tan etc are the main product line.

Customers are mostly from Europe (particularly Italy). Sale price (as of today) varies in between US\$ 1.5 to US \$ 2.00 per sft. (some study from Hazaribagh). In Finished full aniline, semi aniline, corrected grain, printed & dry milled are some of the major product lines. Export price varies in between US \$ 1.80 to US \$ 2.75 per sft. (study from Hazaribagh).

It is a known fact that tannery operation is mainly existent in Hazaribagh, Dhaka. In Chittagong, there are a few tanneries are in regular operation.

From the above statement it is clear that a long way to be traversed for production of finished leather which will yield in more value addition to the tune of 20-25% as compared to Crust leather and thus it is a challenge.

6. Summarily, we can state that expertise in terms of skilled technologies is a greatly felt need. It requires a great deal of practical training in the finishing process. Particularly Germany, Italy, UK, etc. do offer programme to leather technologists to get themselves acquainted with the practical process, techniques, methodology etc. in the finishing process.

Unfortunately, the entrepreneurs are not so serious about developing HR strength in the finishing process to be introduced in their leather industry. Moreover a sizable cost for the training is involved. But, we all forget an important principle “Training is expensive, but no training is more expensive”

7. Compliance Issue

Promote Cleaner Technology,

Avoid using Banned Amine (Azo dye)

Use of environment friendly chemicals

Effluent Treatment (BOD / COD or TOC)

8. Opportunities

Because of fine texture & uniform grain pattern, cow leather & goat skin are well known around the world.

Unfortunately, in view of insufficient output in the finished leather the opportunity of more value added merchandise (value chain) remains unveiled of.

In order to reach the stage of at least 80% finished leather, it necessitates to rapidly introducing the finishing technology. Prior to that, the cluster of saturated tannery operation needs to be shifted to a location (Savar, Dhaka) which has been a much talked about issue. Moreover there are legal bindings as well (order from the High court). The question of CETP (Central Effluent Treatment Plant) has to be resolved. It is learnt that it is in progress. However it is estimated that it would take at least 3 more years (until 2014) to settle the process of shifting & re-installation of tannery machinery of plant. Meanwhile, leather technologists to be trained abroad for the finishing process of leather operation.

9. Value Addition

The next question comes, more value addition in the form of production of footwear and leathergoods. The following comprehensive chart is useful to take a glimpse at the whole evaluation process.

Comparative Chart: Finished Leather vis a vis Crust Leather.

Product Line	Value for Crust	Value for Finished	Value for Shoes / pair	Difference	Remarks
Full Aniline	-	US \$ 2.50 / sft	2 ½ sft = 6.25 \$	\$ 1.05 / sft	High Grade Leather
Semi Aniline	-	US \$ 2.00 / sft	2 ½ sft = 5.00 \$	\$ 1.00 / sft	
Corrected Grain	-	US \$ 1.85 / sft	2 ½ sft = 4.65 \$	\$ 0.85 / sft	For Sandal Slipper
Buffalo Leather (CG)	-	US \$ 1.50 / sft	2 ½ sft = 3.00 \$	\$ 0.50 / sft	For Sandal Slipper
Crust – White / Beige	\$1.45–1.55/sft	-	-	-	-
Crust – lining	\$ 1.00 / sft	-	-	-	-
Glazed Kid	-	US \$ 2.50 / sft	3 ½ sft = 8.75 \$		Moccasin Shoes
Normal Kid	-	US \$ 2.00 / sft	3 ½ sft = 7.00 \$		Other dressed shoes.
Veg. Tanned Leather Insole (Cow / Buffalo)	-	US \$ 2.00/KG	-	-	For Sandal / Slipper of higher value (MIDEAST)

10. With the pace of industrialization process in footwear & leathersgoods sub sector, the above configuration of more value addition, is a straight answer toward increase of export growth. The chart below shows the progressive increase in export performance of footwear & leathersgoods sub sector.

Sub-sectors	2006-07		2007-08		2008-09		2009-10		2010-11 (6 Months-upto Dec. 2010)	
	Value	%	Value	%	Value	%	Value	%	Value	%
Leather	266.08	64.4	284.41	61.5	177.32	46.5	226.10	49.2	128.72	43.0
Leathersgoods	11.03	2.7	8.87	1.9	16.89	49.1	29.06	6.3	25.34	8.5
Footwear	135.94	32.9	169.60	36.6	186.93	4.4	204.09	44.5	145.01	48.5
Total	413.05		462.88		381.14		459.25		299.07	
Variation %	+ 14.78		+12.06		-17.66		+20.49		+30.24 ^{al}	

Source: Bangladesh Export Promotion Bureau

The challenges being faced in footwear sub-sector are as follows.

- Fierce competition in footwear market with China, Vietnam & India.
- Almost no access to accessories items (adhesive, shoe last, buckles, rivets and other sundry materials).
- Insufficient skilled designing staff and skills required to develop “shoeline” (Which is a lifeline of a footwear industry)
- Inadequate supply of skilled operators for specific operations such as “lasting” lasted shoe roughing, upper & bottom cutting, derby / oxford vamping operator etc.
- Upgrade management system (such as corporate affairs, financial management etc.) through continued training programme.
- Establish standard costing system (which is ideal for shoe industry).
- Compliance issue.
- Market research and market promotion.

11. SME in Leather Sector of Bangladesh

Whilst huge concentration of SMEs of leather sub sector are available in the old part of Dhaka city, (partly Hazaribagh, Ganakuly, Siddique Bazar and Agamasi Lane) a relatively large cluster is situated in Bhairab, Kishorganj. There are many other workshops of SME (Small and Micro Enterprises) working with leather scatteredly situated more or less throughout the country. Altogether, it is estimated that ± 10,000 workshops are learnt to be in operation around the country amongst which 3000 are in Bhairab. Products of these SMEs are primarily footwear, leathersgoods (bags wallets etc and some other articles of leather merchandise.

Most of these SMEs use synthetic materials for their products, while some products are made of lower grade leather like “mathali” (headskin), “tengri” (leg skin: skin from knee to hoof) etc. Very few of these products are made of regular leather. Most of the SME entrepreneurs operate their business locally and they face untold sufferings as far as payments are concerned. This business is channelized through wholesale outlets..

12. Present Scenario.

Number of clusters of SME in leather sector around the country are largely situated in Dhaka, Bhairab, Satkhira, Chittagong and Brahmanbaria. As a sample case the recent short study on Bhairab reveals some interesting findings. In Bhairab, about 3000 SME workshops are situated. All of these workshops are dealing with footwear production. Almost all workshops are mostly manual (lasting process is done by hand). Around 25,000 people are working in these workshops but the female employment is almost absent. They do not sell their product directly. They sell it to the wholesaler, who then distribute the product in local market around the country.

Beside having this type of engagement in meeting local footwear demand, they do not get any assistance from either Government or NGO. This cluster is surviving with their own enthusiasm. With some technical assistance, many of them would be eligible for export. Technical Expertise could be commissioned to render assistance for some periodical programme with respect to shoe line development & improving manufacturing process.

13. Assistance Needed.

13.1 CFC

As these enterprises do a very important part of their production process by hand, they are unable to maintain the desired quality to attract the customer in the export market and eventually they can't reach export business. To get rid of this problem they have to introduce mechanized lasting process, mechanized cutting & skiving, embossing etc. in limited scale to start with.

A common facility centre (CFC) can definitely solve their problem in a great scale. In a CFC they could have their workmen trained in various operation of footwear manufacturing such as: Cutting, Skiving, Sewing, Assembly line operation etc.

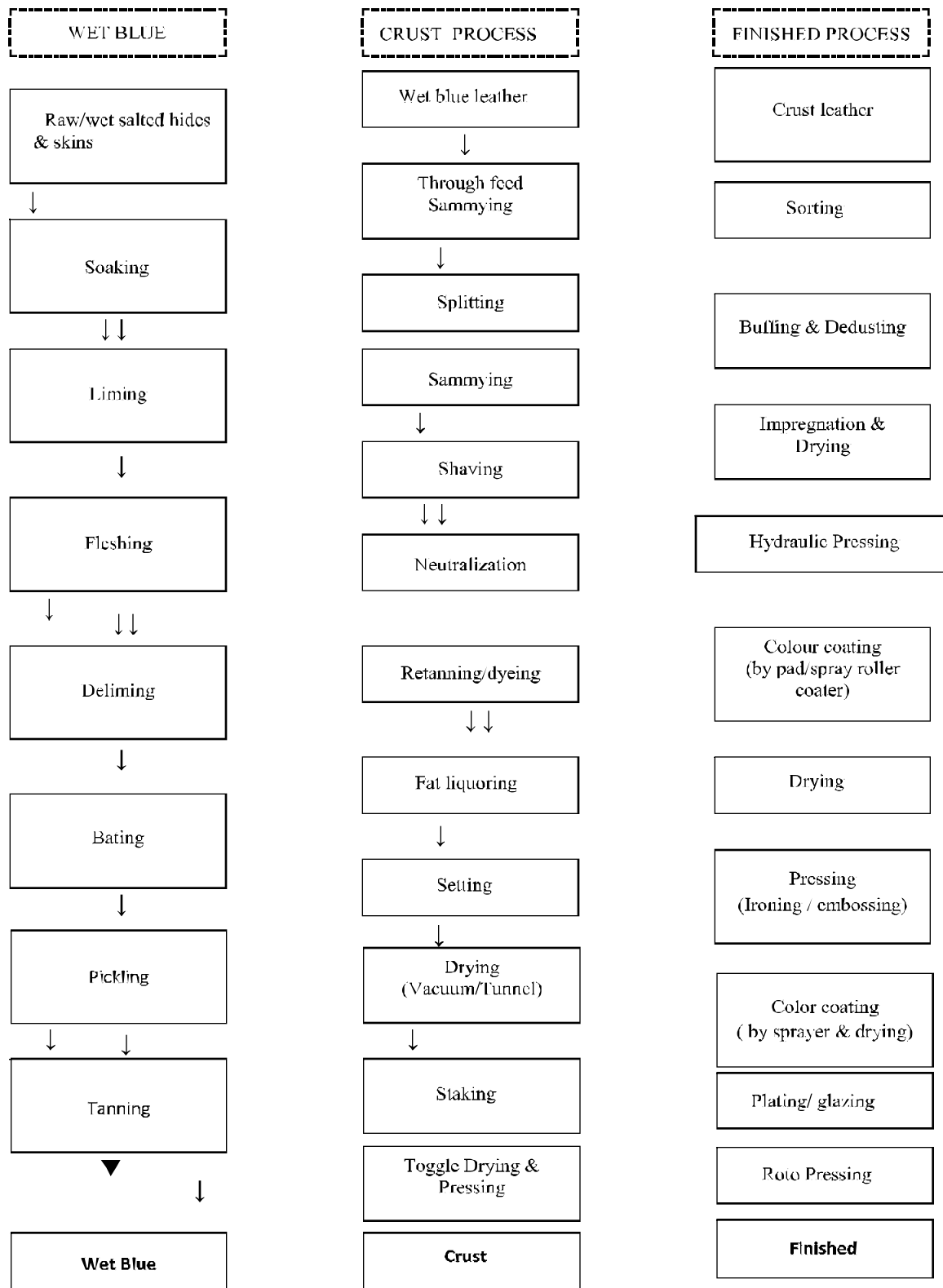
A Common Facility Centre could be established somewhere in Bhairab (around the area of the cluster), to assist the large cluster in developing their product (shoeline) in terms of quality and quantity. SME Foundation can set up a Common Facility Centre (CFC) in cooperation with the local business community and assist them to operate the same (CFC) for (say) 5 years. In the mean time the ownership of the centre could be transferred to the local business community. A comprehensive list of machinery including estimated cost and an Organizational structure to operate the CFC is illustrated as annex.

13.2 Financial Assistance

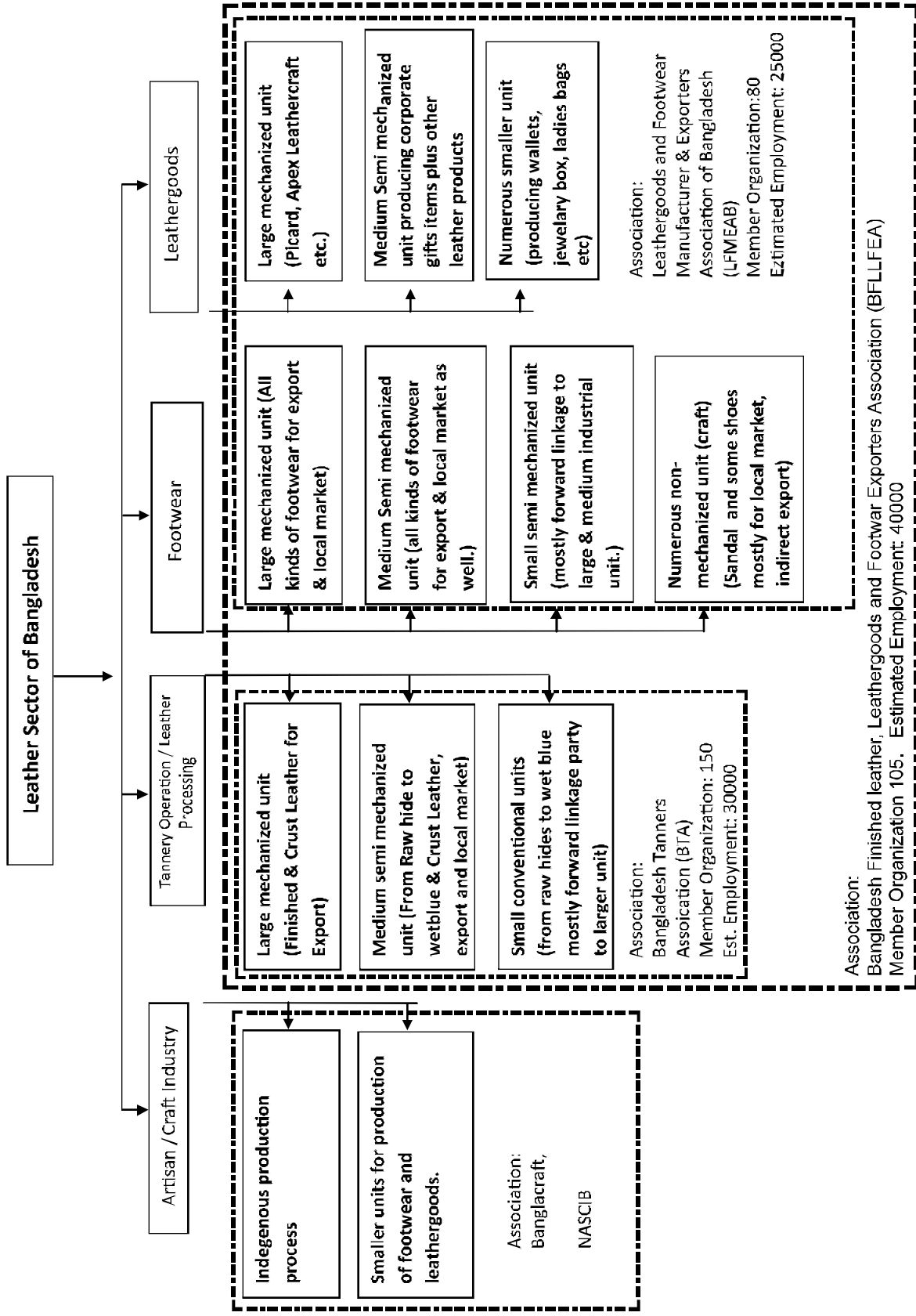
Apart from this CFC another important aspect is finance. These small enterprises are working with very low capital and in most of the cases, cost of the capital is high. As they can't get financial assistance from formal sources, they have to depend on local sources.

A financial scheme could be a great help for these enterprises. Perhaps a short study could be done in a sample area and identify 25-30 enterprises, to start with a pilot project. A small amount of collateral free loan (say Tk. 3-4 lakh each) could be given to the sample group (pilot project).

Re: An Abridged Operational Set-Up for leather processing.



Note: Special process (avoiding use of basic chromium sulphate) using say alum tannage etc is followed for obtaining “Wet –white” leather. As and when necessary (required by customer), dry milling to be done in the finishing process.

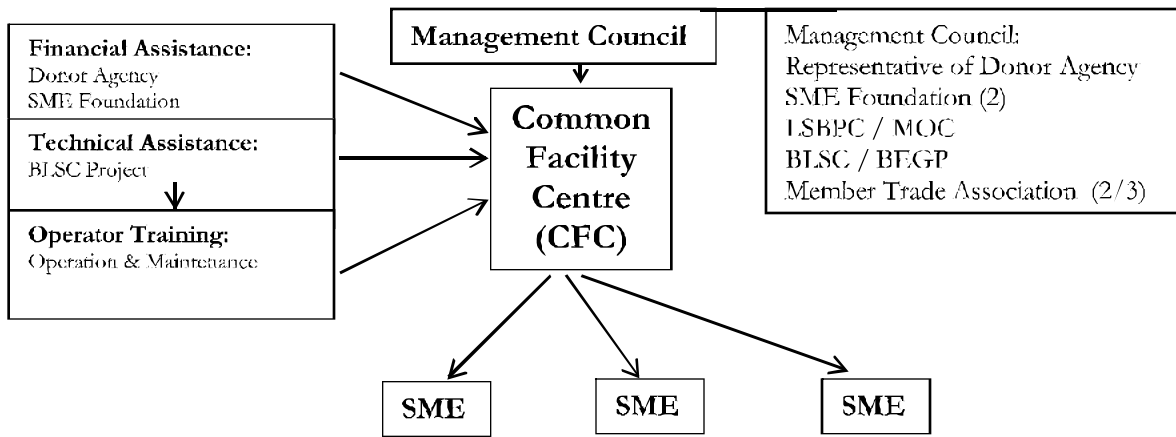


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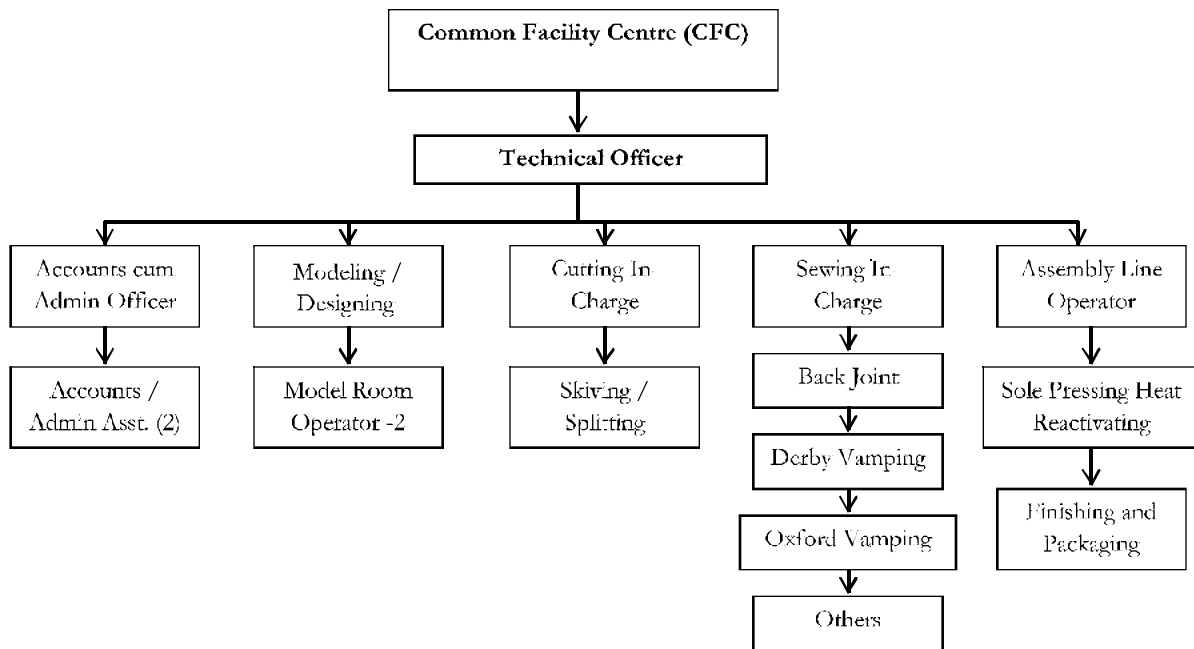
Re: CFC (Common Facility Centre) at JASS Leather, Piety, Demra, Dhaka

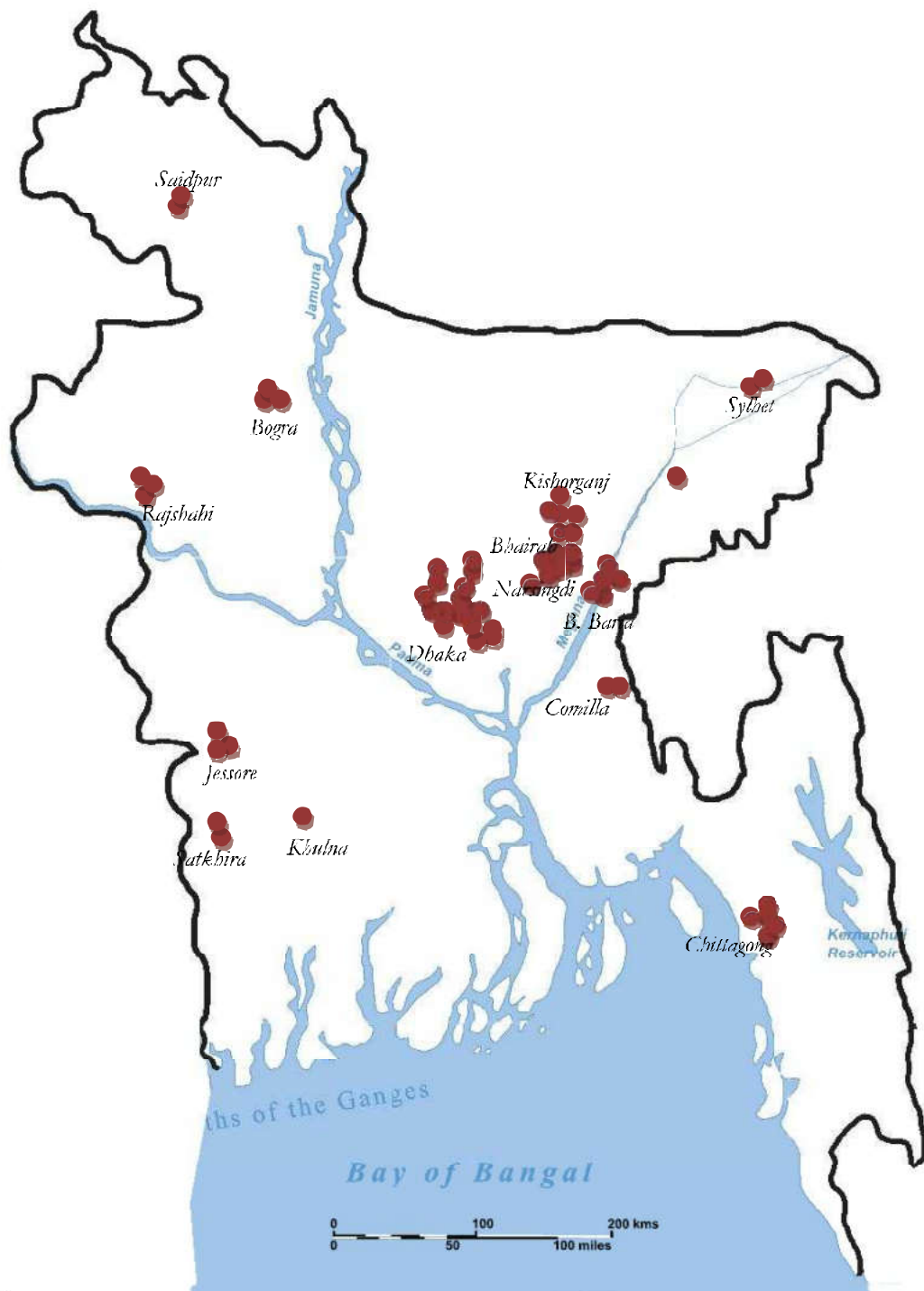
SL. NO.	TEXT OF MACHINERY & EQUIPMENT	QUANTITY	ESTIMATED VALUE IN USD	REMARKS
01	Upper Cutting machine Swing Arm Cutting press (Hydraulic)	02	--	Existing
02	Traveling Head Bottom Cutting press	01	10000	From Taiwan
03	Leather (upper) Splitting with 3 extra Band Knife	01	15000	„ (Existing !!)
04	Leather (Bottom) Splitting	01	8000	Italy
05	Skiving machine (with 6 pcs Bell Knives)	01	4000	Taiwan/(Existing!!)
06	Heavy duty Skiving	01	5000	„
07	Lining Stamping (WSK or similar)	01	6000	„
08	Single Needle Flat Bed Darkop-Adler Or PFAFF	02	12000	CZECK
09	Single Needle Post bed (PFAFF 491) Or Darkop-Adler	02	15000	CZECK or China
10	Post bed double Needle	02	16000	„
11	Leather Insole Splitting	01	7000	Italy
12	Leather Insole Embossing (with dies)	01	9000	Italy
13	Leather Insole Boring with 500 pcs. P-3 extra belt, 10pcs. Base Plates	02	10000	„
14	Heat Reactivation	01	3000	Italy or Taiwan
15	Sole Press (Hydraulic)	01	7000	Taiwan
16	Sole Edge Trimming with Dust Collector	01	5000	Taiwan or Italy
17	Heel Scouring with Dust Collector	02	5000	„
18	Trimming Knife, Scouring Wheels and other Tools	Lump sum	10000	Italy
19	Spray booth (water curtain)	02	8000	Taiwan or Italy
20	Quality Checking Table	01	500	Local
21	Trays / Trolley	Lump sum	2000	„
22	Air Compressor 10 HP		10000	Italy or Taiwan
23	50 KW Electric load Main Switch (MEM or UK)		3000	Local
24	SATRA SEW SYSTEM (For Training)			
25	SATRA SUMM (For Training)		15000	UK
26	Shoe lasts etc	100 Pairs	1000	
27	Diesel Generator (50 KVA)	1 Set	10000 GBP	
Total : 206,000,- (Say TK 17.00 million)				

Organizational Structure



Organogram of CFC





Annex -1: List of resource person at the validation workshop

SL	Name	Organization & Designation
1.	Syed Rezwanul Kabir	SME Foundation Royal Tower, 4 Panthapath, Kawran Bazar, Dhaka - 1215 Managing Director & CEO
2.	Mr. Md. Mujibur Rahman	SME Foundation Royal Tower, 4 Panthapath, Kawran Bazar, Dhaka - 1215 Deputy General Manager Policy Advocacy and Research Wing
3.	Mr. Mohammed Shahabuddin	National Board of Revenue (NBR) Former, Member Flat # 5C, House # 46 (Yasmine's Regency), Road # 10 A, Dhanmondi R/A, Dhaka-1209
4.	Mr. Mamunur Rahman	SME Foundation Royal Tower, 4 Panthapath, Kawran Bazar, Dhaka - 1215 Assistant General Manager
5.	Mr. A.K.M Rafiqul Islam	SME Cell, Ministry of Industries, Government of Bangladesh Shilpa Bhaban, 91, Motijheel C.A, Dhaka-1000 Deputy Secretary
6.	Mr. Md. Ibrahim Husain	Oasis International 4/1 C Hare Street, Wari, Dhaka - 1203 Proprietor
7.	Mr. Mohammad Abul Bashar	Banglo # 3, Leather College Teacher's Quarter Hazaribagh, Dhaka - 1209 Consultant ISO 9001, 14001, 17025 Accreditation & Leather Specialist
8.	Mr. Md. Ashrafal Alam	SME & Special Programs Department Bangladesh Bank, Motijheel C/A, Dhaka - 1000 Joint Director
9.	Mr. Rumel Parvez	Raisa Enterprise 135 Hazaribagh Road (1st Floor) Dhaka - 1209, Bangladesh Proprietor
10.	Mr. Md. Shoyeb Ahmed	Deya Leather 112/B/5, Hazaribagh Road, Hazaribagh, Dhaka - 1209 Manager
11.	Mr. Sultan Mahmud	Deya Leather 112/B/5, Hazaribagh Road, Hazaribagh, Dhaka - 1209 Proprietor
12.	Mr. K.M. Anisur Rahman Khan	Leather Sector Business Promotion Council, Ban Silpa Bhaban (8th Floor), 73 Motijheel C/A, Dhaka - 1000 Assistant Executive Officer
13.	Mr. Serajul Islam	Crown Leather Products Limited 179 East Kafrul (Near Madina Colony), Dhaka Cantonment Managing Director

SL	Name	Organization & Designation
14.	Engr. Md. Shahidul Hoque	Aurora 10/1, Block - A, Iqbal Road Mohammadpur, Dhaka - 1207 Managing Partner
15.	Mr. Mohammad Abu Sadeque, PEng.	Bangladesh Small and Cottage Industries Corporation(BSCIC) 137-138, Motijheel Commercial Area, Dhaka-1000. Director (Project)
16.	Mr. Nandan Kumar Banik	Office of the Chief Controller of Imports & Exports, 111-113, Motijheel C/A, Dhaka-1000 Sr. Asstt, Controller
17.	Mrs. Ferdous Ara Begum	Dhaka Chamber of Commerce and Industry, 65-66, Motijheel C/A, Dhaka Additional Secretary (Research)
18.	Dr. Md. Nazrul Islam	National Productivity Organisation (NPO), Ministry of Industries, 91, Motijheel C/A, Dhaka-1000. Director
19.	Mr. Mir Moniruzzaman	Leathergoods & Footwear Manufacturers & Exporters Association of Bangladesh, Erectors House,18, Kemal Ataturk Avenue, (9th Floor), Banani C/A,Dhaka-1213 Executive Director
20.	Mr. Md. Saidul Islam	Bangladesh Standards & Testing Institution (BSTI), Maan Bhaban 116/A, Tejgaon Industrial Area, Dhaka-1208 Deputy Director
21.	Mr. Rasul Ahmed	Islamia Tannery 65 Hazaribagh, Dhaka Proprietor
22.	Mr. Zayedul Amin Khan	Bangladesh Leather Service Center Ko-111/1 South Badda Gulshan, Dhaka - 1212 Ex. Technical Officer & Training Coordinator
23.	Mr. Gopal Krishna Saha	Bangladesh College of Leather Technology, 44-50 Hazaribagh, Dhaka-1209 Lecturer
24.	Mr. Sobur Ahmed	Bangladesh College of Leather Technology, 44-50 Hazaribagh, Dhaka-1209 Assistant Professor -Tech.

SL	Name	Organization & Designation
25.	Mr. Fahim Bin Asmat	SME Foundation Royal Tower, 4 Parthapath, Kawran Bazar, Dhaka - 1215 Program Officer
26.	Mr. Abu Monzoor Sayeef	SME Foundation Royal Tower, 4 Parthapath, Kawran Bazar, Dhaka - 1215 Program Manager
27.	Mr. Akhil Ranjan Tarafder	SME Foundation Royal Tower, 4 Parthapath, Kawran Bazar, Dhaka - 1215 Program Officer
28.	Mr. Md. Joynal Abdin	SME Foundation Royal Tower, 4 Parthapath, Kawran Bazar, Dhaka - 1215 Program Officer
29.	Mr. Mohammad Khaleduzzaman Talukder	SME Foundation Royal Tower, 4 Parthapath, Kawran Bazar, Dhaka - 1215 Program Officer

Opportunities and Challenges of “Designer, Aesthetically-Challenging, Personal Wear and Effects Sector” in Bangladesh

Prof. Dr. Md Mahbubul Haque*

Designer, Aesthetically-Challenging, Personal Wear and Effects Sector comprise one of the largest groups of SME business sector. There are various types products can be considered within this sector, however for simplifying overall reporting the sector has been divided into three sub-sectors e.g. 1. Handloom Sub Sector, 2. Boutiques Sub Sector and 3. Handicrafts Sub Sector. The three sub sectors have been discussed further details in below.

1. Handloom Sub sector

1.1 INTRODUCTION

Handloom sector is one of prime employment generating sector that involves a large number of rural, unskilled and uneducated people. Bangladeshi handlooms had a glorious history but in the recent years the handloom sector is gradually becoming a sick sector. The recent reports suggest that the weaver's are gradually even changing their profession though there are a lot of advantages of handlooms.

Some Key features of this sector

- No electrical energy is required in handlooms (No power except manpower)
- 100% Locally made machines and accessories.
- One of the highest employment generating sectors where rural and uneducated women can also work with equal efficiency.
- Most of the handloom products are relatively cheaper.
- Environmental friendly
- Huge export opportunity where there are very few competitors like India & Sri Lanka.
- Some handlooms are better than shuttleless looms for weaving fabrics with very fine, poor quality and weak yarns.
- If fossil oil generated energy crisis prevails in future, the electricity cost will go up then handloom sector will expand and may dominate power generated textile sector.

According to an estimate, the total demand for domestic fabrics in the country is about 1,676 million meters. Out of this demand, 63 per cent or 800 million meters are produced by the local handloom operators. Ordinary clothes worn or used by people such as saris, lungis, gamchas, etc., are mainly produced by handlooms. High quality fabrics used for making suit, trousers, shirts cannot be produced in Handlooms. According to the latest report there are more than 5, 05,556 handlooms in the country. Nearly 9, 00,000 (Nine lacs) people are directly or indirectly related to the handloom sector. It may be mentioned that most of these people are very poor and find difficult to earn their livelihood by other means. It is important to foster this vital sector for two reasons e.g. (i) to secure

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and increase the huge job market for the poor people at mass level and (ii) to arrange cheap fabric for large number of poor people. Apart from domestic consumption, there is very good prospect of exporting handloom fabrics. Therefore Bangladesh can explore further to increase export of handloom products as there are very few competitors in this sector. It was gathered from various sources that Bangladesh is earning more than 100 crore through exporting Handloom products particularly Zamdani sarees. Handloom related web sites suggests that India is exporting more than 2,700 crore Rs worth handloom products every year.

Govt. has established Bangladesh Handloom Board (BHB) in January 1978 to safeguard the interests of the marginal weavers. The main objectives of the board are as follows; (source: BHB website)

- Development, promotion and extension of handloom sector.
- Creation of backward and forward linkages for the textile sector.
- Employment generation and alleviation of poverty.
- Boost up export of handloom products.
- Improve standard of living of the handloom weavers.

The BHB achieve its objectives through performing the following jobs; (source: BHB website)

- (a) Undertake survey, census and planning or rational growth of hand loom industry;
- (b) Maintain statistics relating to handloom industry
- (c) Conduct enquiries and investigations relating to handloom industry;
- (d) Promote handloom industry primarily with the help of the primary secondary and apex weavers co-operative societies;
- (e) Render promotional and advisory services to units of handloom industry;
- (f) Arrange credit facilities for handloom industry weavers at reasonable price, primarily through weavers co-operatives;
- (h) Make arrangement for supply of consumables like dyes, chemicals, spares and accessories to the weavers primarily through weavers' co-operatives;
- (i) Make arrangement for marketing at home and abroad primarily through weavers' co-operatives of articles manufactured by handloom industry.
- (j) Undertake and organize publicity and propaganda for the popularization of handloom products both at home and abroad;
- (k) Make arrangement for maintenance of depot through weavers' co-operatives for the supply of raw materials to, and purchase of finished products from handloom industries and also for maintenance of common facilities for design, yarn preparation, bleaching, dyeing, calendaring, printing and finishing;
- (l) Render promotional and extension facilities for standardization for domestic and export sales of handloom products and grant certificate of quality and of the country of origin,
- (m) Provide training facilities and promote
- (n) Prepare and implement common facility schemes
- (o) Collect fees;

- (p) Float subsidiary companies; and
- (q) Do such other acts and things as may be necessary or conducive to be done for smooth operation and rational growth of handloom industry.

BHB operates its activities from Head office at Karwan Bazar Dhaka and several sub centers and offices located at different handloom concentrated areas of the country.

1.2 Types of Handloom Products and places of production (Source BHB website)

Sl.	Name of the Products	Place of Production
1	Jamdani	Rupgonj and Sonargaon of Narayangonj district.
2	Benarasi	Mirpur of Dhaka, Iswardi of Pabna district and Gangachara of Rangpur district.
3	Tangail Sharee (Cotton sharee, Half Silk, Soft Silk, Cotton Jamdani, Gas-mercerized twisted cotton sharee, Dangoo sharee, Balucheri)	Tangail Sadar, Delduar and Kalihati, Nagarpur, Basail of Tangail District.
4	Handloom Cotton share	Shahjadpur, Belkuchi and Sadar of Sirajgonj district, Narsingdi and Pabna districts.
5	Lungi	Ruhitpur of Keranigonj and Dohar of Dhaka district, Shahjadpur, Ullapara, Belkuchi, Sadar of Sirajgonj district, Kumarkhali of Kushtia district, Sathia
6	Silk share	Sadar and Shibgonj of Chapai Nawabgonj and Rajshahi district.
7	Gamcha	Ullapara, Kamarkhand of Sirajgonj, Gouranadi of Barisal, Fultola, Doulatpur of Khulna, Jhalokathi, Jessore and Bogra districts.
8	Check Fabrics	Belkuchi of Sirajgonj district.
9	Mosquito Nets	Araihazar and Rupgonj of Narayangonj district, Shibpur and Sadar of Narsingdi district.
10	Bed Sheet & Bed Cover	Kumarkhali of Kustia district, Danga of Narsingdi district.
11	Sofa Cover	Danga of Narsingdi district.
12	Rakhine Special Wear(Wooling Shirting, Woolen Bed Sheet, ladies chadar, Bag, Lungi and Thami for tribal ladies)	Taltoli of Borguna district, Kalapara, Rangabali of Patuakhali district and Cox's Bazar district.
13	Tribal Fashion Wear (Thami for tribal ladies, Khati(Orna), Ladies Chadar & Lungi.	Rangamati, Khagrachari & Bandarban Hill districts.
14	Miniouri Fashion Garments (Monipuri Sharee, Punek for ladies like lungi, Lungi, Un-stitched cloth (three pieces), Innachi(Orna) & Vanity Bag	Sylhet and Moulivibazar districts.

1.3 CONSTRAINTS IN BANGLADESHI HANDLOOM SECTOR

Though Govt. is doing its best through BIIB but still handloom sector has been suffering from lot of problems some of which are discussed here.

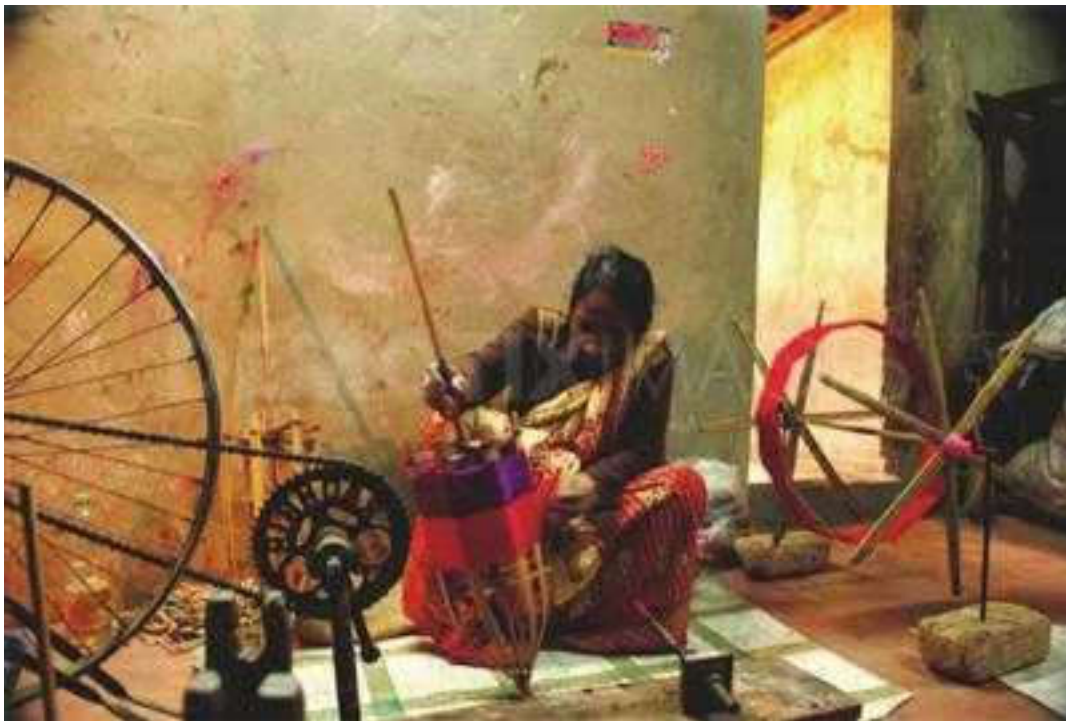
1.3.1 The socio economic condition of the weavers. Though the handloom cloth production and their business are small but maximum weavers find it difficult to maintain that business. It is very widely known that the disbursement of handloom loan was always in question. It was reported that the loan is not always distributed among proper and poor weavers. As a result majority of the weavers work as laborer for Mohajon weavers, who is actually owner of the factory having certain number of handlooms.

1.3.2 Product variety- Most of the handloom products are traditional e.g. lungi, gamcha, sarees etc. and some similar category product. There is very little change in design or products variety. Studies show that handloom weavers cannot compete with products that can be produced in power looms at high speed. Therefore handloom weavers should concentrate on products that are difficult to produce in power looms. For example Jamdani effect of jamdani sarees cannot be produced in the power looms.

1.3.3 Technical know how- This is also a very important element that lack our weavers seriously. As the weavers buy yarns therefore yarn manufacturing skill is not required for the weavers but the quality of yarn is very important factor for producing quality fabric. Though baby runs various programs on handlooms but it is not sure whether the actual weavers are benefited or not.

1.3.3.1 Raw materials: Raw material is one of the key drawbacks of our hand loom sector. If the weaver do not get right raw material then they will not be able to manufacture quality product provided all the other factors are alright. We have lacking in providing yarns to the weaver. Lot of yarns are imported from countries like China and India.

1.3.3.2 Warping is called the barometer of the weaving process. It is widely believed that warping cannot improve the weaving process but it can deteriorate the process if not carried out properly. Excessive variation of single yarn tension both within the same end and between ends is quite unacceptable. The existing warping process has shortcomings that have significant effect on the production and quality of handloom fabrics.



1.3.3.3 Sizing is called the heart of weaving. The weavers know very little about this process. Over the years there was lot of technological advancement in this area of textile process. Our weavers probably know very little about it. If the size material is not applied properly then the production efficiency of the loom drastically deteriorates. Sizing is so sensitive that little change of application parameters may result in big change in performance in the loom. Some of the important aspects of this process are correct preparation of the size mix and maintaining appropriate processing condition. The sizing parameters depends on the count, type of fabric that will be produced, construction i.e. the

design of the corresponding fabric, the raw material (cotton or cot. polyester mix) etc. Our weavers know very little about most of the parameters, they also know very little about the quantity of the size materials. It is not always the case that they are applying less sizing materials it may even be the case that they are applying more. It was observed in many cases that the objectives of sizing become totally useless. In that case the money and time spend for sizing will be a total loss.

In many cases handloom weavers do not use any size materials but this should not be the case for fine warp yarns. By undertaking study it will be possible to say what type of fabric will require how much size materials.

1.3.3.4 Dyeing -The handloom weavers must know very well about the appropriate dyeing technology. At present, say, a red color can be obtained by choosing hundreds of brands available in the market. Applications of all these colors are not same and varies widely. Like sizing, techniques of dyeing also varies when the raw material varies. Yarn/fabric composed of 100% cotton, 50/50 or 80/20 cot polyester blends will require different types and amount of dyes. Our weavers are not supposed to know how to use digital balance to measure the quantity of dyes accurately and then apply them to the fabric to the fabric to develop light shade and deep shade of the same dye. The quality of dyeing can be improved further by proper after treatments, apart from this lot finishing processes are available today, weavers know very little about those. In order to increase the profit margin the weavers have to use many marketing or profit making strategies which include use of stability of the color and special finishing that will enhance customer acceptability.

1.3.3.5 Loom- weaving in the handloom is not a very difficult task. During weaving in a handloom weaver mainly faces yarn breaks which may be due to (i) poor quality raw material, (ii) poor sizing process and (iii) something wrong in the loom. Our weavers are not capable of differentiating between the causes of a yarns break if it occurs due to first two causes. If he/she is intelligent enough then he /she can understand the third reason. When there is a yarn break in the fabric it will at least affect two aspects e.g. (i) there will be loss of production during the time taken to repair the broken yarn, (ii) broken yarn is mended by applying a knot which will look odd in the fabric and will deteriorate the quality of the fabric. If there is too much knots in the fabric, it will be regarded as a second quality fabric. Yarn break in the loom can be controlled to a great extent by proper winding, warping and appropriate sizing. The winding process is beyond the scope of the weaver and is carried out in the spinning mills. The warping and sizing is done by the weaver and can control the process to get desired result in the loom.



1.3.4 Fashion and design: There is a saying that “the beggars cannot be choosers”. Buying of Bangladeshi handloom products are like begging there is no change of fashion or style. It is quite possible to exercise lot of fashion and design options in handloom product too. This will definitely upgrade the quality and acceptability of handloom products.

1.3.5 Marketing: This is the most important area where our weavers lack a lot. A lot of the handloom customers are residing in the big cities like Dhaka and Chittagong and in some cases even in foreign countries. The poor and uneducated people cannot think promoting their product in the international cross-section. Apart from this, as a very poor class of people in most cases, the weavers works for someone and do not do their own business. But in order to introduce our handloom products we must let the customers know about our expertise or advantages of Handloom product.

1.4 SOME SUGGESTIONS FOR RESTRUCTURING

1.4.1. Change of socioeconomic condition

If we cannot change the socio economic condition of the large number of rural poor people we cannot expect to see us as a developed country. Poverty and development cannot stay together. By restructuring of handlooms it will be possible improve socioeconomic condition of large number of rural poor people.

1.4.2. We may rethink of the ways and means of helping the weavers.

Up to now every govt. has spent crores of money in the handloom sector in the form of loan but always there were criticism about politicization of the loan recipient. The poor performances of this sector also imply this to some extent. If this is the case then the actual weavers will not be benefited. Offering financial help to the weavers is not an obsolete concept rather it is quite justifiable and this type of assistance is offered in many other countries. It is the mode of payment for which the genuine weavers do not get the loan. Therefore it may be time to think about the mode of offering financial assistance to the handloom weavers.

1.4.2.1 Monetary help in the form of yarn not cash

There could be several mechanisms that may ensure appropriate disbursement of the weaver's loan. Govt. can sell yarn to the weavers at certain rate of subsidy. This can be done if Govt. buy yarns from certain spinning mills and then sell it to the weavers. According to this system weavers will not get the money directly but they will only receive the yarn. In this regard authorities like BHB may introduce some identity card system and yarn will be allocated to the weaver according to the number of looms. In fact the voter ID card may be very helpful in this regard as using the ID one will be able to track fake recipient. Apart from this the Govt. may also issue new ID cards for this purpose. The quantity of yarn that a weaver will get is quite easy and can be calculated from the fabric construction. A weaver may be allocated yarn that is required for one week. After one week the weaver himself will either sell the cloth in the market or he/she will sell it to the govt. representative. In this regard BHB may act as govt. representative. After selling the cloth, the weaver will again go to the govt. representative to get new yarns for his/her next week. Using computerized digital system it will be totally possible to prevent misrepresentation. Apart from this the risk of money back will be very little as small amount of loan/subsidy will be paid large number of weavers as compared to large amount of money to a limited number of mohajons. The rest of the job will not be very difficult because the yarns will be supplied in the form of warp sheet in the weavers beam or as hanks or as warp sheet not in the form of cone. If the yarn is supplied in cone form then there is possibility of smuggling to power loom factories. This is because the subsidized yarn will be very lucrative for the dishonest power loom owners. Of course this can be stopped to some extent by means of monitoring the power looms. Power looms do not use yarn in hank form. Apart from Govt. can also adopt other measures like banning handloom yarns for the power loom owners. There could be another way to stop smuggling the subsidized yarn to the power loom owners by asking the weavers to return the

manufactured cloth directly to the Govt.(BHB). In that case the weavers will receive cost of manufacturing the fabric per yard basis. Govt.(BHB) can sell this cloth from its various outlets in the Dhaka and other cities of Bangladesh. If Govt. even adds the service charge and other charge to the yarns price definitely there will be big queue to buy those cloths. In this regard it may be mentioned that there are a lot of exhibition of handloom product round the year. It was observed that almost all those exhibition stall are owned by the business people having several outlets in the important places of Dhaka city. Therefore these exhibited products are not supposed to be cheaper. This is the reason why these exhibitions are not very popular to the mass people. But if the exhibition is between the weaver and consumer then the scenario could be totally different.



In order to implement the above plans Govt. have to have very good yarn supply system. This may be possible through one of the following routes (i) buy yarn directly from the spinning mills by means of digital tender system, (ii) can entrust the job with some renowned NGO's to do the job, (iii) at present Govt. have a lot of textile mills belong to BTMC. These mills can be modernized under the leadership of public & private partnership (PPP) to produce yarns for the handloom weavers. Performance and activities of BTMC imply that Govt. should not alone establish spinning mills for hand looms.

Every system will have drawbacks the proposed system may also have drawbacks but by trial and error method and also by adopting tough measures it will be possible to restructure the handloom sector. The proposed system of restructuring will probably be the better one for the following reasons, e.g. (i) the real, individual weavers at mass level will get the benefits, (ii) the weavers will get the quality raw materials at their doorstep, and (iii) the risk of misuse of financial assistance.

It seems that preliminary approach would be to introduce the above system on pilot scheme basis in any part of the country. After judging the success of that project, the system can be introduced in the whole country.

1.4.2.2 Dyes and chemical supplying

Cost of dyes & chemical is an important part of cost of production of textile product. Like yarn the govt. may help weavers by providing dyes and chemical to the weavers. All weavers do not buy the

dyes and chemicals directly because dyeing facility is another complicated technology which requires some expertise as well as establishment. In this regard training can be organized for the weavers to teach them how to dye simply, effectively and also to teach them how to select and buy the appropriate dyes and chemicals. As the weaver will dye only limited amount of yarn which can be done even using normal cooking pan. However they need to be trained to maximize the efficient use of dyes, chemicals and auxiliaries. This is very important from two points of view because the dyeing is rather a difficult process to obtain good color performance with minimum color. Inappropriate dyeing will lead to the possibility of bleeding of color when washed. This is technically known as poor colorfastness. Another important negative aspect of our local dyeing is use of internationally banned azo dyes. During a project study we came to know that our handloom weavers have no ideas about banned azo dyes. It may be mentioned that “azo” a particular class of dye has been banned all over the world as it was proved that these dyestuffs may cause cancer to a person if he/she wears dress materials dyed with those banned dyes. For this reason, all international buyers ensure that banned azo dyes were not used in their garments. Therefore it is necessary to train our local dyers about banned dyestuffs. In this regard Govt. may import the dyes and chemical directly from some good companies according to digital tender system and sell it to the weavers at minimum interest rate. Apart from this Govt. can also supply the dyed yarn to the weaver, in that case govt. should have dyeing facilities. So far we are concerned BHB have some of these facilities. However it seems that Govt. (BHB) should only train and provide facilities for dyeing, but the weavers will dye their own yarns themselves.

It was reported that previously the Govt. issued license to the weavers group to import dyes and chemicals directly, however most the facilities were reported to be misused just because of the weavers were illiterate and they did not know how to handle the procedure of import of dyes and chemical. As a consequences some dishonest businessmen used those facilities to import dyes and chemicals without tax. The weavers were only paid taka 100-200 only. Therefore if a particular organization like BHB can import the dyes and chemicals then the weavers may get the actual benefit.

1.4.3. Technological support

Though some of the technology of handlooms is very basic but still there are lots of technical as well as expertise aspects that need to be learned by the weavers. In order to be competitive the handloom weavers or someone near their doorstep must know how to change designs and fashion frequently.

Therefore in order to make our handloom product more competitive and acceptable to consumers there should be some sort of fashioning and designing facility in the handloom concentrated areas. Benarasi weavers, Tangail saree weavers, Pabna & Kushtia weavers, Hill tracts weavers need different types of designing and fashioning facility.

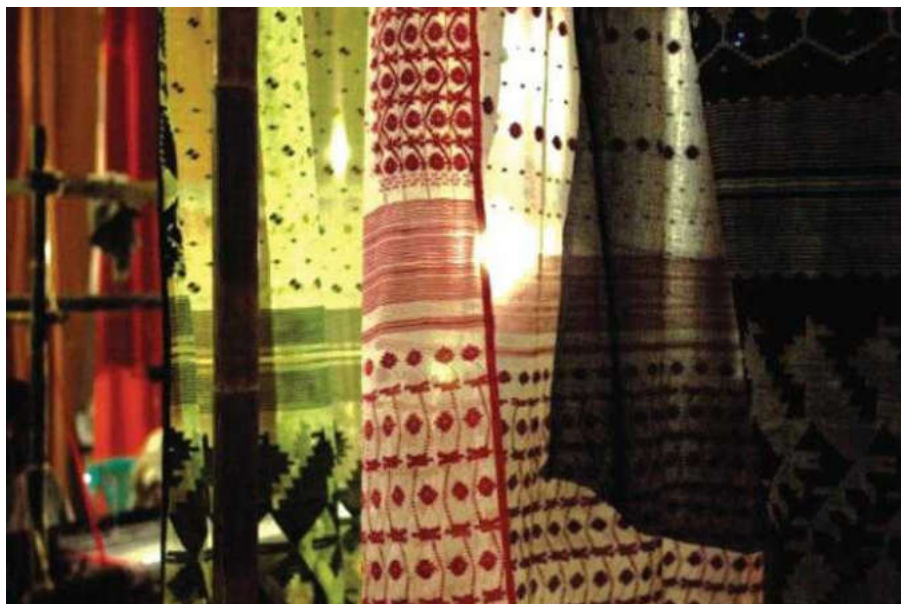
In this regard it will be necessary to train the weavers on a regular basis about (i) product development, (ii) product diversification, (iii) improvement in productivity, (iv) jacquard design, (v) dobby design, (vi) scouring, (vii) bleaching, (viii) dyeing, (ix) printing- particularly screen printing. BHB is running a training program in one of its training centre at Narshingdhi. It was however reported that the courses are not very user friendly and only unemployed and young people are choosing the courses but no skilled operators are enrolling them for the training. There should be survey and study about how this facility can be made more acceptable to the weavers.

Apart from fixed training centers there could be mobile training centers. Such a centre may be housed inside a mini bus, micro bus or even in a medium sized bus. The bus will travel throughout the handloom concentrated areas of the country and will provide training to weaver in the handloom concentrated areas of the country. This type of attempts will probably be able to attract the skilled operators. Apart from the above mentioned facilities, there could be published materials about the basic operations in simple language that can be distributed among handloom weavers/workers.

1.4.4. Providing Marketing assistance, introduction of a logo as marketing strategy

Whatever be the effort to manufacture fabrics the ultimate success depends on the selling of the articles at a good price. The handlooms are concentrated in the rural areas of the country and the weavers are only able to sell at their own locality. But for specialty fabrics they must look for customers of Dhaka and Chittagong etc. In fact most of the high quality handloom products are mainly marketed in Dhaka and very few in the other cities like Chittagong and Khulna, Rajshahi etc. The handloom weavers are very poor and illiterate; they will not find it very easy to come to Dhaka to sell their product. There are basically two ways by which handlooms products are marketed e.g. (i) The weekly bazaar where the weavers sell their products and (ii) the middlemen who buy the fabric from the weavers and sell it to the customer at Dhaka and other important cities. The later way is not very beneficial for the weavers. In cases of mohajons who owns handloom factories market their products directly to Dhaka and other cities. Some of those producers have outlets in important cities. Marketing problem can be solved by many ways like as was mentioned earlier; fabrics can be collected from the weavers directly in that case off course the weavers will be paid on a predetermined rate. After collection, those fabrics may be sold at Dhaka and other important cities. It may be mentioned here that once BTMC used to sell fabric like this but definitely this will be quite different from that. If yarn is bought by fair tender system and then sell to the weaver adding the service charge then cost will be quite different from BTMC's case. In this regard probably a trial study can be conducted as experimental basis.

Media can play some role in this regard as handloom products have many good advantages e.g. environmentally friendly. This needs some clarification; sizing is one of the important textile processes that affect environment seriously. In case of handloom weaving very little or no sizing is used. The dyeing also generates some pollution but for handlooms, the volume is very little. Apart from this in comparison to highly industrialized zone like Tongi or Narayangonj, relatively small amount effluent is discharged to the environment of handloom concentrated areas. As handlooms are located in many parts of Bangladesh therefore discharge of relatively small amount of effluent is not expected to cause too much harm for the environment. Introduction of a "LOGO" for handloom products may be a good idea for marketing them. A clear marketing strategy is required for targeting international markets as well. The production of handloom products perhaps comply with ISO 14000 therefore attempt can be made to export them on mass scale. Zamdani and Grameen Check already made very good success in this regard. Policy & strategy of Zamdani and Gameen check may be a good inspiration for international market.



1.4.5. Steps to produce fine count & high quality yarn in Bangladesh.

During the survey, it was revealed that there are serious problems in getting fine count yarns. At the moment most of the yarns are coming illegally from India. This is because the local yarn manufacturers are not very interested to produce yarns for handlooms and they find it very easier to work for the export oriented knit industry where very fine yarn is not required. However a strong manufacturing industry like handloom should not rely on yarn imported through such an illicit way. Talking with the concerned experts it seems that the best idea would be to have a separate spinning mill for producing yarns for the handloom weavers. This can be done very easily by having one of the BTMC owned mills. Off course such a mill will require further investment to make suitable for producing yarns for handloom weavers. There will be definitely some parties to run such a mill on private public partnership basis.

1.4.6. Undertaking steps to increase Silk production

Silk is an important raw material for many weavers including Benarashi and Jamdani weavers. However, our domestic production of silk is very low and most of the silk are imported from China and Japan. Production of silk involved huge amount of unskilled or semi skilled labor. Therefore development of silk production will not only save lot of our foreign currency but also will create a lot of new jobs.

1.4.7. A modern design centre having CAD/CAM facility is the demand of related experts.

As was mentioned above, it was observed that almost all of our handloom products are traditional and very old fashioned. In order to survive in the competitive market our weavers must go for innovative new fashion. At the moment there is no organized establishment to provide new designs or fashion. The local traditional and local designers develop it by various means. As a result customers' expectation is totally ignored. It was echoed from every corner about establishment of a design cum research centre where designers & researchers will work together to develop new fashion/design on continuous basis.

1.4.8. R & D work is necessary for handlooms sector.

If we can improve the handloom sector then it will be possible to accelerate economic condition of lot of a rural people who may find difficult to earn their livelihood. Therefore study should be conducted to look for means and ways to improve and upgrade technology as well as decrease the cost of production. Research is also necessary to help the weavers in the area of design, fashion and markets. In this regard Universities can undertake research work in collaboration with BHB. Apart from this BHB authority can undertake project under PPP basis which probably uphold the image of BHB further and also make it more accountable to the concern authorities as well as to country's tax payers.

1.4.9. Handloom woven fabrics can be used for school dresses.

Handloom fabrics can be used for dresses of millions of school going children. This will be a great help for huge number of handloom weavers across the country. In this regard suitable fabrics (type/style etc.) may be developed by R & D and then handloom weavers will be suggested to make those fabrics. The whole process, however, has to be in a very decisive manner. A possible way of doing this would be to buy the fabrics from the weavers at certain rate and then distribute the fabrics to the enlisted tailors throughout the country. Bangladesh handloom board may also play a very crucial role in doing this.

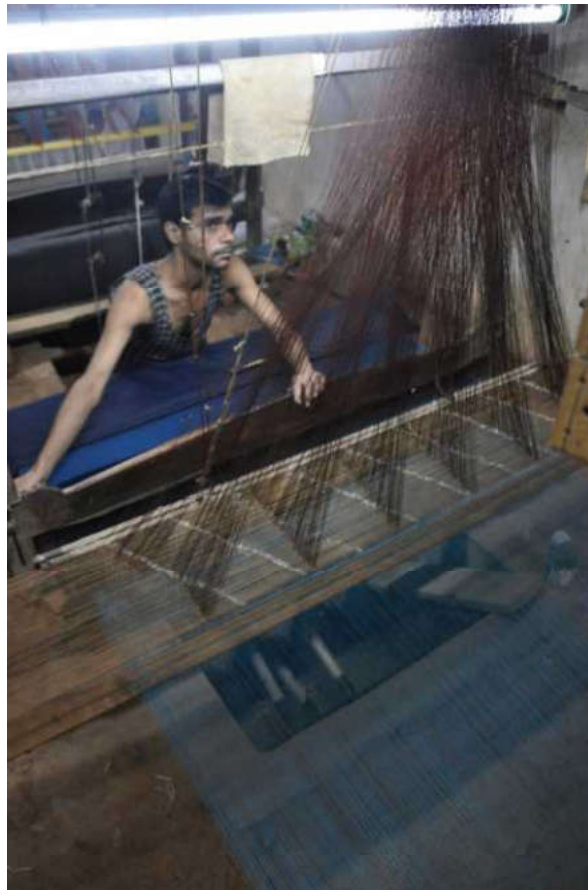
1.4.10. An alternate for Rickshaw Pullers

Authorities from various corners are thinking about banning Rickshaws in the important areas of Dhaka city. Handloom sector could be the alternate source of employment for the Rickshaw pullers.

As the expertise required for operating handloom is not very difficult. Handloom can be a family job where men and women can work at equal efficiency. If male members works outside female members can work at home in handlooms.

1.4.11. Issues of Benarashi:

The most important problem of Benarashi palli in Mirpur is that the area is heavily overcrowded, in many cases the looms are located inside their living home. A cluster for Benarashi loom is a widely discussed issue.



A modern design centre having CAD/CAM facility will be helpful in providing with innovative designs which is one of the main problems. According to the Benarashi weavers they are also suffering from various types of problems including poor earning from their work. Development of this sector will off course improve their situation a lot. The owners are also suffering from regular supply of silk yarn which is the main raw materials of Benarashi.

1.4.12. Handloom may have a very bright future if energy cost goes up in future.

At present most of our energy is generated from Fossil fuels. Fossil fuels are not a renewable energy resource. Once we have burned them all, there aren't any more, and our consumption of fossil fuels has nearly doubled every 20 years since 1900. This is a particular problem for oil, because we also use it to make textiles, plastics and many other products. Off course fossil fuels will discovered on continuous basis but probably the rate of consumption is much higher than that of discovery. Scientists believe that it takes millions of years to develop an oil reserve while it may take only several decades to finish it. Therefore scientist believes that world's oil reserve will be finished or there will be crisis by year 2050. Apart from this the fossil oil has tremendous impact on carbon

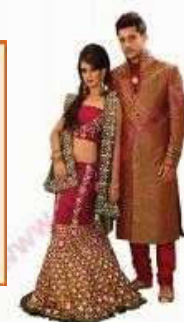
emission leading to environmental pollution. Therefore, if suitable alternate source of energy is not found then the price of oil will go up in future so that cost of electricity will also go up. In that case handloom will be much more profitable than today.

2. Boutiques Sub Sector

2.1 Introduction

Boutiques (French meaning: "shop") are the small shopping outlets, where customers drop in to buy various types of fashionable items like clothing and jewelry. In most of the overseas boutiques, fashionable items are intentionally produced in small quantity and are sold generally at unique prices. Hence, boutiques are mainly suitable for those who do not mind spending a few bucks for the sake of fashion. These are also the favorite hunting grounds for the fashion-lovers.

Boutiques offer availability of unique goods. Trendy products are available at most boutiques for lower prices than mainstream stores. High-quality items are associated with boutiques because they are often handmade or acquired directly from designers. Exclusive customer care due to the small size of the shop. High prices are also a benefit to many consumers because they attest the quality.



As people are getting more fashion-conscious now a day, the demands for boutiques in Bangladesh are also growing high. A number of boutiques have come up in almost every city or town in the country. However, normally the metropolitan and other big cities are the places where one can find maximum number of boutiques products.

Though there is no survey but there are thousands of boutiques in Bangladesh. There are nearly 300 large scale boutiques in the country and out of these, there are 50 branded Boutiques. Boutiques in Bangladesh sell fashionable and trendy items like garments, jewelries, handbags and accessories. However, majority of them sell trendy clothing, which have got maximum demands. Some boutiques sell products for all segments of people - for the women, for the men and for the children. However, some others may have specialties, as you often can find boutiques exclusively for the women & children, or for the men. There can be boutiques exclusively for the women as well. Many boutiques specialize in hand-made or one-of-a-kind items.

Boutiques may have specializations in terms of products. For example, some boutiques can be specialized in young ladies dresses; some may have specializations in Sarees. Similarly, some Indian boutiques may have exclusive stocks of various types of panjabics. The customers of boutiques are mostly from higher and upper-middle class families who starve for fashion. They are mainly the segment of people who have enough disposable income to spend on fashion and entertainment.

Boutiques houses can also be classified as stand-alone and chain. Stand-alone boutiques generally have a single owner and location. Chain boutiques are owned by a larger company and can be located in wealthy areas of both home and abroad. They may even be located within a larger department store or shopping center.

The works of Bangladeshi fashion boutique industries can be listed as (i) various types of print e.g. Batik, block, tie dye etc., (ii) Needle works on sarees and fabrics intended for various types of ladies and gents garments, (iii) Pattern Cutting for various types of dresses Sewing them into Garment. (iv) all kinds of transfer stickers, sublimation print, transfer labels, heat transfer stickers, transfer Paper, garments accessories etc. (v) embroidery etc.

An important aspect of fashion boutique industries is that unlike RMG industries, a full garment is sewn by a single operator at a time. Therefore the exact nature of works of fashion boutiques houses are different from that of Garments industries. Thus in case of fashion boutiques, the time for producing a garment will be more than that of required in a garments industry.

Bangladesh is a densely populated country having more than 160 million people. The country is gradually shifting toward middle income generating country which means that the number of boutiques shop customers will be increased very rapidly. However country's boutiques are suffering from various types of problems. Some of widely countered problems are discussed here.

2.2 Some of important problems of fashion boutique houses are as follows;

- 2.2.1 Lack of skilled operator and designers. During this study it was found that the most severe problem of boutiques are lack of skill operator. Though there are a lot of garments factories in Bangladesh but the designers and operators are not interested to work in the boutiques mainly due to (i) poor payment, (ii) job prospect in future is not well defined and little flexibility in changing jobs etc.
- 2.2.2. Lot of people has a tendency to make their garments in a local tailor shop.
- 2.2.3. Import of large amount of dresses from neighboring countries. The quality of fashion boutiques of neighboring countries is better than ours.
- 2.2.4. Low quality fabric; as fabric is the main raw materials of garment items, therefore deviation of quality of fabric have direct impact on the quality and marketing of boutiques garments.
- 2.2.5. Use of traditional and conventional raw materials.
- 2.2.6. Lack of innovative fashion and marketing of traditional i.e. same fashion on continuous basis.
- 2.2.7. Absence of any centre of excellence (research/design) type organization who may work as intellectual guardian of the sector. There is no design studio/research centre.
- 2.2.8. Poor control or poor administration of intellectual property right.
- 2.3 Suggestions
 - 2.3.1. Like many other manufacturers organizations the boutiques owners are not well organized. In order to develop their situation they must at first be well organized. Though they have some sort of association but that is not very well organized and well known.

2.3.2. A well-organized design cum research centre should be developed on permanent basis. There have to be several separate components of such a centre e.g. (i) Design and development of raw materials i.e. fabric. The most important and main raw materials of boutique is fabric and which is approximately 60% cost of the garment. If the cost of fabric can be minimized then profit will be increased. Therefore a fabric research centre can be established where research will be conducted to develop new and fashionable fabric at lower cost. (ii) Design and development of fashion; and (iii) Development of skill to sew a complete garment, (iv) A stitch cum embroidery unit to deal with the needle and embroidery matters. Ministry of Industries or Ministry of Textiles are the ideal organizations to implement such an important task. Academics from various disciplines e.g. Fine Arts, DU, B.Sc. in Textile Engineering and Fashion Graduates from Bangladesh University of fashion and Technology (BUFT) should to work together to take forward this beneficial and promising sector.

2.3.3. Bangladesh Technical Education Board (BTEB) can implement trade and diploma courses on boutiques. Introduction of such courses will be very easy for those who are already running courses on garments making.

3. Handicrafts Sub Sector

3.1 Introduction

Handicraft is the art of creating products using raw and indigenous materials. The essence of Bangladesh can be felt through the handicrafts made in Bangladesh. This is a labor-intensive industry requiring some sort of original skill developed with or without too much formal education and is a source of sustenance for millions of people.

Handicrafts are mostly defined as "items made by hand, often with the use of simple tools, and are generally artistic and for traditional in nature. They are also object of utility and decoration. Some common types of handicrafts are Textile based handicrafts, Clay, Metal, Jewelers, Woodwork, Stone Craft, Glass and Ceramic.



Figure-01: Bangladeshi Handicrafts

It appears that the main categories of our handicraft product are in gifts, house wares, home decoration, seasonal products, toys and personal accessories. Handicrafts are not just great items for decoration but can also be charming gift items for your near and dear ones. Handicrafts of

Bangladeshi can be traced back to antiquity and it captures a rich blend of functionality with artistic ingenuity showcasing the cultural brilliance of our nation which has been a melting pot of diverse communities, customs, tribes, traditions and culture.

There is no exact survey about the number of handicraft units in the country. However, BANGLCRAFT, an organization of the Handicraft owners enlisted around 214 associate members and 109 ordinary members. Most of the handicraft manufacturing units are small located in rural areas. Manpower of the some of the units are as low as 2-5 including the owner while lot of units have work force of around 20 people, however there are some units have large number of people working for them (see table-2).

Most handicraft enterprises use traditional techniques without the use of modern tools or instruments. Total number of workforce associated with the industry stands approximately over 3 millions of which over three quarters are employed in textile, jute goods, wood, lather, cane and bamboo. These are followed by metal-works and pottery. A rough estimate shows that exports occupy about 20% of the total production.

Table 01: Handicraft Export in different FY. (Source: EPB statistical report)

Fiscal Year (FY)	Export In Million US\$
2002-2003	5.90
2003-2004	4.21
2004-2005	5.12
2005-2006	4.30
2006-2007	8.16
2007-2008	5.49
2008-2009	6.44
2009-2010	7.41 (Target)

This is a list of Handicrafts, excluding textile based handicraft goods.

Related expert suggests that there are more than 1000 large scale Handicraft producers in Bangladesh, where only 323 are enlisted with Banglacraft (the association of handicraft manufacturers and exporters). A large no of handicraft producer sells their goods in local market and a few of them are involved in export.

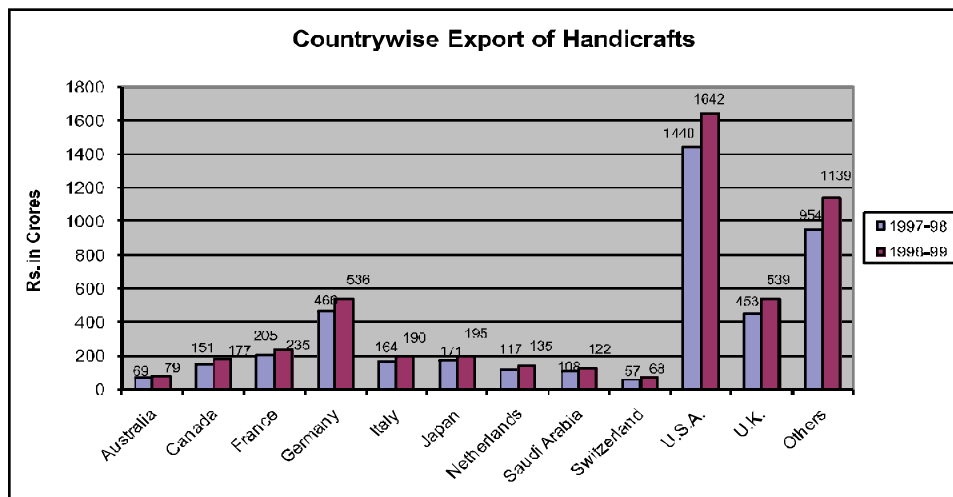


Figure: 2: Countrywise Indian export of Handicraft products (Reproduced from www, web pages)

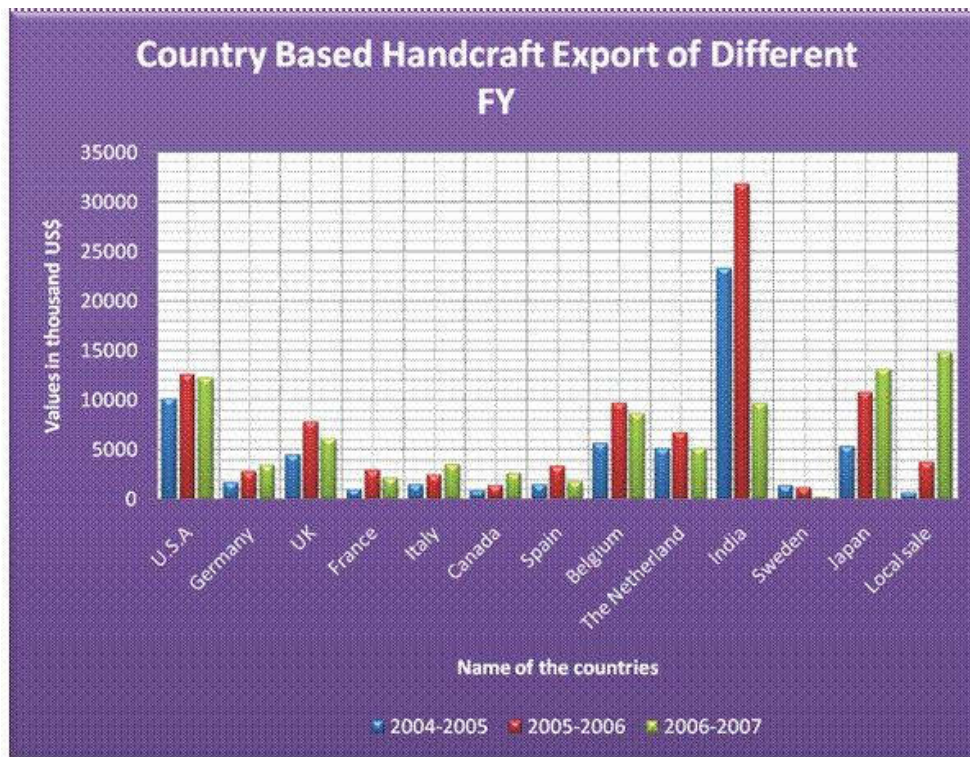


Figure-03: Country base export chart of handcraft goods on 3 FY indicating specific market areas. (Coir products, Cotton Bag, Jute footwear, Handicrafts, Jamdani sharee, Jute carpet, Jute manufactures, Other textile goods, Silk fabrics, Toys, Wooden furniture.) (Source: Bangladesh Export Statistics, EPB)

3.2 Typical Classes of Handcraft Products

There are various types of handcraft products. Some widely produced handicrafts classes are given below.

3.2.1 Wooden Craft:

Wooden Statues, Wooden Tableware, Wooden Jewelry Boxes, Wooden Wall Hangings, Wooden Animal Figurines



3.2.2 Metal Craft: Metal Statue, Metal Wall Hangings, Metal Pots, Metal Mirror Frames, Metal Candle Stand, Metal Boxes, Bells & Wind Chimes, Metal Chowki, Metal Swing, Metal Kitchenware, Metal Trolley



3.2.3 Stone & Marble Craft : Stone & Marble Lampshade, Stone & Marble Flower Pots , Stone & Marble Wall Hanging, Stone & Marble Fountains, Stone & Marble Sculptures, Stone & Marble Animal Figurines, Stone & Marble Fire Places, Stone & Marble Furniture, Stone & Marble Clock, Stone & Marble Coaster sets.



3.2.4 Glass Craft: Glass Utensil, Glass Perfume Bottle, Glass Flower Vase, Glass Candle Stand, Glass Show Pieces, Glass Photo Frames & Mirror, Glass Lamp Shade, Glass Wine Accessories.



3.2.5 Leather Handicraft: Leather Clothes, Leather Foot Wear, Leather Bags & Purses, Leather Picture Frame



3.2.6 Cane & Bamboo Handicraft: Cane & Bamboo Basket, Cane & Bamboo Mats, Cane & Bamboo Bags, Cane & Bamboo Boxes, Cane Bamboo Slippers, Cane Bamboo Furniture.



3.2.7 Pottery Craft: Pottery Bowls, Pottery Water Pitcher, Pottery Jar, Pottery Flower Pots, Blue Pottery



3.2.8 Papier Mache Handicraft: Papier Mache Dolls, Papier Mache Bags, Papier Mache Box, Paper Mache Frames, Paper Mache Wall Hanging, Papier Mache Lamp Shed.



3.2.9 Jewelry Craft: Tribal Jewelry, Beaded Jewelry, Metal Jewelry



3.2.10 Paintings Art in Bangladesh: Glass Painting, Tanjore painting, Marble Painting, Madhubani Painting



3.3 Problems and Prospects of Bangladeshi Handicrafts

As compared to high quality handicraft producers like India and china Bangladeshi Handicrafts sector are not very well organized. There are many problems associated with our Hand-crafted products and producers. Some of the main problems of our handicrafts are less competitive price, lack of originality in design, lack of quality and adaptability with modern machine made products. Most of handicraft products are traditional type and there is no innovation at all. One of the important aspects of this sector is that there is no proper and standardized education system to develop skilled manpower and to develop new products. Advanced countries use various types of modern tools and equipments to manufacture handicrafts. In Bangladesh we have little ideas about those instruments. Entrepreneurs feel that the products are highly value added type, however there is very little or no patronization from the Govt. side. In order to develop and manufacture competitive products we must go for modern tools and equipment based manufacturing units and in that case financial assistance in the form of loan facility will be required. In order to attract foreign buyers we have to have a common display centre where buyers can visit round the year basis and place order for particular products. Idea of a craft village is also widely expected among the people involved with handicrafts.

One of the most fascinating aspects of handicrafts are that they are manufactured from 100% local raw materials that leads to highest amount of value addition. In most cases products can be manufactured in homes by women and children on family basis. Thus, formal manufacturing establishment is not required for many products. In case of family business, people can work regardless of their formal working hours leading to higher productivity. People without having any educational background can work with full efficiency. Handicrafts offer unlimited opportunities for versatility, diversification, creativeness & originality. Handicraft industry needs relatively low

capital investment and starting a new business is relatively very easy. The sector is also associated with huge opportunity for earning foreign revenue. Finally handicrafts carry essence of our talents, culture, heritage and religion. We must foster this sector.

3.4 SUGGESTIONS TO IMPROVE THE OVERALL PERFORMANCE OF THE SECTOR

3.4.1. Setting up of design development centre is urgently needed for producing new product and product diversification. Existing craftsmen need to be trained for better performance, innovation and technology to be provided for overall development of the sector in a design development institute. So far we came to know there is no qualified Craftsman in the country. In this regard Banglacraft can start rolling the ball by undertaking a joint venture project with the department of fine arts of DU. The two organizations would work together to develop new and innovative products.

3.4.2. However in the long run there should have very well organized research and training centre involving academics/researchers from the Dept. of Craft, Faculty of Fine Arts, DU, BUFT and BCSIR.

3.4.3. Introduction of formal educational course on Handicraft. It was found that mainly three types of expertise are required in the craft making units e.g. (i) entrepreneurs level, (ii) at managerial level (graduates from University) and (iii) at operator level who does not need any educational qualifications. The first two categories of experts can be met by the graduates from DU (Fine Arts). For third category of experts there is no appropriate training course. Though some organizations like BCSIR offers courses on handicrafts but it seems that to attain expertise in handicrafts one must spent substantial amount of time and 3 to 6 months course is not sufficient to acquire that skills. It seems that there should be at least S.S.C Vocational level course offered by BTEB.

3.4.4. Setting up of a handicraft industrial park/ handicraft village/clusters of producers. It is expected such an initiative will ensure sustainable export.

3.4.5. Necessary arrangement for sufficient display of Handicraft products through internet access. Banglacraft can introduce a website of available handicrafts products and the site can be promoted through our embassies. Banglacraft members will be able to upload photo and other information of their products from anywhere.

3.4.6. Initiative for identifying new markets and new products.

3.4.7. Steps to ensure easier access to finance for the entrepreneurs.

3.4.8. Facilitate exporter participation in trade fairs, designing catalogues and preparing for exhibition. Participation in International Handicraft Fairs will attract more buyers

3.4.9. Development of a logo that will act as Bangladeshi Brand and the logo will promoted by the Bangladeshi embassies abroad.

3.4.10. R & D is required to equip the entrepreneurs with better understanding about costing. R & D is also required to equip the entrepreneurs with better understanding about the source of local and indigenous raw materials on continuous basis and to develop them into newer handicraft. Raw materials such as wastage of garments industry (i.e. small fabric pieces), coir, wastages of sugar industry, jute stick etc. are available in abandon quantity and can be explored to produce innovative new products.

3.4.11. We are seriously lacking in supply of cane and bamboo. In this regard concerned persons are claiming allocation of some land for cultivating Bamboo & cane.

Annex -1: List of resource person at the validation workshop

SL	Name	Organization & Designation
1.	Syed Rezwanul Kabir	SME Foundation Royal Tower, 4 Panthapath, Kawran Bazar, Dhaka - 1215 Managing Director & CEO
2.	Mr. Md. Mujibur Rahman	SME Foundation Royal Tower, 4 Panthapath, Kawran Bazar, Dhaka - 1215 Deputy General Manager, Policy Advocacy and Research Wing
3.	Mr. Mohammed Shahabuddin	National Board of Revenue (NBR) Former, Member Flat # 5C, House # 46 (Yasmine's Regency), Road # 10 A, Dhanmondi R/A, Dhaka-1209
4.	Mrs. Tanuja Rahman Maya	Rong Handicraft 34 Mujib Sarak Jessore Proprietor
5.	Mr. A.K.M Rafiqul Islam	SME Cell, Ministry of Industry Government of Bangladesh Shilpa Bhaban, 91, Motijheel C.A, Dhaka-1000 Deputy Secretary
6.	Dr. Md. Nazrul Islam	National Productivity Organisation (NPO), Ministry of Industries, 91, Motijheel C/A, Dhaka-1000, Director
7.	Mrs. Khorshida Begum	Mirir Handicraft 16/638 Eastern Housing Road Rupnagar, Pallabi Mirpur, Dhaka Proprietor
8.	Mrs. Shamim Khondoker	Shokh Boutique 42 Satmaszid Road, Dhanmondi Dhaka - 1209 Proprietor
9.	Syeda Amina Hoque Meena	Meena Boutique House # 9/A, 71 Dhanmondi R/A Dhaka Proprietor
10.	Mr. Rokhsana Mohsin	Labonno Boutique 164 Mihir Tower Flat # 12/A, Hatir Pool Dhaka Proprietor
11.	Mr. Md. Ashrafal Alam	SME & Special Programs Department Bangladesh Bank, Motijheel C/A Dhaka - 1000 Joint Director

SL	Name	Organization & Designation
12.	Mr. Md. Lokman Hossain	Bangladesh Handloom Board 7-9 Kawran Bazar (5th Level) Dhaka - 1215 Deputy General Manager (Operation)
13.	Mr. M.H. Mostofa	Creseent Sellalection 33, Urddu Road, Chowk Bazar, Dhaka-1211. Proprietor
14.	Mr. Shaibal Shaha	Indigo Craft Limited 336/C Tojgang C/A Dhaka Proprietor
15.	Mr. Maeenuddin Fuad	Sadaf Design Collection House No # 58, Road No # 3 Sector # 5, Uttara, Dhaka Proprietor
16.	Mr. M.B. Mutsuddy	Creation (Pvt) Ltd. House # 10, Road No# 7 Sector # 7, Uttara - 1230 Proprietor
17.	Mr. Wahidul Azad	Impex Enterprise 37, B.B. Avenue (1st floor) Dhaka-1000. Proprietor
18.	Mr. Md. Alamgir Siddique	Export Promotion Bureau TCB Bhaban, 1 Kawran Bazar Dhaka - 1215 Deputy Director
19.	Mr. Abu Monzoor Sayeef	SME Foundation Royal Tower, 4 Panthapath, Kawran Bazar, Dhaka - 1215 Program Manager
20.	Mr. Md. Rakib Uddin Khan	SME Foundation Royal Tower, 4 Panthapath, Kawran Bazar, Dhaka - 1215 Program Officer
21.	Mr. Akhil Ranjan Tarafder	SME Foundation Royal Tower, 4 Panthapath, Kawran Bazar, Dhaka - 1215 Program Officer
22.	Mr. Md. Joynal Abdin	SME Foundation Royal Tower, 4 Panthapath, Kawran Bazar, Dhaka - 1215 Program Officer

ইলেক্ট্রিক্স এবং ইলেক্ট্রিক্যাল শিল্প খাত সম্ভাবনা, এগিয়ে যাওয়ার পথে বাধা ও তা দূর করার উপায়

খোন্দকার সিদ্দিক-ই-রব্বানী*

ক) কিছু মৌলিক বিষয় ও ঐতিহাসিক পটভূমি

ক১। সত্যিকারের আয়ঃ কৃষি ও শিল্প

একটি দেশের সত্যিকারের আয় আসে কেবলমাত্র দুটি খাত থেকে— কৃষি ও শিল্প। এ দুটি খাতেই শূণ্য থেকে উৎপাদন হয়, মানুষের মোট আয়ে কিছু না কিছু যোগ হয়। তাই দেশের অর্থনৈতিক উন্নতি সত্যিকারের আয় ছাড়া সম্ভব নয়। উল্লেখ্য, জিডিপি তে যে মোট আয় দেখানো হয় তার মধ্যে অনেকখানিই সেবাখাতের, যা কেবল অর্থের হাত বদল, সত্যিকারের আয় নয়। তাই দেশের সত্যিকারের আয় বাড়ানোতে কৃষি ও শিল্প খাতদুটিকে আলাদা করে দেখতে হবে, জিডিপি এর ভিতর মিশিয়ে নয়।

ক২। দারিদ্র দূরীকরণের প্রধান উপায় কর্ম সংস্থান, আর তার জন্য প্রয়োজন কৃষি ও ক্ষুদ্র শিল্পের স্বাধীনতা

দারিদ্র দূরীকরণ তৃতীয় বিশ্বের প্রতিটি দেশের একটি বড় চ্যালেঞ্জ। দেশের প্রতিটি মানুষের আহাৰ, বাসস্থান ও চিকিৎসা সহ মৌলিক চাহিদার ব্যবস্থা করা রাফ্টের একটি প্রধান দায়িত্ব। এটি কেবল হতে পারে প্রতিটি কর্মক্ষম মানুষের কর্ম সংস্থান হলে। অভিজ্ঞতার আলোকে বলতে পারি যে কেন্দ্রে অর্থ ও খাদ্যের পাহাড় জমে থাকা অবস্থাতেও দেশের মানুষ দরিদ্র থেকে বা না থেকে মারা যেতে পারে। কারণ কর্ম সংস্থান ছাড়া অর্থ ও খাদ্য দেশের আনাচে কানাচে প্রতিটি মানুষের কাছে পৌঁছানো যায় না। উদাহরণ হিসেবে দেখতে পাই, আমাদের দেশে ইদানিং সোশাল সেফটি নেট এর আওতায় হাজার হাজার কোটি টাকা বিলিয়ে দেয়া হচ্ছে, কিন্তু তার কতটুকু সত্যিকারের দরিদ্রদের হাতে ঠিকমত পৌঁছচ্ছে? বলা হয় দুর্নীতি নির্মূল করা গেলে উদ্দেশ্য সফল হবে, কিন্তু বাস্তবতার আলোকে চিন্তা করতে হবে, আদৌ কি তা সম্ভব? বরঞ্চ এতে দুর্নীতি বাড়ছে। তা ছাড়া, দুর্নীতি দূর করা গেলেও এ ধরনের ব্যবস্থা বেশীদিন চালু রাখা সম্ভব নয়, চালু রাখাটাও ঠিক নয়। কারণ, এ ব্যবস্থা মানুষকে কর্ম বিমুখ করে দারিদ্রকে আরও বাড়িয়ে দেয়। যদি সবার কর্মসংস্থান হয়ে স্বচ্ছলতা আসে তবে বৃদ্ধ পিতা-মাতা বা প্রতিবন্ধী ভাই-বোনকে না থেকে থাকতে হবে না। তাই প্রতি বছর দেশের মোট জনসংখ্যার কতজনের কর্মসংস্থান করা গেল সেটিকে অর্থনৈতিক হিসেবে মূল মানদণ্ডের একটি বিবেচনা করা উচিত।

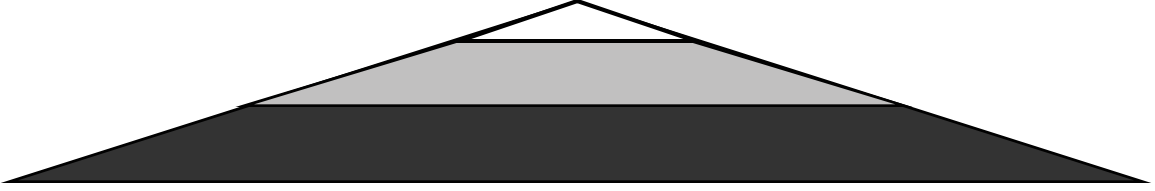
কর্ম সংস্থান বিষয়ে একটু আলোচনা করা যাক। আমাদের দেশে জনসংখ্যা বৃদ্ধির হার প্রায় ১.৪%, পনেরো কোটি মানুষের দেশে প্রতি বছর তাই যোগ হয় প্রায় ২০ লক্ষ বাড়তি মানুষ। দারিদ্র দূরীকরণ করতে চাইলে প্রতি বছর এ ২০ লক্ষ মানুষের নতুন কর্ম সংস্থান তৈরী করতে হবে। এর মধ্যে প্রায় অর্ধেক এর কর্ম সংস্থান করে কৃষি খাত। বাকী ১০ লক্ষের কর্ম সংস্থান কোথায় হতে পারে? বৃহৎ শিল্প এ সমাধান দিতে পারবে না। উদাহরণ হিসেবে বলা যায় ইদানিং বিখ্যাত স্কয়ার গ্রুপের মূল উদ্যোক্তা জনাব স্যামসন চৌধুরীর মৃত্যুর পর বিভিন্ন আলোচনায় জানা গেল যে প্রায় ৫০ বছরের পুরোনো এ প্রতিষ্ঠানটি মোট প্রায় ৪৫ হাজার কর্ম সংস্থান করেছে। টাটা কোম্পানী প্রায় ৩ বিলিয়ন ডলারের যে বিনিয়োগ প্রস্তুত দিয়েছিল তাতে সর্বসাকুল্যে মোট প্রায় ১০ হাজার কর্মীর কথা বলা হয়েছিল যার নিয়োগ হবে বহু বছর ধরে। সহজেই বোঝা যাচ্ছে এ সংখ্যাগুলো যত বড়ই মনে হোক না কেন, দেশের কর্ম সংস্থানের প্রয়োজনের তুলনায় তা অতি, অতি নগণ্য। প্রতি বছর এরকম ১০০টি বৃহৎ শিল্প প্রতিষ্ঠান স্থাপন হলেও প্রয়োজনীয় কর্ম সংস্থান হবে না। আর সরকারী ও বেসরকারী সেবাখাতের চাকুরী সংখ্যাও প্রয়োজনের তুলনায় খুবই নগণ্য। তাই কৃষির বাইরে কর্ম সংস্থানের একমাত্র সমাধান হল সারা দেশে ক্ষুদ্র শিল্পের প্রসার। টেকনাফ থেকে তেঁতুলিয়া পর্যন্ত সারা বাংলাদেশে প্রতি বছর যদি লক্ষাধিক ক্ষুদ্র শিল্প গড়ে ওঠে তবে তা এ ১০ লক্ষ মানুষের কর্ম সংস্থান করতে পারবে। তাই আমাদেরকে গ্রামে-গঞ্জে, ঘরে ঘরে ক্ষুদ্র শিল্প গড়ে তোলার মত পরিবেশ গড়ে তুলতে হবে।

তাই শিল্পের মধ্যেও আমাদেরকে বিশেষ করে আলাদা করে নিতে হবে ক্ষুদ্র শিল্পকে। আবার ক্ষুদ্র শিল্পের মধ্যেও বিশেষ করে দেখতে হবে নিজস্ব প্রকৌশল ও প্রযুক্তি ভিত্তিক ক্ষুদ্র শিল্পকে, তার মধ্যে আবার বিশেষ করে দেখতে হবে যেগুলো দেশের মানুষের জীবনের মান বাড়ানোর জন্য পণ্য তৈরী করে এবং কৃষিতে সহায়ক ডুমিকা পালন করে সেগুলোকে। বিষয়টি জরুরী বিধায় পরে আবারও এ নিয়ে আলোচনা করব। তাহলে দেখতে পাচ্ছি কর্ম সংস্থানের মাধ্যমে এ দেশের মানুষকে ক্ষুধা ও দারিদ্র থেকে বের করে নিয়ে আসার জন্য মাত্র দুটি হাতিয়ার আমাদের হাতে রয়েছে— কৃষি ও ক্ষুদ্র শিল্প। তাই এ দুটি খাতে দেশের সাধারণ মানুষ যেন নিজস্ব মেধা খাটিয়ে নির্বিঘ্নে এগিয়ে যেতে পারে তার জন্য প্রয়োজনীয় নীতিমালা প্রণয়ন করতে হবে। এক্ষেত্রে বলা উচিত যে চলতি নিয়ম কানূনের বেশীরভাগই এসেছে বৃটিশ ঔপনিবেশিক

* অধ্যাপক, বায়োমেডিকেল স্কিঞ্জিঞ্জ এন্ড টেকনোলজী বিভাগ, ঢাকা বিশ্ববিদ্যালয়।

আমল থেকে, যার একটি বড় উদ্দেশ্য ছিল স্থানীয় শিল্পকে ধ্বংস করে ব্রুটনের তৈরী পণ্য চালু করা। এ ছাড়া অনেক ক্ষেত্রে আমরা উন্নত বিশ্বের বর্তমান অবস্থাকে অনুকরণ করে থাকি, যা আমাদের জন্য যথাযথ নয়। এজন্য এসব নিয়মকানুনের অনেকগুলিরই আমূল পরিবর্তন দরকার। এ বিষয়ে পরে আরও আলোচনা করব।

আমাদেরকে বুঝতে হবে যে দেশের অর্থনীতিকে একটি পিরামিডের মত চিন্তা করলে তার ভিত্তি হচ্ছে এসব প্রান্তিক কৃষি ও ক্ষুদ্র শিল্প উদ্যোগগুলো। এদেরকে প্রত্যেককে একক ভাবে দেখলে নিতাল্ণচ মামুলী ও মূল্যহীন মনে হবে। কিন্তু দেশের কোটি কোটি মানুষের প্রত্যেকের সামান্য বিনিয়োগ, সামান্য প্রচেষ্টা, সামগ্রিকভাবে দেশের জন্য যে বিলিয়ন বিলিয়ন ডলারের বিনিয়োগ তৈরী করতে পারে তা আমরা বোধ হয় একেবারেই বুঝি না। তাই আমরা মাত্র মিলিয়ন ডলার বিদেশী বিনিয়োগ পাবার জন্য প্রাণান্ত হচ্ছি, কর ও ভ্যাটের বিষয়ে অনেক ছাড় দিয়ে দিচ্ছি। লাভের ও উচ্চ হারের বেতনের অধিকাংশই বিদেশে নিয়ে যাবার সুবিধা করে দিয়েছি। কিন্তু দেশের ভিতরের যে সব ক্ষুদ্র ক্ষুদ্র প্রচেষ্টা বিলিয়ন বিলিয়ন ডলার এনে দিতে পারত, যার লাভের অংশটিই পুরোটিই দেশে থাকত, যার পণ্য ব্যবহারে দেশের মানুষের জীবন ধারণের মান বাড়ত, যার ফলে দেশের মানুষের আত্ম সম্মান ও আত্মমর্যাদা বাড়ত, তার জন্য তেমন কোন সুবিধা তো দিচ্ছিই না, বরঞ্চ বিভিন্নভাবে বাধা সৃষ্টি করছি। এসব ক্ষুদ্র শিল্পের উদ্যোক্তাদেরকে দুর্নীতিবাজ সরকারী কর্মচারীদের সহজ শিকার বানিয়ে দিচ্ছি। আসলে আমরা পিরামিডের চূড়া দেখেই অভিভূত হয়ে যাই, নীচের ভিতটিকে দেখতে পাই না। এর ফলে যুগ যুগ ধরে ভিত্তিবিহীন পিরামিডের চূড়া তৈরীর চেষ্টার পরও বার বারই সে পিরামিড ধ্বংস পড়ছে, যা হওয়াটাই স্বাভাবিক। স্বাধীনতার ৪১ বছরেও আমরা প্রযুক্তিগত শিল্পে নিজের পায়ে দাঁড়াতে পারি নি।



অন্য দিকে কৃষি খাতে আমরা কিন্তু অভূতপূর্ব সাফল্য পেয়েছি। বিদেশ থেকে খাবার এনে চলতে পারব না এ উপলব্ধি হওয়ায় কৃষককে জ্ঞান, প্রযুক্তি ও প্রয়োজনীয় সরবরাহ দিয়ে সহযোগিতা করার জন্য কৃষি সম্প্রসারণ অধিদপ্তর করেছি। তাকে কঠিন কোন নিয়ন্ত্রণমূলক নীতিমালার মধ্যে আটকিয়ে না ফেলতে আমরা কৃষিপণ্য থেকে সব কর তুলে নিয়েছি। সরকারী নীতিমালার এ ধরণের কিছু পৃষ্ঠপোষকতা পেয়ে প্রাচীন লাঙ্গল ও কিছু আধা যান্ত্রিক কৌশল ব্যবহার করেই এ দেশের নিরক্ষর কৃষকেরা স্বাধীনতার পর থেকে দ্বিগুণ হয়ে যাওয়া ১৫ কোটি মানুষের খাদ্য উৎপাদন করতে পারছে, মাছের চাষ, হাঁস মুরগী পশুপালনের মাধ্যমে দেশকে খাদ্যে প্রায় স্বয়ংসম্পূর্ণ করে তুলেছে। এখানে একটি বিষয় উল্লেখযোগ্য। এ কৃষকদের উৎপাদনের বাজার কিন্তু তার আশেপাশেই, এর জন্য তাকে অপরিচিত বিদেশের কঠিন বাজারকে সামনে রেখে এগুতে হয় নি।

অন্যদিকে শিল্পখাতে দেশের ১৫ কোটি মানুষের বিশাল ও সহজ বাজার যে আমাদের হাতের মুঠোয়, তা আমাদের চোখ এড়িয়ে গেছে, এটি একটি বড় দুঃখ। যুগ যুগ ধরে বিদেশে রপ্তানীকে বিশাল করে তুলে ধরে উন্নত বিশ্বের কঠিন বাজার ধরার চ্যালেঞ্জকে দেশের শিল্পোদ্যোক্তাদেরকে সামনে দিয়ে দিয়েছি, কিন্তু দেশের ১৫ কোটি মানুষের বিশাল ও সহজ বাজারকে আমরা ওলে দিয়েছি বিদেশীদের হাতে, দেশকে সারা পৃথিবীর বাজার করে ওলেছি। যদি দেশের মানুষের বাজারকে প্রাধান্য দিয়ে নীতিমালা করতাম তাহলে হয়ত এতদিনে দেশ অনেক এগিয়ে যেত। দেশের বাজারকে এখনও আমরা কেবল 'ইমপোর্ট সাবসিডিউশন' এর কথা বলে থাকি। কিন্তু আমাদের দেশের প্রযুক্তিবিদেরা সুস্থ ব্যবসায়িক পরিবেশ পেলে দেশের মানুষের চাহিদা অনুসরণ করে নতুন নতুন প্রযুক্তি উদ্ভাবন করতে পারতেন – তা কিন্তু 'ইমপোর্ট সাবসিডিউশন' নয়। তখন দেখা যেত যে আমাদের মত অনেক তৃতীয় বিশ্বে এসব পণ্যের ব্যাপক চাহিদা আছে। আমরা তখন বুক ফুলিয়ে নিজের প্রযুক্তিতে গড়া পণ্য রপ্তানী করতে পারতাম। কেবল সস্তা শ্রম দিয়ে নয়। নতুন নতুন পণ্য তৈরী করে দেশে ও বিদেশে ছড়িয়ে দিতে পারতাম। বর্তমান নীতিমালার মাধ্যমে দেশের মানুষের সস্তা শ্রমের সুযোগ নিতে দিচ্ছি ধনী দেশের মানুষদেরকে, যার ফলে তারা কম দামে জামাকাপড় পরতে পারছে। বস্ত্রতঃ এর মাধ্যমে আমরা ধনী দেশের মানুষদেরকে ভর্তুকি দিচ্ছি। বিনিময়ে দেশের মানুষের শ্রমের মূল্যকে বাড়তে দিচ্ছি না, দেশের নদী-পুকুরগুলোতে এসব শিল্পের বর্জ্য ফেলে বিষাক্ত করে তুলেছি, সেখানে কোন জীবিত মাছ বা প্রাণী আর নেই। আমাদের গরীব মানুষ আগে কমপক্ষে মাছ থেকেও যে প্রয়োজনীয় প্রোটিন যোগার করতো, সে সুযোগ থেকেও তাকে বঞ্চিত করেছি।

এ সব দুঃখজনক পরিস্থিতির জন্য আমাদের ঐতিহাসিক কিছু কারণও দায়ী যা এখানে একটু আলোচনা করতে চাই।

ক৩। ঐতিহাসিক পটভূমিতে কর নীতিমালা, ব্যবস্থাপনা ও ঔপনিবেশিক মানসিকতা

ব্রিটিশ ঔপনিবেশ আমলে আমাদের দেশের শিল্প ধ্বংস করে সেখানে ব্রুটনের পণ্য চালু করার জন্য যে নীতিমালা করা হয়েছিল, তার প্রধান হাতিয়ার ছিল কর নীতিমালা। আমদানী পণ্যকে শুল্কমুক্ত করে ও দেশীয় উৎপাদনের উপর উচ্চ

হারে আবগারী শুল্ক আরোপ করে দেশীয় পণ্যকে প্রতিযোগিতায় হারিয়ে দিয়ে এ ধরনের ব্যবস্থা করা হয়েছিল। আর এ শুল্ক আদায় করার জন্য যে সরকারী কর্মচারী দল তৈরি করা হয়েছিল তারা সরকারের পতাকা হাতে নিয়ে অসীম ক্ষমতাবোধ হয়ে ওঠে। দুর্নীতির মাধ্যমে সাধারণ মানুষকে হারাবার একটি মোক্ষম অস্ত্র তারা পেয়ে যায়। এর ফলে জীবন ধারণে অক্ষম হয়ে উনবিংশ শতাব্দীর গোড়ার দিকে বাংলাদেশে বহু তাঁতি মৃত্যুবরণ করে। দেশ দু-দুবার স্বাধীন হবার পরও আমরা কিন্তু ঔপনিবেশিক আমলের মানসিকতা, রীতিনীতি ও পদ্ধতিতে তেমন কোন ইতিবাচক পরিবর্তন আনতে পারি নি, বরঞ্চ ঔপনিবেশিকতার মানসিকতা আরও বেড়েছে, সরকারী কর্মচারীরা নিজেদেরকে এখন আগের থেকেও বেশী ক্ষমতাবোধ ভাবেন ও আচার আচরণে তা প্রকাশ করেন। উদাহরণস্বরূপ, আজকাল উচ্চ পদস্থ সরকারী কর্মচারীদেরকে ‘কর্মকর্তা’ নামে বলা হয় যার ইংরেজী অনুবাদ করলে হয় ‘ওয়ার্ক মাস্টার’। ব্রিটিশ ঔপনিবেশিক আমলে ‘ওয়ার্ক মাস্টার’ বা ‘কর্মকর্তা’ নামটির উপস্থিতি ছিল না, পাকিস্তান আমলেও এর ব্যবহার শূন্য। যে শব্দটি ছিল তা হল ‘সিভিল সার্ভেন্ট’, সুন্দর শব্দে ভাবানুবাদ করলে যা হয় ‘গনসেবক’। এতেই বোঝা যায় যে আমরা মানসিকতায় আগের থেকেও আরও বেশী ঔপনিবেশিক হয়েছি। (উল্লেখ্য ‘কর্মকর্তা’ শব্দটি বাংলাদেশের সংবিধানে নেই, তাই এ লিখাতে রাষ্ট্র যন্ত্রে নিয়োগপ্রাপ্ত সবাইকে ‘কর্মচারী’ হিসেবে উল্লেখ করব)

আমরা যারা শিক্ষিত ও শহুরে থাকি, তারা নিজেদের অসুবিধা ও অনুধাবনের কথা কিছুটা হয়ত সরকারের কাছে পৌঁছাতে পারি, নিজেদের অধিকারের কথা বুঝে তার প্রতিকার চাইতে পারি, কিন্তু গ্রামের অশিক্ষিত ও স্বল্প শিক্ষিত সাধারণ মানুষদের পক্ষে নিজেদের অসুবিধার কথা সরকারের কাছে পৌঁছানো বর্তমান ব্যবস্থায় অসম্ভব। বস্তুতঃ তারা এখনও স্বাধীনতার আশ্বাদ পায় নি, এখনও সরকারের কেন্দ্র থেকে উৎসারিত ক্ষমতায় ক্ষমতাবান ব্যক্তিদেরকে প্রাচীন রাজতন্ত্রের প্রতিভূ হিসেবেই তারা দেখে, কারণ গণতান্ত্রিক সরকারের কর্মচারীরাও ঔপনিবেশিক সে ক্ষমতার আশ্বাদটি পরিপূর্ণ ভাবে, এমনকি আরও বেশী করে পেতে চান। এ অবস্থা পরিবর্তন করতে স্বাধীনতার পর কোনো সরকারই চেষ্টা করে নি, তা সে গণতান্ত্রিক হোক বা অগণতান্ত্রিক হোক, কারণ এ ব্যবস্থাটি তাদের নিজেদেরকেই ‘কর্তৃত্বের’ আনন্দ দেয়, যা থেকে স্ব-উদ্যোগে বেরিয়ে আসতে কেউই চায় না। বরঞ্চ তার উল্টোটিই হতে দেখা গেছে। আরও একটি উদাহরণ বিষয়টিকে পরিষ্কার করে দেবে। কয়েক বছর আগে যখন বিচার ব্যবস্থাকে নির্বাহী ব্যবস্থা থেকে আলাদা করার চেষ্টা করা হয়, তখন নির্বাহী বিভাগের কর্মচারীরা মোবাইল কোর্ট পরিচালনা হাতছাড়া হয়ে যাচ্ছে দেখে রীতিমত রাষ্ট্রযন্ত্র বন্ধ করে দেয়ার মত হুমকি দেন যা প্রায় রাষ্ট্রদ্রোহিতার পর্যায়ে পড়ে। শেষে মোবাইল কোর্ট পরিচালনার ক্ষমতা তাদেরকে ফিরিয়ে দিয়ে ‘সমাধান’ করা হয়। বলা বাহুল্য, মোবাইল কোর্ট একটি ঔপনিবেশিক কাল কানুন, কারণ এক্ষেত্রে আত্ম-সমর্থনের কোনো সুযোগ থাকে না। আমাদের শিক্ষিত সমাজের উপর যদি এ ধরনের একটি শাসন ব্যবস্থা থাকত তবে আমরা তাকে ‘অগণতান্ত্রিক’ ও ‘কাল কানুন’ আখ্যা দিয়ে আন্দোলন করে অনেক আগেই বন্ধ করে দিতাম। এবার ফিরে আসি উদাহরণটিতে। যিনি সরকারের নির্বাহী বিভাগে কাজ করবেন তার জন্য মোবাইল কোর্ট পরিচালনা বিশাল কিছু হবার কথা নয়। অথচ এ ধরনের একটি অগণতান্ত্রিক মোবাইল কোর্টের ক্ষমতা হাতে পাওয়ার জন্য সরকারী কর্মচারীদের তীব্র আকাঙ্ক্ষা, আন্দোলন ও আশ্বালন প্রমাণ করে যে নিশ্চয় এ ব্যবস্থাতে তাদের নিজের জন্য আনন্দদায়ক, বা নিজেদের স্বার্থসিদ্ধির কিছু বিষয় আছে। দেশের অন্য মানুষের স্বার্থের কথা চিন্তায় নিজেদের চাকুরী হারানোর মত ঝুঁকি নিয়ে তাদের এ ধরনের আন্দোলনের ডাক দেয়ার কথা নয়। এ উদাহরণ থেকেও বোঝা যায় আমরা সাধারণ মানুষের উপর কি ধরনের শাসন চালাচ্ছি – তা ঔপনিবেশিক শোষণের থেকে খুব একটা ভিন্ন নয়, বরঞ্চ কোন কোন ক্ষেত্রে আরও বেশী।

উপরের কথাগুলো আজকের আলোচ্য বিষয়ের জন্য অতীব জরুরী, কারণ সাধারণ মানুষ কৃষি বা ক্ষুদ্র শিল্প পরিচালনা করতে গেলেই সেখানে অর্থ আয়ের ব্যাপারটি ঘটে, এবং এ মানুষগুলো সহজ সরল। সেখানেই প্রান্তিক পর্যায়ে আপাতঃ ‘অসীম ক্ষমতাবোধ’ এসব সরকারী কর্মচারীদের ক্ষমতা প্রয়োগের ঘটনাটি বেশী ঘটে।

সারা দেশে কৃষক যেন স্বাধীনভাবে কাজ করতে পারে সেটি আমাদের ধারণায় আছে, এবং তাকে চালাওভাবে সহযোগিতা দেয়ার জন্য নীতিমালা করা হয়েছে। তাকে সহযোগিতা করার জন্য প্রয়োজনীয় সার-সরঞ্জাম, তথ্য ও প্রযুক্তি পৌঁছে দেয়ার পিছনে দেশকে যে খরচ করতে হবে সেটিও আমাদের ধারণায় আছে। তাকে কর থেকে মুক্ত করে দিয়েছি যেন আর্থিকভাবে সে ভার মুক্ত হতে পারে। কিন্তু এ দেশে করমুক্ত হবার সবচেয়ে বড় সুবিধা হল দুর্নীতিবাজ কর কর্মচারীদের হারাবার থেকে মুক্তি পাওয়া। যার জন্য পত্রিকা, টেলিভিশনে আমরা সফল কৃষি উদ্যোক্তাদেরকে দেখতে পারছি, কিভাবে তারা কত বিনিয়োগ করে কত লাভ করতে পারছে তা প্রচার করতে পারছি, ফলে অন্যরাও কৃষিতে উৎসাহিত হয়েছে, মাছের চাষ করেছে, হাঁস-মুরগী-ছাগল গরু পালন শুরু করেছে। এর ফলে একাত্তরের সাড়ে সাত কোটি মানুষ এখন পনেরো কোটি হয়েছে, কিন্তু তার খাবারের প্রায় পুরোটাই আমাদের কৃষকেরা উৎপন্ন করতে পেরেছে, এমনকি সেই পুরোনো আমলের বলদ ও লাঙ্গল দিয়েই, যদিও ইদানীং কিছু যান্ত্রিক ব্যবস্থা আসতে শুরু করেছে।

কিন্তু ক্ষুদ্র শিল্পের বিষয়ে কি আমরা এ ধরনের পরিবেশ তৈরি করতে পেরেছি? সোজা উত্তর হচ্ছে না। সহায়ক কর নীতিমালার মাধ্যমে কৃষিতে আমরা উল্লেখযোগ্যভাবে সফল হতে পারলেও ক্ষুদ্র শিল্পের ক্ষেত্রে নিদারুণভাবে ব্যর্থ হয়েছি। সেখানে সহায়ক কর নীতিমালা দিতে পারিনি। কৃষকের মত আজকে একজন ক্ষুদ্র শিল্পোদ্যোক্তাকে কি টেলিভিশনে নিয়ে সবার সামনে দেখাতে পারব যে সে ক্ষুদ্র শিল্প স্থাপন করে লক্ষ লক্ষ টাকা আয় করেছে? সে কখনোই নিজেকে সবার

সামনে এভাবে উপস্থাপিত হতে দিতে চাইবে না, কারণ সে জানে যে প্রচার হবার পর দিনই একজন দুর্নীতিবাজ কাস্টমস কর্মচারী এসে তার কাছে উৎকোচ চাইবে, না পেলে তাকে হয়রানী করতে শুরু করবে। উদ্যোক্তা যতপরিমাণ বিক্রয় করেছে তার থেকে অনেক বেশী বিক্রয় হয়েছে দাবী করে তার উপর অনেক বেশী কর আরোপ করে দেবে। তাকে কর ফাঁকিবাজ, অপরাধের আসামী বলে তিরস্কার করবে, তার বিরুদ্ধে মামলা করে দেবে। বাংলাদেশের বাস্তবতায় সহজ সরল এ উদ্যোক্তার পক্ষে মামলা পরিচালনা করে জিতে আসা অসম্ভব ব্যাপার। এ জন্য তাকে যে সময় দিতে হবে ও টাকা পয়সা খরচ করতে হবে তাতে তার শিল্প উদ্যোগটি সম্পূর্ণ ধ্বংস হয়ে যাবে। তাছাড়া এ ধরনের অপমান সহ্যে পারা খুব কম মানুষের পক্ষেই সম্ভব। দেখা যাবে এর পরই তার উদ্যোগ বন্ধ হয়ে গেছে। এজন্য ক্ষুদ্র শিল্পের উদ্যোক্তারা টেলিভিশনে তো নয়ই, প্রদর্শনীতেও অংশ নিতে ভয় পান। কৃষির মত সারা দেশে মানুষ যখন তার নিজের উদ্যোগে ক্ষুদ্র শিল্প গড়ে তুলতে পারবে, বুক ফুলিয়ে বলতে পারবে যে, ‘আমি একজন সফল শিল্পোদ্যোক্তা’, যখন এ জন্য তাকে কেউ হয়রাণী করতে আসবেনা, তখনই দেশের উন্নতি হওয়া সম্ভব হবে। এ জন্য ক্ষুদ্র শিল্পকে কিছু স্বাধীনতা দিতে হবে চালাও নীতিমালার মাধ্যমে। আমলাতন্ত্রের সীমিত মানসিকতার মধ্যে তাকে আটকানো উচিত হবে না। সে যদি কোন অন্যায় করে তাকে প্রথমে সংশোধনের চেষ্টা করতে হবে, তার পরেও না হলে সাবধান করতে হবে, তারপরও না হলে শাস্তি দিতে হবে। কিন্তু তা করতে হবে এলাকার সিভিল সোসাইটি ও সংশ্লিষ্ট সমিতির মাধ্যমে, সরকারী আমলাতন্ত্রের মাধ্যমে সিদ্ধান্তে নয়।

খ) প্রযুক্তি নির্ভর ক্ষুদ্র শিল্পের সম্পর্কে আরও কিছু চিন্তা

খ-১। জীবনের গুণগত মান ও স্বাধীনতা

আরও যেগুলো মূল মানদণ্ড হিসেবে আসা উচিত তা হল জীবনের গুণগত মান ও স্বাধীনতা। কেবলমাত্র দারিদ্র দূরীকরণ যদি লক্ষ্য হয়, তবে তা মানুষের স্বাধীনতা কেড়ে নেয়ার বিনিময়েও হতে পারে, কারণ একজন মানুষকে ‘দাস’ বানিয়েও দারিদ্র দূরীকরণ করতে পারে। বিভিন্ন যুক্তি ও অর্থনৈতিক ব্যবস্থাপনায় ‘দড়ি’ দিয়ে না বেঁধেও বিভিন্ন উপায়ে মানুষকে ‘দাস’ বানিয়ে ফেলা সম্ভব, যার অনেক উদাহরণ দেয়া যেতে পারে। তাছাড়া কোনো মানদণ্ডে ‘দারিদ্র’ দূর হয়েছে হয়ত বলা যাবে, কিন্তু তার জীবনের গুণগত মান অনেক নীচু থেকে যেতে পারে। পৃথিবীর যাবতীয় উপকরণকে ব্যবহার করে জীবনকে আরামপ্রদ করতে প্রযুক্তির ব্যবহারকে গুণগত মানের একটি মানদণ্ড হিসেবে বিচার করা যেতে পারে। সে বিচারে আমাদের দেশের বেশিরভাগ জনগোষ্ঠীর স্থান কোথায়? আমরা শহুরে শিক্ষিতরা দেশের রাষ্ট্রযন্ত্রের কাছাকাছি থাকায় নিজেদের আয় বোজগারের ব্যবস্থা এমনভাবে করে নিয়েছি যে অনেক বেশী আয়ের দেশ থেকে আসা গাড়ী, এয়ার কন্ডিশনার, ফ্রিজ, টেলিভিশন, কম্পিউটার, ইত্যাদি ব্যক্তিগতভাবে ব্যবহার করে জীবনকে উপভোগ করতে পারি, অবসর বিনোদন করতে পারি, সাহিত্য ও বিজ্ঞান চর্চা করতে পারি। কিন্তু গ্রামে থাকা দেশের বেশিরভাগ মানুষ, বা আমাদের শহুরে জীবনকে সেবাদানকারী শহুরে দরিদ্রদের জন্য কি তার একটুও দিতে পেরেছি?

আধুনিক রাষ্ট্রীয় ব্যবস্থায় সরকারের ‘ক্ষমতায়’ কে থাকবেন বা না থাকবেন তা অনেকাংশে নির্ধারণ করেন শহুরে শিক্ষিতরা। তাই যে সরকারই আসুক না কেন, শহুরে শিক্ষিত মানুষের আরাম আয়েস ও স্বাধীনতার বিষয়টিই মুখ্য হয়ে থাকে। আমাদের মত তৃতীয় বিশ্বে গ্রামে বাস করা বেশির ভাগ জনগোষ্ঠীর জীবনের গুণগত মান, স্বাধীনতা পিছনে চলে যায়।

খ-২। বিশ্বায়নের কিছু ভাঙ্গু যুক্তি

বিশ্বায়নের একটি যুক্তি দেয়া হয় যে যার যে বিষয়ে সুযোগ ও দক্ষতা বেশী সে কেবল সে কাজটি করুক, তাহলে গোটা বিশ্বের মানুষ কম পয়সায় সব সুবিধাগুলো পাবে। এ যুক্তিটি গ্রহণীয় হত যদি সব দক্ষতার সমান অর্থনৈতিক মূল্যায়ণ হত। আমাদের দেশের একজন কৃষক বা শ্রমিক দিনে ৮ ঘণ্টা পরিশ্রম করে যে অর্থ আয় করছে, একই দেশের কেউ কেউ তা থেকে কয়েক হাজার গুণ আয় করছে, আর পাশ্চাত্যের কোন কোন দেশে তা আরও বেশী। তাই যখন ইদানীংকার নতুন ব্যবস্থাপনায় ‘আউটসোর্সিং’ এর গুণগানের আড়ালে রয়ে গেছে দারিদ্রকে জিইয়ে রাখার প্রবণতা। কারণ মানুষকে কম মূল্য দিয়ে কাজ করিয়ে নেয়াতেই আউটসোর্সিং এর সফলতা, তাই স্বাভাবিকভাবে এ ব্যবস্থা কখনোই চাইবে না যে যারা কাজ করবে তাদের আয় বাড়ুক। এটিকে সফল করতে যার সাহায্য দরকার, তা হল দেশের সরকারের। তাই সরকারে যারা আছে তাদেরকে বিভিন্নভাবে প্রভাবান্বিত করে, পৃথিবীময় প্রচারের মাধ্যমে প্রতিটি দরিদ্র দেশের সরকার ব্যবস্থাকে এমনভাবে নিয়ন্ত্রণ করে রাখা হয়েছে যেন তারা যেতে নিজেদের মানুষদেরকে প্রকৃত বিবেচনায় আধুনিক বিশ্বের ‘দাস’ বানিয়ে ফেলেছে।

খ-৩। দরিদ্রের চাহিদা ও পাশ্চাত্যের অর্থনীতিশাস্ত্রের তত্ত্ব

আজকাল আমাদের নীতিমালা ভীষণভাবে অর্থনীতিশাস্ত্রের উপর নির্ভরশীল হয়ে গেছে। একটি বড় সমস্যা হচ্ছে যে অর্থনীতি দরিদ্রের চাহিদাকে চাহিদা হিসেবে গণ্য করে না। তাই তৃতীয় বিশ্বের হতদরিদ্রদের জন্য অর্থনীতি অনুদান বা ভিক্ষার বাইরে কিছু চিন্তা করতে পারে না। কিন্তু এসব দরিদ্রেরাও রক্ত মাংসের মানুষ, তাদেরকে খেতে হয়, পড়তে হয়। তাদেরও আত্ম সম্মান আছে, উদ্ভাবনী শক্তি আছে। তারা কিন্তু সোশাল সেফটি নেটের অনুদান, বা সরাসরি বলতে গেলে,

‘ভিক্ষার’ অর্থ নিতে লালায়িত নয়। তারা কাজের পরিবেশ চায়, নিজেই নিজের জীবনকে গড়তে চায়। যদি সাধারণ মানুষের কাছে যাওয়া যায় তবে এ বক্তব্যের সমর্থন পাওয়া যাবে। একজন উপার্জনক্ষম ব্যক্তি যথেষ্ট আয় করতে পারলে সে তার বৃদ্ধ পিতা মাতা বা প্রতিবন্ধী ভাই-বোনকে দেখবে না? হাজার হাজার বছর ধরে কিন্তু তাই চলে আসছে। কিন্তু আধুনিক অর্থনীতি, যা পাশ্চাত্যের শিল্প বিপ্লব পরবর্তী সময়ে প্রণীত হয়েছে তা মানুষের এসব অন্তর্নিহিত গুণাবলীকে খুব একটা আমলে নেয় না, লোভ লালসায় ভরা মানুষের ঋণাত্মক দিকগুলোই অর্থনীতি সামনে রেখে চিন্তা করে। তাই এ চিন্তার ভিত্তিতে গঠিত নীতিমালা মানুষকে আরও লোভী ও অমানুষ করে তোলে, যার উদাহরণ চারদিকে দেখতে পাচ্ছি।

আধুনিক রাষ্ট্র ব্যবস্থায় তৃতীয় বিশ্বে আমরা যারা শিক্ষিত, যারা নীতিমালা প্রণয়ন করি, সাধারণ মানুষ থেকে আমাদের অবস্থান অনেক দূরে। আমরা নিজেদেরকে অনেক বেশী বিজ্ঞ ও অভিজ্ঞ ভাবি, এখানেই বড় সমস্যা নিহিত। নীতিমালা প্রণয়নকারী হিসেবে আমরা ভাবি যে দেশের সমস্যা সমাধানের জন্য সব মেধা ও জ্ঞান কেবলমাত্র আমাদেরই রয়েছে, আমরা পরিকল্পনা করব, দেশের মানুষ কেবল সে পরিকল্পনা অনুযায়ী চললেই দেশের সমৃদ্ধি আসবে। যুগের পর যুগ আমরা এভাবেই দেশের অর্থনীতির পরিকল্পনা করে আসছি, কিন্তু দারিদ্র এখনও কাটিয়ে উঠতে পারি নি। এসব পরিকল্পনায় ভাবা হয় যে দেশের জনসাধারণের কেবল শ্রম দেয়ার জন্য দুটি করে হাত রয়েছে, তাই দেশের সমস্ত শ্রমকে সারা বিশ্বে বিপণন করা ছাড়া দারিদ্র দূরীকরণের কোন রাস্তা নেই। কিন্তু সৃষ্টিকর্তা প্রতিটি ব্যক্তিকে দুটি হাতের সাথে একটি মস্তিষ্কও দিয়েছেন, এবং মেধা ব্যবহার করে যে কোন কঠিন অবস্থা থেকে নিজেকে বের করে নিয়ে আসার মত উদ্ভাবনী ক্ষমতাও তাকে দিয়েছেন, অবশ্য যদি না অন্য কেউ তার উপর ক্ষমতা প্রয়োগ করে তাকে দাবিয়ে রাখে। অভিজ্ঞতার আলোকে বলতে হয়, ঔপনিবেশিক আমলে আমাদের দেশের শিল্পকে ধ্বংস করে তাদের থেকে পণ্য আমদানীকে উৎসাহিত করার জন্য যে সব কর নীতিমালা ও রাষ্ট্রীয় ব্যবস্থাপনা প্রণয়ন করা হয়েছিল, দেশ স্বাধীন হবার পর সে নীতিমালাকেই যোগ-বিয়োগ করে আমরা চলছি। তাই সাধারণ মানুষকে দাবিয়ে রাখার যে উপাদানগুলো নীতিমালায় অন্তর্ভুক্ত ছিল সে গুলোকে আমরা দূর করে উঠতে পারিনি। দারিদ্রের মূল কারণও এখানেই। তাছাড়া এ কারণেই বিশ্বে ধনী ও দরিদ্রের বৈষম্যের সাথে আমাদের দেশের ভিতরের বৈষম্যও বাড়ছে।

খ-৪) ভারতের উপলব্ধি ও কর্ম পরিকল্পনা

স্বাধীনতার পর থেকেই দেশীয় শিল্প প্রসারের জন্য প্রথমে বৃহৎ শিল্পের দিকেই নজর দিয়েছিল ভারত। সত্তরের দশকে বুঝতে পারে যে বৃহৎ শিল্প দেশের কাঙ্ক্ষিত পরিবর্তন আনতে পারছে না। তখন তারা নিজস্ব প্রযুক্তি ভিত্তিক ক্ষুদ্র শিল্পের গুরুত্ব উপলব্ধি করে তার প্রসারের জন্য সর্বাঙ্গিক প্রচেষ্টা শুরু করে। প্রথম থেকেই আমদানী করা পণ্যের প্রতিযোগিতায় নিজস্ব সব ধরনের শিল্পের সুরক্ষার জন্য আমদানী কর নীতিমালা যখন তারা দেখলেন যে দেশেরই বড় শিল্প উদ্যোক্তাগণ ক্ষুদ্র শিল্পের তৈরী পণ্যের প্রতিযোগিতায় এসে যাচ্ছে, ক্ষুদ্র শিল্পকে রক্ষার জন্য বড় শিল্প কোন কোন পণ্য তৈরী করতে পারবে না তার জন্য ঋণাত্মক তালিকা প্রণয়ন করে তারা। বর্তমানে বছরে এক কোটি টাকা বিক্রয়কারী ক্ষুদ্র শিল্পকে কোন কর দিতে হয় না, কোন নিবন্ধনও করতে হয় না। এ স্বাধীনতা দেয়ার ফলে সেখানে অনেক ক্ষুদ্র শিল্প গড়ে উঠেছে, আর আজ সারা পৃথিবী দেখছে ভারত কিভাবে গোটা বিশ্বে গুরুত্বপূর্ণ হয়ে উঠেছে।

গ) এগিয়ে যাওয়ার পথে বাধা ও তা দূর করার উপায়

বাংলাদেশ এক অমিত সম্ভাবনার দেশ। এদেশের মানুষের মেধা ও দক্ষতা পৃথিবীর যে কোন দেশের চাইতে কোন অংশে কম নয়। বিশেষ করে ইলেকট্রনিক্স এবং ইলেকট্রিক্যাল খাতে এ দেশের মানুষের মেধায় বিশেষ স্কুরণ ঘটতে পারবে তাই এ প্রযুক্তি ও প্রকৌশল খাতে ক্ষুদ্র শিল্প যেন এগিয়ে যেতে পারে তার জন্য কিছু কর্ম পরিকল্পনা এখানে প্রস্তাব আকারে তুলে ধরা হল।

ঘ) মন্তব্য

দুঃখজনকভাবে গোড়া থেকে কর নীতিমালা তৈরীর দায়িত্ব দেয়া হয়েছে এনবিআর কে যাদের মূল দায়িত্ব হচ্ছে কি ভাবে দেশের রাজস্ব ভাণ্ডারে বেশী টাকা আনা যায়, এবং সেটিই তাদের একমাত্র ধ্যান ধারণা। এর ফলে তার সোনার ডিম পাড়া হাঁসকে মেঝে ফেলছে কিনা তা তাদের চিন্তা-চতনায় আসার কথা নয়। বিভিন্ন ব্যক্তি, সমিতি ও প্রতিষ্ঠানের কাছ থেকে এনবিআর মতামত নিয়ে থাকে, কিন্তু চূড়ান্ত সিদ্ধান্ত এনবিআরই নিয়ে থাকে। বাস্তবে দেশ ভবিষ্যতে নিজের পায়ে দাঁড়াতে হলে কোন কোন নতুন প্রযুক্তির দিকে দেশকে এগোতে হবে, কোথায় কোথায় দেশের মানুষকে বিদেশ থেকে আসা পণ্য ও অন্যান্য সম্ভার থেকে রক্ষা করার জন্য পদক্ষেপ নিতে হবে, তার জন্য প্রয়োজনীয় জ্ঞান ও অভিজ্ঞতা এনবিআর এর থাকার কথা নয়। এ কাজের জন্য গভীর জীবন বোধ, জ্ঞান ও দূরদর্শী নেতৃত্বের প্রয়োজন, এর জন্য বিশেষ গবেষণা সেল প্রয়োজন যা দেশের অতীতের সব ভুল থেকে শিক্ষা নিতে পারে, বিদেশের বিভিন্ন অভিজ্ঞতাকে দেশের পরিস্থিতিতে যথোপযোগীভাবে বিশ্লেষণ করে করণীয় নির্ধারণ করতে পারে। এনবিআর দপ্তরে এ কাজের জন্য কোনো গবেষণা সেলও নেই। তাই এখনও সে দপ্তরের উচ্চ পদস্থ অফিসারদের ব্যক্তিগত অনুধাবন এবং ইচ্ছা অনিচ্ছার উপরে দেশের কর নীতিমালা নিভ্রু করে। বলা বাহুল্য এর ফলে সহজেই সেখানে দুর্নীতি ঢুকে যেতে পারে, এবং বিভিন্ন সময়ে স্বয়ং অর্থ মন্ত্রীদের কথায় তা প্রতিফলিত হয়েছে। দেশের নিজের পায়ে দাঁড়ানোর মত এত গুরুত্বপূর্ণ একটি বিষয়কে আমরা এ ভাবে ব্যক্তিবিশেষের অনুধাবন ও ইচ্ছা-অনিচ্ছার উপর ছেড়ে রেখেছি, আর স্বাধীনতার ৪৯ বছর পরও এ বিষয়টি আমরা অনুধাবন করতে পারি নি, এটি বড় দুঃখজনক।

অর্থ মন্ত্রীর কাছে চূড়ান্ত কর নীতিমালা পেশ করা হয়ে থাকে, তিনি সামগ্রিকভাবে দেখে থাকেন, কিন্তু হাজার হাজার পণ্যের বিশদ করের তালিকা তার পক্ষে দেখা অসম্ভব। তিনি সামগ্রিক কিছু নীতিমালা হয়ত ঠিক করে দেন। দেখা যায় মন্ত্রীর বা এনবিআর এর অফিসারদেরকে কোনো ব্যক্তি বা গোষ্ঠী বিশেষ কোন একটি পণ্যের বিষয়ে দৃষ্টি আকর্ষণ করে প্রভাব বিস্তার করলে ব্যক্তিগত সিদ্ধান্তে কিছু পরিবর্তন হয়ত আনা হয়। কিন্তু এতে দেশের সামগ্রিক স্বার্থ দেখার সুযোগ থাকে না। অপর দিকে ক্ষুদ্র শিল্পের স্বল্প শিক্ষিত ও সামাজিক প্রভাবহীন উদ্যোক্তাদের পক্ষে বাংলাদেশের বিদ্যমান বাস্তবতায় অর্থ মন্ত্রী বা এনবিআর এর উচ্চপদস্থ অফিসারদের কাছে ব্যক্তিগতভাবে তাদের কথা সরাসরি পৌঁছে দেয়ার সুযোগ কতটা আছে তা সহজেই অনুমেয়। তাই ধনী আমদানীকারক এবং বড় বড় শিল্পের স্বার্থে অনেক নীতিমালা হয় যা ক্ষুদ্র শিল্পের বিপক্ষে গিয়ে তাদেরকে ধ্বংস করে দেয়। এ কারণেই এত জনগোষ্ঠীর বাংলাদেশ দরিদ্র হয়ে আছে। এ দেশের মানুষের যে সহজাত বুদ্ধিবৃত্তি রয়েছে, তা অনেক দেশের তুলনায় বেশী। এ কারণেই এক সময়ে সমৃদ্ধশালী দেশ হিসেবে পৃথিবী জোড়া খ্যাতি ছিল, যার কারণে বিভিন্ন দেশ থেকে মানুষ এসে এ দেশে থেকে গেছে, বা এ দেশ থেকে সম্পদ লুট করে নিয়েছে। অথচ, দুঃখ, এভাবে ব্যক্তিবিশেষের, বিশেষ করে মূল দায়িত্বের ভিন্নতার কারণে যাদের মন-মানসিকতা কর নীতিমালা প্রণয়নের উপযোগী নয়, যাদেরকে দুর্নীতির মাধ্যমে প্রভাবান্বিত করা খুবই সহজ, তাদের তাৎক্ষণিক সিদ্ধান্তের উপর সারা দেশের কর নীতিমালা পরিচালিত হচ্ছে।

এ প্রসঙ্গে বিদ্যুৎ ও ইলেকট্রনিকস খাতে কয়েকটি উদাহরণ তুলে ধরা যায়। ১৯৯৮ সালে কম্পিউটারের এবং সাথে আনা অ্যাক্সেসরিজ এর উপর থেকে আমদানী কর ও ভ্যাট শূন্য করে দেয়া হয়। অথচ কম্পিউটারের ইউপিএস তখন দেশে তৈরী হতে শুরু করেছে, এবং কম্পিউটারের চাহিদা বৃদ্ধির সাথে সাথে এ দেশের তরুণেরা দেশে ইউপিএস তৈরীর এক বিশাল সম্ভাবনা দেখে সেদিকে প্রচেষ্টা ও বিনিয়োগ করতে শুরু করে। কিন্তু দুঃখজনকভাবে কম্পিউটারের সাথে ইউপিএস এর উপর আমদানী কর ও ভ্যাট শূন্য করে দেয়া হয়, কিন্তু স্থানীয় উৎপাদনের উপর থেকে নয়। এ অবস্থা আজ ১৪ বছর পরও বহাল আছে। ইউপিএস এর মূল উপাদান সিল্ড ব্যাটারীর উপর উচ্চ হারে সাপিমেন্টারী ডিউটি বহাল থাকে, অথচ আমদানী করা ইউপিএস এর ভিতর ঐ একই ব্যাটারী বিনা শুল্কে এসে যায়। আর দেশেই এ ধরনের ব্যাটারী কেউ তৈরী করত না, এখনও করে না। আমরা কয়েকবারই এ বিষয়ে সুনির্দিষ্ট তথ্য সংগ্রহ করে ২০০৫ এর দিকে এসএমই টাস্ক ফোর্সের মাধ্যমে দেখিয়েছি যে একটি ৫০০ ভিএ ক্ষমতাসম্পন্ন ইউপিএস আমদানী করতে দেশের রাজস্ব খাতে দিতে হয় মোট ১৫০ টাকা মাত্র, কিন্তু একই ক্ষমতার ইউপিএস ক্ষুদ্র শিল্পের মাধ্যমে দেশে তৈরী করতে গেলে সরকারের রাজস্ব খাতে দিতে হয় প্রায় ১০০০ টাকা, যা কোন স্বাধীন দেশের কর নীতিমালার পরিচায়ক নয়। এর প্রেক্ষিতে এ পর্যন্ত যা পরিবর্তন হয়েছে তাতে পার্থক্যটিকে সামান্য কমানো হয়েছে মাত্র, এখনও দেশে তৈরীতে বেশী কর এর অবস্টিটি রয়ে গেছে। এ ছাড়া সোলার ফটোভোল্টায়িক এর সাথে সব ইলেকট্রনিক সামগ্রীকের আমদানীতেও সম্পূর্ণ কর ও ভ্যাট অব্যাহতি দেয়া হয়, যা এখনও বহাল আছে। এ সুযোগে ইলেকট্রনিকসের অনেক পণ্য এ দুটি পণ্যের ঘোষণায় শূন্য করে দেশে ঢুকে গেছে। এর ফলে দেশে ইলেকট্রনিকস শিল্পের যে সম্ভাবনা দেশবাসী দেড় দু দশক আগে দেখেছিল, তা বাস্তবায়িত হয় নি, এ শিল্পখাতটি আজ ধ্বংসপ্রায়।

তাছাড়া কম্পিউটারকেও কর অব্যাহতি দেয়ার ফলে আমাদের দেশে কম্পিউটার এর বিশাল বিস্তারের যুগে এটি ও তার বিভিন্ন অ্যাক্সেসরীজ তৈরী হবার যে সুযোগ ছিল তাও বন্ধ হয়ে গেছে এ কর নীতিমালায়। আমাদের দেশে যখন কম্পিউটারকে আমদানীকরমুক্ত করা হয় তখন পাশের দেশ ভারতে কম্পিউটারের উপর ৪০% এর বেশী কর ছিল। তারা কি কম্পিউটারের অগ্রগতিতে বাংলাদেশ থেকে পিছিয়ে আছে? শোনা যায় এক সময়ে বাংলাদেশ থেকে বহুল পরিমাণে কম্পিউটার ও অ্যাক্সেসরীজ ভারতে চোরাচালানী হয়েছে। এ কারণেই হয়ত বর্তমানে সেখানে কম্পিউটারের উপর কর কমিয়ে ১৭% নামানো হয়েছে, কিন্তু আমাদের মত শূণ্য করা হয় নি। তাই সেখানে নিজস্ব কম্পিউটার তৈরী হচ্ছে, দেশের সাধারণ মানুষের কাছে স্বল্প মূল্যে কম্পিউটার পৌঁছে দেয়ার ব্যবস্থা হয়েছে। শূণ্য আমদানী করের আওতা চলতে থাকলে আমাদের দেশে মেধা ও দক্ষতা থাকলেও কখনও কি নিজস্ব প্রযুক্তিতে কম্পিউটার তৈরী করা সম্ভব হবে? ইতিমধ্যে ১৪ বছর ধরে কম্পিউটার ব্যবহারকারীরা ভ্যাট ও অন্যান্য কর মওকুফের সুবিধা পেয়েছে, এটি এখন বন্ধ করা দরকার। তাই কম্পিউটারের উপর ধীরে ধীরে ভ্যাট ও অন্যান্য আমদানী কর আরোপ করা দরকার।

অপর উদাহরণটি হচ্ছে টেলিভিশন অ্যাসেম্বলী বা সংযোজন শিল্পের। গত ১৯৯০ এর দশকে ঘরে ঘরে টেলিভিশন সংযোজন শিল্প গড়ে উঠে এ পণ্যটির দাম অনেক কমে গিয়ে সাধারণ মানুষের হাতের নাগালে চলে আসে। শহরের বস্ত্রিবাসী দরিদ্রদেরকেও টেলিভিশন ব্যবহার করতে দেখা যায়। এমনকি টেলিভিশন সংযোজনের জন্য কতগুলো দল তৈরী হয়ে যায়। কোন উদ্যোক্তা একসাথে অনেকগুলো সম্পূর্ণ বিযুক্ত (সিকেডি) টেলিভিশন কিট আমদানী করে এ দলদের কাউকে খবর দিলে তার এসে দুতিন সপ্তাহে কয়েকশত টেলিভিশন সংযোজন করে দিয়ে যেত। পরে সে উদ্যোক্তা তার বাজারজাত করত। এ ধরনের একটি অবস্থা দেশের অগ্রগতির জন্য খুবই সুসংবাদ ছিল। কিন্তু ২০০২ সালে ঘোষিত কর নীতিমালায় সম্পূর্ণ বিযুক্ত টেলিভিশন কিট এবং সম্পূর্ণ তৈরী টেলিভিশনের মধ্যকার কর পার্থক্য অনেক কমিয়ে দেয়া হয়। ফলে দেশের সব ক্ষুদ্র টেলিভিশন সংযোজন শিল্প ধ্বংস হয়ে যায়, উন্নত ব্র্যান্ডের দু তিনটি বড় শিল্প প্রতিষ্ঠান ছাড়া। ২০০৩ সালের বাজেটের আগে তদনীন্তন এনবিআর এর চেয়ারম্যানের কাছে এ বিষয়টি তুলে ধরলে তিনি স্বীকার করেন যে বড় ভুল হয়ে গেছে, এবং ২০০৩ সালে ঘোষিত কর নীতিমালায় এর সংশোধন করে আগের পর্যায়ে নিয়ে যাওয়া হয়। কিন্তু উক্ত চেয়ারম্যান বদলী হয়ে যাওয়ার পর ২০০৪ সালের মার্চ মাসে সম্পূর্ণ বিযুক্ত টেলিভিশন কিট এর উপর উচ্চ ২২.৫% হারে এবং সম্পূর্ণ তৈরী টেলিভিশনের উপর মাত্র ৫% হারে রেগুলেটরী ডিউটি আরোপ করা হয়। তারপর ২০০৪ সালের বাজেটে সম্পূর্ণ বিযুক্ত টেলিভিশন কিট এবং সম্পূর্ণ তৈরী টেলিভিশনের উপর এক সমান হারে আমদানী কর ও ভ্যাট আরোপ করা হয়। যার ফলে ক্ষুদ্র টেলিভিশন সংযোজন শিল্প যেন আর মাথা তুলে দাঁড়াতে না পারে তার ব্যবস্থা করা হয়। এভাবে এতদিন চলে আসছে। তার মধ্যেও কোন কোন ক্ষুদ্র শিল্প চেষ্টা করছিল কোনভাবে এ বাজারটি ধরা যায় কিনা। কিন্তু তাদের সে চেষ্টাও বন্ধ করে দেয়ার জন্য পরবর্তীতে ২০১০ সালের বাজেটে আরও একটি নতুন কর নীতি চালু করা হয়। কেবলমাত্র নিবন্ধনকৃত টেলিভিশন সংযোজন শিল্পই উপরিউক্ত হারে সম্পূর্ণ বিযুক্ত টেলিভিশন কিট আমদানী করতে পারবে। অন্য কেউ আমদানী করতে চাইলে তারে আরও ২০% হারে বাড়তি সম্পূরক শুল্ক দিতে হবে। অর্থাৎ যেখানে ফিনিশড টেলিভিশন আমদানীতে ২৫% আমদানী কর, সেখানে তার যন্ত্রাংশ সাধারণভাবে আমদানীতে কর হল ৪৫%! কোন স্বাধীন দেশে এমনটি ভাবা যায়? ক্ষুদ্র সংযোজন শিল্পগুলো নিজেরা সম্পূর্ণ বিযুক্ত টেলিভিশন কিট আমদানী করতে পারে না। যন্ত্রাংশ আমদানীকারকেরা একসাথে আমদানী করে বাজারে তা ছড়িয়ে দেন, ক্ষুদ্র শিল্প উদ্যোক্তারা বাজার থেকে অল্প সংখ্যায় কিনে কিনে সংযোজন করে থাকেন। এটি দেশের উন্নতি ও সমৃদ্ধির জন্য একটি কাঙ্ক্ষিত ব্যবস্থা, কিন্তু সেটি যেন হতে না পারে তার ব্যবস্থাই যেন করা হল। অর্থাৎ আমদানীকারকদের পাশাপাশি দেশে বড় বড় সংযোজন শিল্পের স্বার্থে ক্ষুদ্র শিল্পকে বিসর্জন দেয়া হল।

২০০০ সালে কিছু বিশেষজ্ঞ ব্যক্তির উদ্যোগে সরকারকে বোঝানোর সুযোগ হয়। দেশের নিজস্ব প্রযুক্তির ইলেকট্রনিকস শিল্পের রক্ষা ও প্রসারের জন্য তাদের উপর থেকে ১৫% ভ্যাট এর পরিবর্তে মূল্য সংকোচন ভিত্তিতে ২.৫% টার্প-ওভার কর আরোপের সিদ্ধান্ত হয়। কর নীতিমালা সহজ করে ফেললে ক্ষুদ্র শিল্পপ্রতিষ্ঠানগুলো কর দিয়ে নিজেদের আইনী অবস্থানকে পোক্ত করতে পারবে। এর ফলে দুনীতিবাজ কর্মচারীরা তাদের হযরানী করতে পারবে না। কিন্তু এনবিআর এ সিদ্ধান্ত কখনেই বাস্তবায়ন করে নি, দেশের বিশেষজ্ঞদের অনেক অনুরোধ ও প্রচেষ্টা সত্ত্বেও। কেন, তা সহজেই অনুমান করা যায়।

ইদানীং দেখা গেছে বড় বড় দু একটি শিল্প প্রতিষ্ঠান রেফ্রিজারেটর সংযোজন শিল্প শুরু করেছে, সাথে সাথে রেফ্রিজারেটর সংযোজনের উপর থেকে ভ্যাট ৪ বছরের জন্য সম্পূর্ণ প্রত্যাহার করা হয়েছে, আর আমদানীর উপর কর বাড়িয়ে দেয়া হয়েছে। অর্থাৎ এ ধরনের প্রযুক্তি ও প্রকৌশল নিত্তর ক্ষুদ্র শিল্প যেখানে লক্ষ উদ্যোক্তা তৈরী করে দেশে লক্ষ লক্ষ মানুষের কর্ম সংস্থান করতে পারত, বিদেশে রপ্তানীর সুযোগ করে দিতে পারত, তাদের জন্য বছরের পর বছর অনুরোধ উপরোধ করা সত্ত্বেও তাদের তৈরী পণ্যের উপর থেকে ভ্যাট প্রত্যাহার করার, বা ভ্যাট সহজীকরণ করা হয় নি।

তাই কর নিতিমালা প্রণয়নের বিষয়টি জাতির অর্থনৈতিক ভবিষ্যতের জন্য অতীব গুরুত্বপূর্ণ। এটিকে জাতীয় রাজস্ব বোর্ডের মত একটি সরকারী প্রতিষ্ঠানের উপরে ছেড়ে দেয়া যায় না। বিশেষায়িত বিষয়ে দেশের বিশেষজ্ঞ ব্যক্তিত্ব, বিশ্ববিদ্যালয়, সংশ্লিষ্ট ক্ষুদ্র, মাঝারী ও বৃহৎ শিল্প ও ব্যবসায়ী সমিতি, সংসদীয় কমিটি, এনবিআর, ট্যারিফ কমিশন, বিভিন্ন মন্ত্রণালয়- অনেকের সমন্বয়ে কর নিতিমালা তৈরী করা প্রয়োজন, বিভিন্ন বিষয়ে আলাদা আলাদা সাব-কমিটি তৈরীর মাধ্যমে। এর নেতৃত্ব থাকতে হবে সরকারী আমলাতন্ত্রের বাইরে। বৃটিশ ঔপনিবেশিক শক্তি কেবলমাত্র কর নিতিমালার মাধ্যমে এ দেশের অর্থনীতিকে ধ্বংস করে কোটি কোটি মানুষকে পথে বসিয়ে দিয়েছিল, যার প্রভাব কোন না কোন ভাবে এখনও আমাদের উপর রয়েছে। এ কর নিতিমালার পরিবর্তনের মাধ্যমেই কেবল দেশের অর্থনৈতিক উন্নয়ন আশা করতে পারি। অন্য কোন উপায়ে হাজারও চেষ্টা করলেও হবে না। আশা করি আমাদের বোধোদয় হবে এবং দেশের স্বার্থ ও দেশের ভবিষ্যৎ আমাদের কর নিতিমালার মধ্যে প্রতিফলিত হয়ে ২০২৯ সালের আগেই মাঝারী দেশে উন্নীত হবার স্বপ্ন বাস্তবায়িত হবে।

Annex -1: List of resource person at the validation workshop

SL	Name	Organization & Designation
1.	Syed Rezwanul Kabir	SME Foundation Royal Tower, 4 Panthapath, Kawran Bazar, Dhaka - 1215 Managing Director & CEO
2.	Mr. Md. Mujibur Rahman	SME Foundation Royal Tower, 4 Panthapath, Kawran Bazar, Dhaka - 1215 Deputy General Manager, Policy Advocacy and Research Wing
3.	Mr. Mohammed Shahabuddin	National Board of Revenue (NBR) Former, Member Flat # 5C, House # 46 (Yasmine's Regency), Road # 10 A, Dhanmondi R/A, Dhaka-1209
4.	Mr. A.K.M Rafiqul Islam	SME Cell, Ministry of Industry Government of Bangladesh Shilpa Bhaban, 91, Motijheel C.A, Dhaka-1000 Deputy Secretary
5.	Mr. Absar Karim Chowdhury	The Fazal Industries 41/1, Horicharan Ray Road Faridabad, Dhaka Proprietor Ex. President, Bangladesh Electrical Merchandise Manufactures Association (BEMMA)
6.	Mr. Mosharraf Hossain Bhuiyan	RR Electric Industries 157 Nawabpur Road, Dhaka, Bangladesh President, Bangladesh Electrical Merchandise Manufactures Association (BEMMA)
7.	Mr. Md Kamal Hossain (Mredul)	Spark Power Industries Central Electric Market, Standard Electric, 165, Nawabpur Road, Dhaka, Bangladesh. Vice President , Bangladesh Electrical Merchandise Manufactures Association (BEMMA)
8.	Mr. Shahin Ahmed	M.S. Electric market, 1st Floor, Nawabpur, Dhaka, Bangladesh. Director, Bangladesh Electrical Merchandise Manufactures Association (BEMMA)
9.	Mr. Md. Joynal Abedin Khan	M/S. Power Link 127, Nawabpur Road, Dhaka-1100 Proprietor
10.	Mr. Md. Sohikul Islam	Sadia Cable Co. 19/2, Kaji Abdul Hamid Lane, Kotwali, Dhaka Director, Bangladesh Electrical Merchandise Manufactures Association (BEMMA)
11.	Mr. Md Shekh Arif Akbar	A.B.P Electric Co, Kajirgaon Mridhabari, Jatrabari, Dhaka Proprietor

SL	Name	Organization & Designation
12.	Mr. Salahuddin Ahmed Mamun	Kamal Electric Store 3/7, Hazi Osman Goni Road, Dhaka, Bangladesh. Director, Bangladesh Electrical Merchandise Manufactures Association (BEMMA)
13.	Mr. Abdul Wahed	Angel Bakelite Ind South Kajla, Kutubkhali, Demra , Dhaka, Bangladesh Director, Bangladesh Electrical Merchandise Manufactures Association (BEMMA)
14.	Mr. Abul Kalam Azad	National Electronics Co. 1049, South Kajla , Nayanagar, P.O.: Donia, P.S.: Dcmra Dhaka, Bangladesh. Director, Bangladesh Electrical Merchandise Manufactures Association (BEMMA)
15.	Mr. Md. Abdul Mannan	Bangladesh Standards & Testing Institution (BSTI), Maan Bhaban , 116/A, Tejgaon Industrial Area, Dhaka-1208 Deputy Director
16.	Engr. Md. Jaglul Kabir	Solid state BD 5/4 Monipuripara (2nd Floor) Sangsad Avenue, Tejgaong Dhaka - 1215 CEO
17.	Dr. Mahbubul Hoque	Institute of Electronics Post Box No # 3787 AERE, Gonok Bari, Savar Chief Scientific Officer & Director
18.	Dr. Abdus Sattar Syed	Ace Data Products East-North Side, 5th Floor, BDBL Bhaban (former BSRS Bhaban) 12 Kazi Nazrul Islam Avenue Karwanbazaar , Dhaka 1215 Proprietor
19.	Prof. Dr. Zahid Hasan Mahmood	Department of Applied Physics Electronics and Communication Engineering, The University of Dhaka, Dhaka - 1000 Professor
20.	Mr. Md. Ashraful Alam	SME & Special Programmes Department, Bangladesh Bank, Motijheel C/A, Dhaka - 1000 Joint Director
21.	Lion M. A. Mannan	Perfect Wire & Electricals Ind. Road-21/A, Plot-8, Shaympur-Kadomtoli I/A, Dhaka Director, Bangladesh Electrical Merchandise Manufactures Association (BEMMA)

SL	Name	Organization & Designation
22.	Mr. Mian Ashik Murshed	SME Foundation Royal Tower, 4 Panthapath, Kawran Bazar, Dhaka - 1215 Program Manager
23.	Mr. Abu Monzoor Sayeef	SME Foundation Royal Tower, 4 Panthapath, Kawran Bazar, Dhaka - 1215 Program Manager
24.	Mr. Akhil Ranjan Tarafder	SME Foundation Royal Tower, 4 Panthapath, Kawran Bazar, Dhaka - 1215 Program Officer
25.	Mr. Md. Joynal Abdin	SME Foundation Royal Tower, 4 Panthapath, Kawran Bazar, Dhaka - 1215 Program Officer

National Consultation Meeting on SME Development

ACTION PLAN

Common Recommendations for All Sectors

Sl No.	Actions	Responsible Party	Schedule	Performance Monitoring	Resource	Key Characteristics/ Operational Controls/ Comments
Short term (<1 Year)						
1.	Access to bank loan	BB & SMEF	12 months to continue	BB & SMEF	SMEF and Bangladesh Bank	Bank loan with single digit interest for the small plastic industries in old Dhaka
2.	Easy mechanism of financial support to SMEs	BB (Ministry of Finance)	12 months	do	Budget & Planning	To promote activities in agro-processing sector
3.	Detailed survey of the entire plastic industry to create a data- base for planning technological infrastructure and informed policy decision.	SMEF/Mol	6 months	Progress report	SMEF and MOI	Full data base development report
4.	Ongoing basic technical skill development program	BITAC and SMEF	To continue	BITAC and SMEF	BITAC	Output of trained manpower with basic skills
5.	Application of IT and e-commerce	SMEF	12 Months	SMEF	SMEF	Overseas market development and access to information on plastic technology
6.	Arrangement of training for increasing skill of the stakeholders/officers/ employees/workers	Related Ministry, Association and other agencies	by December 2014	Ministry of Industries	Finance Ministry	To increase efficiency and productivity
Mid-Term (1-3 Years)						
7.	Reduce import duty on primary raw materials (polymers) from 5% to near zero.	NBR (Ministry of Finance)	July 2013	National budget and implementation	None	This will increase competitiveness of the plastic industries in the local and global market.
8.	Uninterrupted power supply to the manufacturing industries	PDB	12 months	SMEF and sectoral trade bodies	Government	Machines for production of plastic products need uninterrupted supply of power.
9.	To provide certificates on product quality chiefly	BSTI, BCSIR (Ministry of Industries)	by December 2013	Ministry of Industries	Ministry of Industries	To help flourish SMEs
10.	To modernize the old method of processing	Ministry of Industry, Related Association, SMEF	by Dec 2015	Ministry of Industries,		To make SMEs competitive and increase productivity
11.	Adopting Advanced Marketing Technique.	Min. of Commerce, Min. of Finance, Donor agencies, EPB, SMEF, BPC, FBCCI and	18 months.	Make the products visible in the domestic and international markets	EPB & SMEF	Increasing export and local sales of SME Products

SI No.	Actions	Responsible Party	Schedule	Performance Monitoring	Resource	Key Characteristics/ Operational Controls/ Comments
		DCCI, Trade Bodies and Associations, Chambers, etc.		Access to market information and dissemination Communication within the sector and with abroad		
12.	Technology Up-gradation & Development	Ministry of Science & Technology, Ministry of Science & ICT, Ministry of Education, Ministry of Industries, Ministry of Commerce, SMEF, BUET and other universities, BITAC, NPO, BPC, FBCCI, DCCI, BSCIC, Trade Bodies & Associations, Chambers, and institutions etc.	24 months	Develop a local expertise for servicing and application in the different SME sectors Set up a basic requirement of testing and control laboratory in Dhaka & Bogra and other districts	1. Lower production costs 2. Better quality standards and better and uniform products	To move gradually from first to new generation machinery and improve quality monitoring and source of reference.
Long Term (3+ Years)						
13.	Setting up of an Exhibition centre for SME Product	MOI	3.5 Years	It will be possible to display handicraft products on permanent basis.	GOVT	To have better and easy access to our handicraft products.
14.	To establish industrial zones/parks for SMEs	Ministry of Industry, BSCIC, SMEF	3 Years	Ministry of Industries	Through joint cooperation	To provide and ensure planned facilities for massive industrialization and for use of local raw materials in plenty.
15.	Establishment of Specialized Engineering and Technology Institutes for each SME sector	MOI, PPP Office and Sectoral Trade Organizations	3.5 Years	MOI and Sectoral Trade Organizations	Sectoral Trade Organizations MOI and donor agency	Technological capacity building.
16.	To establish well developed sub-sector wise Research Institute	Relevant Ministry of the Govt., SMEF	4 years		Budget and planning	For sectoral growth and promotional activities

Action Plan for the 'Plastics and other Synthetics' Sector

SI No.	Actions	Responsible Party	Schedule	Performance Monitoring	Resource	Key Characteristics/ Operational Controls/ Comments
SHORT TERM (<1 year)						
1.	Detailed survey of the entire plastic industry to create a data- base for planning technological infrastructure and informed policy decision.	SMEF/MOI	6 months	Progress report	SMEF and MOI	Full data base development report
2.	Upgrading of mold/die making capabilities	BITAC	12 months	Subcommittee formed by SMEF	SMEF/MOI already allocated	Assist existing mold manufactures in private sector to make improved molds
3.	Ongoing basic technical skill development program for plastic goods manufacturing	BITAC and SMEF	To continue	BITAC and SMEF	BITAC	Output of trained manpower with basic skills
4.	Access to bank loan	SMEF	By 2012	SMEF	SMEF and Bangladesh Bank	Bank loan with single digit interest for the small plastic industries in old Dhaka
5.	Uninterrupted power supply to plastic industries	PDB	12 months	SMEF and BPGMEA	Government	Machines for production of plastic products need uninterrupted supply of power.
6.	Reduce import duty on primary raw materials (polymers) from 5% to near zero.	NBR (Ministry of Finance)	July 2013	National budget and implementation	None	This will increase competitiveness of the plastic industries in the local and global market.
7.	Incentive for export of plastic products as declared by the Minister of Finance in Feb, 2012	NBR (Ministry of Finance)	12 months	NBR and BPGMEA	Government	Export of plastic goods and RMG accessories (deem export in FY 2010-2011 was \$ 344 million.
8.	Jute Packaging Law-2010	SMEF and MOI	12 months	MOI	None	Jute Packaging Law-2010 should be replaced by a comprehensive packaging law for the jute and plastics under the Ministry of Industries.
9.	Application of IT and e-commerce	BPGMA/SMEF	12 Months	BPGME/SMEF	BPGME/SM EF	Overseas market development and access to information on plastic technology
MEDIUM TERM (1-3 years)						
10.	Establishment of an Institute of Plastic (BIPET) Phase-I under PPP	MOI, PPP Office and BPGMEA	24 months	MOI and BPGMEA	BPGMEA, MOI and donor agency	Technological capacity building.
11.	Waste management of soiled plastics as RDF and Alternate Fuel (AF).	Waste Concern Consultants Ltd. and Ch.E. Dept. BUET	2 years	SMEF, BUET and BPGMEA	Funding will be required	40% of waste plastic is soiled in Bangladesh. An alternative approach is crucial for increasing recycling or effective

Sl No.	Actions	Responsible Party	Schedule	Performance Monitoring	Resource	Key Characteristics/ Operational Controls/ Comments
						utilization of waste plastics.
12.	Certificate for export of plastic products	BCSIR/BSTI	Initiate by 2013	BCSIR/BSTI	Collaboration with donor agency	BCSIR and BSTI are to be strengthened.
13	Setting up of Plastic Industrial Estate	BSCIC, MoI and BPGMEA	By 2015	BSCIC, MoI and BPGMEA	BSCIC/MoI	To relocate the small plastic factories and recycling factories in old Dhaka in a cluster with common infrastructure. Land is expected to be handed by BSCIC to BPGMEA during the tenure of this govt.
LONG TERM (3+ years)						
14.	Set up full-fledged Institute of Plastics (BIPET) in own campus under PPP	MOI, PPP Office and BPGMEA	By 2017	Implementation	Govt. and BPGMEA	The Institute will include academic, technical support and R&D activities related to plastic industries.
15.	Set up Tool Institute in BITAC	BITAC/SMEF	By 2015	Implementation	MoI	Transfer technology to private sector mold makers
16.	To open Department of Plastic Engineering at BUET	UGC and Ministry of Education	Frame policies by 2014	Quality of graduates	UGC and Ministry of Education	Human resource development, innovative technology and R&D on advanced polymers.
17.	Access to APCTT net working through proposed NCTDT by MOST	SMEF and MOST	After setting up NCTDT	SMEF	Government	MOST has taken initiative to set up National Centre for Technology Development and Transfer (NCTDT) in FY 2011-12.

Action Plan for the 'Light Engineering and Metal-Working' Sector

A. General Action Plan

Actions	Scope & Work periphery of the Actions	Key Characteristics/ Operational controls/ comments	Implementation Road Map	Anticipated Outcome	Implementing Agency
Task 1: To Enact Appropriate Policy Measures	To update and implement the LEI policies of Bangladesh based on a public private dialogue in order to reduce import items, facilitate access to modern technology and machinery and support export transactions	Pro-LEIs industrial policy, export & import policy, tariff policy; raw materials & other materials procurement & supply policy, incentive policy, import of reconditioned machines, soft loan policy, Patent and IPR	Public Private Dialogue to ensure that a stable macro-economic environment is created Strengthen institutional capacities (e.g., BSCIC, BITAC, BMTF, etc.) and improve communication Make government to support Sector's needs & activities Revitalize support institutional capacity, implementation of standardization & certification system; development of infrastructure, sectoral economic zone, inter linkages and networks	1. A public private dialogue is set up in order to develop a new LEIs trade policy 2. A new LEIs trade policy is issued 3. Government is providing mechanisms to financing modernization of LEIs under certain terms and conditions	Ministry of Industries, Ministry of Commerce, SMEF, EPB, BPC, BSCIC, BUET & other universities, Donor agencies, FBCCI and DCCI, Trade Bodies and Associations, Chambers, etc.,
Task 2: Capacity Building through skill development	Up-gradation of skills of technical workforce pertaining to machinery, automobile spares and foundry, and to build marketing and management skills for factories and foundries, entrepreneurs in order to	LEIs machine technology (such as CNC, EDM, etc), Welding, casting & molding metallurgical technology, pattern making, Mechanical design, CAD, CAM, quality control and quality assurance system Sales management, marketing, accounting	1. Training for improving technical skills 2. Training for improving management and Commercial skills of foundry and Manufacturing 3. Other Various Trainings and best practices Achieving competitive edge,	1. The technical level of the employees is raising in different kind of technologies 2. Training programmes institutions are proposing to employees updated programmes and entrepreneurs supported by the government are developing a	Ministry of Industries, Ministry of Commerce, SMEF, BUET & other universities, Donor agencies, FBCCI and DCCI, Trade Bodies and Associations, Chambers, BSCIC, BITAC, NPO, MAWTS etc

Actions	Scope & Work periphery of the Actions	Key Characteristics/ Operational controls/ comments	Implementation Road Map	Anticipated Outcome	Implementing Agency
	respond to the markets demand	management, communicative English e-commerce export processing, finance, marketing and regulations	quality product, export will be increased	timetable allowing employees to attend to the training programmes 3. The entrepreneurs skills in sales, marketing, management and finance are at the level of the competitors 4. Trainings programmes institutions are training new entrepreneurs in the LEIs and also are updating their programmes for sustaining the skills level of the entrepreneurs 5. Private sector, R&D institutes and Universities are aligning their activities 6. The castings produced are of acceptable quality as required by international market	
Task 3: Access to Finance	To allow Light Engineering Industries to access finance for rehabilitation and adequate technology access	Enacting bank and financial institution's pro-LEIs financing policy, implementing congenial micro credit, credit wholesaling, factoring, etc	Mechanisms for Getting Access to Finance Integrate in the LEIs Value Chain mechanisms allowing all the steps of the VC to access to finance from banks, government agencies and other financial service institutions Hedging on bank exchange rates. Banks and credit agencies availing credit could facilitate by having a reduction	1. New financial mechanisms allow to have access to financing under appropriate and acceptable conditions 2. Entrepreneurs have a better understanding on how to access to export financing 3. Government support the sector financing under specific actions 4. Bank officers are better informed about stakeholders financial requirements 5. TSIs are proposing new	Ministry of Finance, Ministry of Industries, Ministry of Commerce, Bangladesh Bank, Commercial Banks, Financial organizations, EPB, NBR, SMEF, BPC, FBCCI and DCCI, Trade Bodies, Professional Associations, Chambers, etc.

Actions	Scope & Work periphery of the Actions	Key Characteristics/ Operational controls/ comments	Implementation Road Map	Anticipated Outcome	Implementing Agency
			<p>of interest rates and softening collateral requirements to access credit. Equipment investment Encourage and promote leasing programmes or grants</p> <p>Equity investment Remove barriers to equity investment in LEIs. Encourage and promote venture capital mechanisms allowing foreign investment to be attracted to the LEIs sector opportunities</p> <p>Communication with banks, FIs, stakeholders</p>	<p>financial services to sector stakeholders</p> <p>6. With bank facility the raw materials can be purchased in bulk at lower prices</p>	
Task 4: Technology Up-gradation & Development	To move gradually from first to new generation machinery and improve quality monitoring and source of reference.	Testing system, Technology transfer & dissemination, integration of modern machinery & production system, R&D, empowerment with ICT, articulation of quality assurance system.	<p>First Generation R&D on local sand, molding processes and new material besides cast iron</p> <p>New Generation Replace gradually the first generation machinery with new machinery capable of providing the machining services in much better accuracy</p> <p><u>Building of Inherent Capacity</u></p> <p>Develop a local expertise for servicing and application in the metal industries and metallurgical</p>	<p>1. Lower production costs</p> <p>2. Better quality standards and better and uniform products</p> <p>3. Increased production and lower production costs and more profit to stakeholders</p> <p>4. Produce casting to international standards and specification</p> <p>5. Modernization of the facilities will increase the productivity, casting yield, quality improvement and higher profit.</p> <p>6. Promote a wide range of Light Engineering</p>	Ministry of Science & Technology, Ministry of Science & ICT, Ministry of Education, Ministry of Industries, Ministry of Commerce, SMEF, BUET and other universities, BITAC, NPO, BPC, FBCCI, DCCI, BSCIC, Trade Bodies & Associations, Chambers, and institutions etc.

Actions	Scope & Work periphery of the Actions	Key Characteristics/ Operational controls/ comments	Implementation Road Map	Anticipated Outcome	Implementing Agency
			<p>centre as a source of references for local foundries</p> <p>Set up a basic requirement of testing and control laboratory in Dhaka & Bogra and other districts</p> <p>Get Internet access – develop Light Engineering IT centres</p>	products internationally	
Task 5: Adopting Advanced Marketing Technique.	To strengthen LEIs TSIs (Trade Support Institutions) with marketing tools and techniques in order to develop and make visible LEIs national products on the domestic and international markets	Measures using advanced marketing techniques both for domestic and international markets, Establishment of display centers and proliferate international trade & export and to search for new markets.	<p>Make the products visible in the domestic and international markets</p> <p>Access to market information and dissemination</p> <p>Communication within the sector and with abroad</p>	<p>1. Better world wide knowledge on Bangladeshi products</p> <p>2. A New International Network is developed for Bangladeshi enterprises</p> <p>3. TPOs (Trade Promotion Organizations) are strongly supporting the LEIs</p> <p>4. Access to international market information and e-commerce centres are facilitating access to buyers</p>	Min. of Industries, Min. of Commerce, Min. of Finance, Donor agencies, EPB, SMEF, BPC, FBCCI and DCCI, Trade Bodies and Associations, Chambers, etc.

B. Specific Action Plan with Time Frame

1: Short term (to be done within next 2 years)

Actions	Key Characteristics/ Operational controls/comments	Implementation Agency
1. Inclusion of light engineering sector in EEF of Bangladesh Bank.	This is required so that new entrepreneurs get soft loan for their innovative product development	Ministry of Finance, Ministry of Industry, Bangladesh Bank, SMEF, BEIOA,
2. Introduce cluster based training on management issues (Book Keeping, Business plan, TAX & VAT, marketing & branding, KAIZEN & 5s) and basic light engineering technology (Welding, Lathe and Cutting Measurement)	The objective encompasses capacity building of the enterprises and the sector, including development of human resources, entrepreneurship, corporate management capability through training and other measures.	SMEF, BUET & Other Universities & Institutions, SMEF, BEIOA, BSCIC, BITAC, NPO, MAWTS etc.
3. Removing obstacles posed by wrong fiscal policies (tax, VAT, import duty)	Without this no enterprise will have the environment for technology enhancement and up gradation	Ministry of Finance, NBR

Actions	Key Characteristics/ Operational controls/comments	Implementation Agency
4. Support Procurement of machinery with advanced technology: (i) Loan with low interest, (ii) low duty import	Will provide service to other manufacturers	(i) SMEF - Banks, BUET, BEIOA, (ii)SMEF- NBR , BUET, BEIOA,
5. Provide fiscal incentives for R&D (Tax holiday)	Growth in this sector will pay back much more to the nation	Ministry of Finance, NBR
6. Support to private testing facilities including public and private Universities (Interest free loan, reduced import duties)	Able to test and calibrate to provide certification of products	SMEF, BUET, Ministry of Industry, BEIOA,
7. Take measures to eliminate under-invoicing and dumping	Elimination of market distortion	SMEF, BEIOA & other relevant associations, NBR
8. Support for obtaining Trade mark and Patent	Will encourage and provide support to innovators	SMEF, DPDT, BEIOA, Incubation Centre
9. In Bogra, to set up a modern foundry to cater to the needs of local light engineering industry and train the foundry people to set up modern foundry. Through this model, Malaysia attained modern foundry technology from Japan.	This will proliferate molding and casting quality of LEIs in the LE hub of Bogra.	BITAC, SMEF, BEIOA, Ministry of Industry
10. Govt. will allocate adequate fund to strengthen university-industry linkage. Once universities will receive fund from govt, they will go to industrial clusters and give onsite solution to the entrepreneurs.	Strengthening university-industry linkage will solve crucial industrial problems with innovation promotion	BUET & Other Universities, Min. of Industry, Ministry of Finance, SMEF
11. BITAC to work as true common facility center for local light engineering sector.	BITAC will operate on the basis of public character i.e. it will receive funds from revenue budget to run its operation. On the basis of that it will work as true common facility center for local light engineering sector.	BITAC, BEIOA, BUET, SMEF
12. Develop sub-contracting Guideline in line with previous guideline of 1980s.	This is essential to proliferate sub-contracting in micro & macro level	Ministry of Industry, BSCIC, BUET, BEIOA, SMEF,

2: Medium term (to be done within next 4 years)

Actions	Key Characteristics/ Operational controls/comments	Implementation Agency
1. Pursue IFC to set up venture capital firm under public sector. Once this venture capital firm will succeed in public sector, then private sector will come forward to set up this firm. With the help of IFC, Bangladesh set up first leasing company, IPDC in 1982	This venture capital will enable LE firms and entrepreneurs to make more innovation promotion in the country	IFC, Ministry of Industry, Ministry of S&T, SMEF, BSCIC, BPC, FBCCI, DCCI
2. Take necessary initiatives to pursue Bangladesh Bank to introduce factoring financial services for LEIs.	Factoring will facilitate LE firms to work more volume with less working capital; thus capacity will be enhanced financially	Ministry of Finance, Ministry of Industry, Bangladesh Bank, SMEF

Actions	Key Characteristics/Operational controls/comments	Implementation Agency
3. Build fund for credit guarantee scheme for LEIs.	Credit guarantee scheme for LEIs. will facilitate LE firms to work more with cash flow thus capacity will be enhanced financially	Ministry of Finance, Ministry of Industry, Bangladesh Bank, SMEF
4. Set up cluster based common facility center with testing, high-tech jobs, R&D and heat treatment facilities.	There is no alternative but to establish CFC. CFC should include facilities such as R&D, new product development, testing, training, certification, etc. Recently, BITAC has sent a proposal to the ministry to establish a 'Testing Institute' in BITAC.	Ministry of Industry, SMEF, Donor agencies, Ministry of Finance, BEIOA
5. Supporting setting up of incubation centers	Provide technology up gradation, training of personnel, customized technology solutions	Senior experts with Industrial experience, BUET, BEIOA
6. Setting up of Industrial Park	Pursue Ministry of Industries to set up light engineering industrial park. Cluster, Common advance technology centre	SMEF, Association and BSCIC, BUET, BEIOA
7. A guideline for standardization and certification of light engineering products should be prepared in consultation with BSTI.	Due to lack of certification, LE products are not being able to enter into global market. Help to be rendered to Light engineering firms to adopt standardization. Finally, BSTI will give certificate of excellence to LE firms.	Ministry of Industry, SMEF, BSTI, BUET, BITAC
8. Provide collateral free loans to technology innovators turned entrepreneurs with good track record	Tech and financial status should show significant signs of growth	Micro-credit organizations, Banks
9. Arrange short courses, workshops, Televised workshops	Public demand will indicate success	SMEF, NPO, BSTI, BCSIR, BITAC, BEIOA
10. Support for obtaining Trade mark and Patent	To protect intellectual property right of innovation and entrepreneurship	SMEF, BEIOA
11. Upgrade mechanical & metallurgical departments of a few selected polytechnic institutes with focus on entrepreneurship	Increase in number and quality of techno-preneurs	Govt., Private
12. Technology study tour and participation in fairs abroad	Exposure to advanced technology	SMEF, BEIOA
13. Prepare light engineering industry vision document in view of 6th Five year Plan, Industrial policy, export policy and SME policy-strategy.	Target oriented vision document will guide all stakeholders to achieve the desired goal	Ministry of Industry, BUET, SMEF, BEIOA
14. Develop cluster of 25 light engineering firms for expanding their scale of operation to execute outsourcing services to big private engineering firms (Walton, Runner). This cluster will receive technical assistance from BUET, BITAC and other technical institutes.	To make it success, BEIOA-SMEF-BITAC will form a business development team. This could be called vendor development program.	Ministry of Industry, BUET, SMEF, BITAC, BEIOA, technical institutes

3: Long Term (to be done within next 7 years)

Actions	Key Characteristics/ Operational controls/ comments	Implementation Agency
1. Build necessary infrastructures in naturally built light engineering clusters.	Common facilities in the cluster areas	Ministry of Industry, Ministry of Finance, Trade bodies , BEIOA, SMEF, BUET, BITAC
2. Curriculum modification of Universities to include demand based learning	Should provide incentives to teachers and researchers too	UGC and Universities
3. Set up more polytechnic institutes, & improve standard	Increase in number and quality of techno-preneurs	Govt. & Private polytechnic institute
4. Modify curriculum of schools and colleges to include industrial technology and motivation	Creation of motivation for entrepreneurship	Govt. Educational boards.

Action Plan for the 'Agro-processing/agri-business/plantation agriculture/specialist farming/tissue-culture' Sector

1. Short term

Action	Responsible Party	Schedule	Performance Monitoring	Resource	Key Characteristics / Operational Controls/ Comments
Arrangement of training for increasing skill of the stake-holders/officers/ employees/workers	Related Ministry, Association and other agencies	6 months / continuous	Ministry of Industries	Finance Ministry	To increase efficiency and productivity
100% rebate on tax & VAT for small and medium factories for next 5 years	NBR, Finance Ministry	12 months	Evaluation & Monitoring Cell under Ministry of Finance	do	For the interest of massive participation in agro-processing sector
Easy mechanism of financial support to SMEs	BB (Ministry of Finance)	Do	do	Budget & Planning	To promote activities in agro-processing sector
To provide certificates on product quality chiefly	BSTI, BCSIR (Ministry of Industries)	do	Ministry of Industries	Ministry of Industries	To help flourish SMEs
To establish a central information centre	Ministry of Commerce	do	Ministry of Commerce		To modernize and update SMEs
To establish multipurpose modern Packaging Industries	Ministry of Industry, Related Association	do	Ministry of Industry	PPP effort	To create attraction & for prolonged life of agro-processed products
To activate non-functional factories/farms	do	do	do		To promote production to solve unemployment
To provide incentives and other facilities for agro-processing stake-holders	BB, Ministry of Finance, Commerce and Industries	do	do	do	For the sake flourishing the SMEs in agro-processing sector
To remove tariff and non tariff barriers	NBR, EPB, FBCCI & Ministry of Commerce	do	do	do	For smooth export trade
To check and prevent diseases of livestock	Ministry of livestock and fisheries	do	Ministry of livestock and fisheries		To protect poultry and cattle
To establish small and model enterprises related to livestock	Ministry of livestock and fisheries, SMEF	do	SMEF		To increase production of milk, meat, egg etc. to meet the acute protein deficiency and employment

2. Midterm (1-3 Years)

Action	Responsible Party	Schedule	Performance Monitoring	Resource	Key Characteristics / Operational Controls/ Comments
To modernize the old method of processing	Ministry of Industry, Related Association, SMEF	30 Months	Ministry of Industries,		To make SMEs competitive and increase productivity
To give exposure of SME's products	EPB, FBCCI & Ministry of Commerce	do	EPB		To help growth of SME sector
To establish industrial zones/parks for SMEs in agro-processing	Ministry of Industry, BSCIC, SMEF	do	Ministry of Industries	Through joint cooperation	To provide and ensure planned facilities for massive industrialization and for use of local raw materials in plenty.
Uninterrupted supply of energy	Ministry of Energy & Mineral Resources	do	Related Ministry	Budget and planning	For uninterrupted production and supply of processed products.
To earn creditability and ensure food safety	Ministry of Industry, BCSIR, BSTI etc.	do	do	do	Strengthening testing facilities and consumers credibility
To develop appropriate technologies for mariculture	Ministry of Livestock and Fisheries	do	do		For the growth and export of marine fishes
To adopt a selective breeding program	do	do	do		To increase supply of meat and dairy products
To form dairy/poultry development board	do	do	do		To develop the poultry and dairy farms under SME category

3. Long term

Action	Responsible Party	Schedule	Performance Monitoring	Resource	Key Characteristics / Operational Controls/ Comments
To establish specialized Cold storages	Food Dept. under Ministry of Food, Ministry of Agriculture and PPP	4 years	Ministry of Food	Budget and planning	To ensure all time availability of the raw materials of agro-processed products
To establish multi-disciplinary institute	SMEF, Ministry of Industries	4 Years	SMEF	Ministry of Industries	To update SME's activities.
To establish well developed sub-sector wise Research Institute	Ministry of Livestock and Fisheries and Ministry of Science and Technology	do		Budget and planning	For sectoral growth and promotional activities

Action Plan for the 'Leather-Making and Leather Goods' Sector

SI No.	Action plan	Responsible Party	Schedule /Period	Performance Monitoring	Resource	Key Characteristics/ Operational Controls/ Comments
Short Term (>1 Year)						
1.	Plans to be formulated for CFC (Common Facility Centre) for Bhairab Cluster – Leather SMEs.	SMEF, Cluster	6-8 months	SMEF	LSBPC (MOC), SMEF	Consultants help may be sought.
2.	Training-workshop for Entrepreneurs of SMES for 3 days to enable them to be acquainted with shoe making technology (at least 4-5 workshops).	SMEF, Cluster	4-5 months	Progress to be monitored by SMEF	Bhairab Cluster & SMEF, LSBPC (MOC)	Service of some consultants may be commissioned.
3.	'NEED' Assessment (apart from CFC) to be done with emphasis on designing, shoe line development etc.	SMEF	6 months	Effective follow-up by SMEF	MOI, Cluster & SMEF	Short-term consultant's services may be sought.
4.	Marketing assistance for both Domestic & Export (plans to be worked-out).	SMEF	8-10 months	Regular follow-up	MOC, EPB & SMEF, MOI, LSBPC (MOC)	Services of specialized marketing consultant's may be commissioned.
5.	Dedicated credit line "collateral free" – "Credit line or credit plus" through Janata Bank.	SMEF, LSBPC	12 Months	LSBPC or BEGP, SMEF	SDI (Social Development Initiative) Janata Bank, LSBPC	Consultant's involvement will be essential.
Mid- Term (1-3 Years)						
6.	<u>Environment Compliance Issue</u> <ul style="list-style-type: none"> • Safety–Fire Extinguisher • First Aid Box • SPS (Sanitary-Phyto-sanitary) • Internal Production lay out for more safe working condition. • VOC (volatile Organic Compound). 	Cluster Cluster Cluster Cluster	12-18 Months Always	SMEF, LSBPC or BEGP Cluster SMEF	SMEF Cluster	Tech Consultants to help implementation.
	Further strengthen/enlarge dedicated credit line or credit plus through Janata Bank	LSBPC, SMEF	24-36 Months	LSBPC or BEGP, SMEF	SDI (Social Development Initiative) Janata Bank	Consultant's involvement will be essential for at least 3 years

SI No.	Action plan	Responsible Party	Schedule /Period	Performance Monitoring	Resource	Key Characteristics/ Operational Controls/ Comments
	<u>Environmental – compliance issue</u> <ul style="list-style-type: none"> Continue taking measures on safety – Fire Extinguisher More First-Aid Box SPS Internal Production facility to ensure adequately safe working condition. 	Cluster Cluster Cluster Cluster	12-24 months	Cluster, LSBPC, SMEF	SMEF	Tech Consultant to help implementation.
Long Term (3 + Years)						
SI No.	Action plan	Responsible Party	Schedule /Period	Performance Monitoring	Resource	Key Characteristics/ Operational Controls/ Comments
1	Undertake implementation program of CFC. Hiring of premises, finalization of machinery/equipment and procurement & installation etc (check list of operational details to be planned).	SMEF	12 months	Progress report to be monitored	Cluster, SMEF, MOI, LSBPC (MOC)	Consultants & CFC team to work together in association with SMEF until the installation of the machinery & equipment, is completed.
2	Start-up of CFC – Training of manpower & workmen.	SMEF & Team for CFC	3 months from the point of installation	-	SMEF & CFC Team, Cluster	
3	Regular operation of CFC – administrative procedures, control etc.	SMEF & CFC team & consultant	Regular follow-up	Performance to be evaluated	Cluster, CFC Team, MOI & LSBPC (MOC)	
4	Shoe-line Development & marketing for both Domestic /Export. Participation in international Trade Fair(s) e.g. Dubai, India, Hong Kong etc.	SMEF, EPB & Entrepreneurs	As & when decided	-	Cluster, SMEF, EPB & LSBPC (MOC)	Assistance of marketing/designing consultants to be commissioned.

Action Plan for the 'Designer, Aesthetically-Challenging, Personal Wear and Effects' Sector

	Action	Responsible Party	Schedule	Performance Monitoring	Resource	Key Characteristics/ Operational Control/Comments
Home Textile Sub-Sector						
S H O R T Term (<1 Year)	Introduction of a LOGO of home textile products.	SME/ BHB	12 months	People will be able to recognize hometextile products and their location easily	SME/BHB	Sell of home textile products will go up.
	Feasibility study about using Handloom fabrics for School dress.	SMEF/ MoE	do	It will be clear about going for full scale implementation.	SME	This will create opportunity for the weavers.
	The idea of allocation of yarn to weaver should be explored in round table conferences.	BHB	do	It will be clear about going for full scale implementation of the idea.	BHB	Participant may provide the best possible idea about how to implement the idea.
	Capacity development of weavers about the colour sense	SMEF	12 month	It will increase the productivity and add value	SMEF	New customers will be created
M E D I U M Term (1-3 Years)	Development of a design centre with CAD/CAM facility	SMEF	36 months	Small entrepreneurs will be able to maximize their fashion with the help of new designs.	SMEF	The weaver's will get new ideas and fashion to produce new and innovative products.
	Steps to increase production of silk	BSB/MOT	24 months	Domestic silk production will increase.	MOT	Raw materials of Benarashi weavers will be easily available.
	Study/research to improve Handloom processes.	BHB	24 months	Weavers will be able to reduce cost of production.	BHB	Weaver's earning will go up.
	Steps to ease up the official hindrances regarding Country Origin Certificate (COC) of Jamdani Weavers.	BHB	do	Sufferings of Jamdani exporters will be reduced.	BHB	At present Jamdani exporters are having problem in obtaining Country of Origin Certificate from BHB.
	Initiate to obtain GI of Zamdani	SMEF	24 month	Settling long problem of copy rights issue	SMEF	Recognition of Zamdani in international market
L O N G Term (3+ Years)	Allocation of yarn to the weavers instead of Cash money.	BHB	30 months	System loss of BHB loan will decrease dramatically.	Govt.	Individual weavers will be benefited. Effectiveness of loan will be maximized.
	Steps to allocate an existing textile mills to an appropriate entrepreneur.	PC*/ Govt.	do	Weavers will be able to get fine count cotton yarn easily.	GOV	The small weavers will gets fine cotton yarns easily with lower price.
	Providing Loans to the weavers at	BB	do	Jamdani weavers will get the loan from	GOV	The performance of the Jamdani

	Action	Responsible Party	Schedule	Performance Monitoring	Resource	Key Characteristics/ Operational Control/Comments
	lower interest rate.			Banks at lower interest rate.		business will increase.
	Attempt to introduce Handloom fabrics for School dress	SMEF	do	School students will come to school wearing dress made from handloom fabrics.	SMEF	Lot of handloom weavers will find a sustainable future.
Boutique Sub Sector						
S H O R T Term (<1 Year)	Introduction of Website	MOI/ SMEF	12 months	The website may be accessed by both boutique owners as well as customers.	SMEF	It will help boutique owners to generate ideas about new fashion.
	To strengthen activities of Boutique owners association (BOA).	BOA/ SME	do	This will help BOA to receive better & greater attention from various authorities.	BOA/ SMEF	There could be a full scale selected or elected body to strengthen the BOA.
M E D I U M Term (1-3 Years)	Development of a fashion designing studio cum research & training center.	BIFT/ MOI	30 months	Newer fashions & designs will be developed so that the boutiques owners will have better access to the consumer market.	GOVT	Boutique business will be boosted up.
L O N G Term (3+ Years)	Development of a Fabric Research Institute	MOI/MOT	48 months	Newer and cost effective fabrics will be developed on continuous basis	GOVT	Innovation of new fabrics will boost the sector on long term basis.
	Introduction of Vocational & Diploma on Boutiques	BTEB	40 months	Educated and Skilled manpower will be developed to work for the sector	GOVT	Boutiques business will be flourished.
Handicrafts sub-sector						
S H O R T Term (<1 Year)	Development of the existing training programs.	BSCIC & FADU	12 months	Student's performance will be improved	GOVT/SM EF	Existing training programs need to be improved by means of intellectual inputs.
	Development of the Website of Banglacraft	Banglacraft	do	Buyers from foreign countries will be able to see the product details in the web site.	Banglacraf t/ SMEF	Buyers will be able to place online order handicrafts.
	Study of new indigenous raw materials	MOI	do	New handicrafts will be developed.	MOI	e.g. garments waste & jute sticks may be used for producing new handicrafts.

	Action	Responsible Party	Schedule	Performance Monitoring	Resource	Key Characteristics/ Operational Control/Comments
M E D I U M Term (1-3 Years)	Providing financial access for Handicrafts owners	BB	18 months	SME owners will be able to get soft loans.	GOVT/SMEF	Business will be flourished.
	Allocation of Khash land for cultivating Cane	MOL	do	A separate land will be available for growing cane.	GOVT	This will ensure supply of cane which is imported at the moment.
	Development of courses offered in SME technical Institute	BTEB	do	Accreditation of the courses by BTEB will be a recognition and inspiration for the related experts.	SME F	This will create skilled manpower in Bamboo & Cane
L O N G Term (3+ Years)	Development of an education, training cum research institute for Handicrafts.	BSCIC & FADU	48 months	Skill manpower will developed to produce new, innovative and cost effective handicraft products.	SMEF/MOE	The handicraft sector will be boosted up.
	Setting up of an Exhibition centre for displaying Handicraft	MOI	do	It will be possible to display handicraft products on permanent basis.	SMEF/MOC	To have better and easy access to our handicraft products.
	Introduction of Vocational & Diploma on Handicrafts	BTEB	do	Educated and skilled manpower will be developed in the country.	SMEF/MOE	Handicrafts sector will be blessed with qualified manpower.
M E D I U M Term (1-3 Years)	Research & New Products Development					
	Study of new and innovative sub sectors e.g. Technical Textiles.	MOI	24 months	New SME subsectors will found out.	SMEF/MOI	To create new opportunities & possibilities
	Collaboration among BUFT, BUTEX, FADU & BSCIC to develop the three sectors.	BSCIC/MOI	do	Academics & experts from BUFT, BUTEX, FADU and BSCIC will form a consortium to study the R & D of three sub sectors.	GOVT	Long term sustainability of the three sub sectors will ensured.

*PC-Privatization commission * FADU-Fine Arts of Dhaka University * BUFT-BGMEA University of Fashion & Technology, * BUTEX-Bangladesh University of Textiles, *BSCIS-Bangladesh Small & Cottage Industries Corporation, * MOI-Ministry of industries, *MOT-Ministry of Textiles, MOL- Ministry of Land, *BSB-Bangladesh Sericulture Board.

Action Plan for the 'Electronics and Electricals' Sector

গ-৯) স্বল্পমেয়াদী কর্ম পরিকল্পনাঃ

ক্রম	করণীয়	প্রয়োজনীয় পদক্ষেপ	দায়িত্বশীল দপ্তর/গোষ্ঠী/ব্যক্তি	তদারকী দপ্তর/গোষ্ঠী/ব্যক্তি	মন্তব্য
১	শিল্পের সংগ্রহ	২০১০ শিল্পনীতির কুটির ও মাইক্রো প্রস্তুতকারী (সেবামূলক নয়) শিল্পকে 'শিল্পকুটি' নামকরণ ও সর্বস্তরে গ্রহণীয় করার জন্য পদক্ষেপ।	শিল্প মন্ত্রণালয়	এসএমই ফাউন্ডেশন	'শিল্প' কথাটি উচ্চারণ করা হলেই আমরা নির্দিষ্ট কিছু ধারণার মধ্যে আটকিয়ে যাঁই যা এসব শিল্পকুটির জন্য যে প্রয়োজ্য নয়। আমাদের মানসিকতার মধ্যে একটি ধারণা তৈরী করা প্রয়োজন যে এদেরকে লালন করতে হবে দেশের ভবিষ্যতের জন্য, যে ডাবে আমরা একটি চারাগাছকে লালন করি ভবিষ্যতে মহীরুহে পরিণত করার জন্য। তাহলে ভবিষ্যতে এরাই বহুশ্রেণে দেশকে সমৃদ্ধ করবে।
২	ট্রেড লাইসেন্স মুক্ত/সহজীকরণ	ক) শিল্পকুটির ক্ষেত্রে ট্রেড লাইসেন্সের এবং যে কোনো ধরনের নিবন্ধনের বাধ্যবাধকতা উঠিয়ে নিতে হবে। কেবলমাত্র নিষিদ্ধ পণ্যের একটি খণ্ডাত্মক তালিকা প্রচার করা হবে যা এসব শিল্প প্রতিষ্ঠান তৈরী করতে পরবে না। খ) ক্ষুদ্র ও মাঝারী শিল্পের জন্য ট্রেড লাইসেন্স প্রয়োজ্য হবে, কিন্তু অন্যান্য ক্রিয়াকর্ম বা অনুমতি প্রয়োজনীয়তা উঠিয়ে নিতে হবে। পরিবেশ এবং অন্যান্য কাঙ্ক্ষিত বিষয়গুলো শর্ত হিসেবে ট্রেড লাইসেন্সের বইয়ে লিপিবদ্ধ থাকবে। গ) যদি কেউ উল্লিখিত শর্তসমূহ ভঙ্গ করে তখন তাকে বিচারের অওতায় আনা যাবে।	অর্থ মন্ত্রণালয় স্থানীয় সরকার মন্ত্রণালয়	এসএমই ফাউন্ডেশন	প্রযুক্তি উদ্ভাবনে অনেক চ্যালেঞ্জ অতিক্রম করে একজন উদ্ভাবক-উদ্যোক্তা যখন তার তৈরী পণ্য প্রথমে বিক্রয় করতে চান, কেবলমাত্র আইন অনুসরণ করার জন্য ঐ সময়ে তার পক্ষে এ ধরনের বিভিন্ন দপ্তরে ঘুরে ঘুরে তা যোগাড় করা কঠিন, বিশেষ করে বাংলাদেশের দুর্নীতিপূর্ণ পরিবেশে। তা ছাড়া প্রথমে তার ম্যাক্সিমাম টার্মিনাল হাতে থাকে না, পণ্য উদ্ভাবনে ও প্রোটোটাইপ তৈরীতেই সব খরচ হয়ে যায়। সে নিশ্চিতও না যে তার পণ্যটি বাজারে চলবে কিনা। এ ওৎপাত হলে সব নিয়মকানুনের বেড়াজালে বাধ্য করার ফলে তার উদ্যোগটি শুরুতেই বন্ধ হয়ে যায়।
৩	ভ্যাট মুক্ত/সহজীকরণ	ক) "শিল্পকুটি"কে সম্পূর্ণ ভ্যাটমুক্ত করা, এবং তাদের জন্য নিবন্ধনের প্রয়োজনীয়তা সম্পূর্ণ তুলে দেয়া। খ-১) ২০১০ শিল্পনীতির ক্ষুদ্র ও মাঝারী শিল্পকে (বর্তমানের ৬০ লক্ষ টাকা বিক্রয় পর্যন্ত নয়) মূল্য সংকোচন ভিত্তিতে ট্যাক্স ওভার এর অওতায় ভ্যাট প্রদান এর অপশন দেয়া (যেহে উদ্যোক্তা সাধারণ ভ্যাট বা ট্যাক্স ওভার এ দুটো পদ্ধতির হ্যাঁ কোন একটি বেছে নিতে পারে) খ-২) প্রতি মাসে হ্যাঁ কোন আধা-সরকারী ব্যাক্সের মাধ্যমে উল্লিখিত ভ্যাট প্রদানের সুবিধা গ) তবে ভাল হয় কোন শিল্প প্রস্তুতকারীর কাছ থেকে ভ্যাট না নিয়ে কেবলমাত্র খুচরা বিক্রয়, সরবরাহ ও রপ্তানী পর্যায়ে ভ্যাট নেয়ার ব্যবস্থা করা, কারণ এটি কনজিউমার ট্যাক্স।	অর্থ মন্ত্রণালয়, এনবিআর	এসএমই ফাউন্ডেশন	ক) শিল্পকুটিকে লালন করার প্রয়োজনীয়তা রয়েছে দেশের ভবিষ্যতের স্বার্থে। তাছাড়া এ পদক্ষেপে সরকারের আয় দৃশ্যতঃ যে পরিমাণ কমেবে তার থেকে অনেকগুণ বেশী আয় হবে দেশে উৎপাদন বৃদ্ধির মাধ্যমে। খ) ভ্যাট ব্যবস্থা অনুসরণ করা অনেক ক্ষুদ্র ও মাঝারী শিল্পের জন্যই জটিল ও কঠিন। এর ফলে সরকারী কর্মচারীদের দুর্নীতির সুযোগও বেড়ে যাবে, পরিণতিতে গোটা শিল্প খাতটিই ধ্বংসের মুখে পড়ে। দেশের স্বার্থে এ সব শিল্প প্রতিষ্ঠান বাঁচিয়ে রাখা প্রয়োজন। তাই উল্লিখিত অপশনের সুযোগ থাকা উচিত। ট্রেডিং, খুচরা বিক্রয় সবখানে এ ধরনের অপশনের সুযোগ দেয়া আছে, শিল্পে কেন নয়? গ) ৩০শতাংশের ভ্যাট স্থলতঃ ত্রেতার উপর বর্তায় (কনজিউমার ট্যাক্স), বিক্রেতার উপর নয়। প্রস্তুতকারীর অসংখ্য চ্যালেঞ্জ রয়েছে, তাকে সেগুলো মোকাবিলা করতে সুযোগ দেয়া সরকার দেশের স্বার্থে, তাই তাকে ভ্যাট আদায়ের

ক্রম	করণীয়	প্রয়োজনীয় পদক্ষেপ	দায়িত্বশীল দপ্তর/শাখা/ব্যক্তি	তদারকী দপ্তর/শাখা/ব্যক্তি	মন্তব্য
					দায়িত্ব থেকে মুক্ত করা দরকার। তাছাড়া, তত্ত্বগতভাবে একই পরিমাণ ভ্যাট এভাবেও আদায় হবার কথা
৪	মালামাল পরিবহনে পথে পথে সরকারী কর্মচারীদের হয়রানী দূর করা	ক্ষুদ্র শিল্পের মালামাল সরবরাহ করার সময় কোন আইন উদ্ভেদ বা অপকর্মের সুনির্দিষ্ট গোয়েন্দা তথ্য না থাকলে পথে পথে কাষ্টমস, পুলিশ ও অন্যান্য সরকারী কর্মচারী থামাতে পারবেনা, এই মর্মে আইন করে তার প্রচার। যে কোন দিক থেকে এ আইনের অপপ্রয়োগ হলে সংশ্লিষ্ট সমিতির এবং সরকারী দপ্তরের মাধ্যমে বিষয়টি সুরাহা করতে হবে।	শিল্প, অর্থ, স্বরাষ্ট্র মন্ত্রণালয়	এসএমই ফাউন্ডেশন	ক্ষুদ্র শিল্প প্রস্তুতকারীদেরকে মালামাল সরবরাহ করার সময়ে পুলিশ কনস্টেবল, ট্রাফিক পুলিশ, বা অন্য যে কোন সরকারী দপ্তরের কর্মচারী পথে পথে হয়রানী করে দুর্নীতির মাধ্যমে নিজের স্বার্থসিদ্ধির ব্যবস্থা করে। এ থেকে উদ্যোক্তাদেরকে মুক্ত করতে না পারলে দেশে ক্ষুদ্র শিল্পের বিকাশ হবে না। এজন্য সব প্রস্তুতকারক শিল্পকে ক্রেতাদের প্রদেয় (কনজিউমার ট্যাক্স) ভ্যাট অদায়ের দায়িত্ব থেকে মুক্ত করলে এ সমস্যাটি অনেক কমে যাবে।
৫	শিল্প-প্রতিষ্ঠানের দপ্তরে বিভিন্ন সরকারী দপ্তরের দুর্নীতিবাজ কর্মচারীদের হয়রানী বন্ধ করা	১। কোন শিল্প প্রতিষ্ঠানের বিরুদ্ধে কর ফাঁকি দেয়ার অভিযোগ থাকলে সংশ্লিষ্ট সরকারী কর্তৃপক্ষের কর্মচারীরা এককভাবে বা দলগতভাবে উক্ত প্রতিষ্ঠানে হাতে পারবেন না। এরকমের কোনো সমস্যা হলে উক্ত শিল্প সংশ্লিষ্ট সমিতির সদস্যদেরকে নিয়ে শিল্প প্রতিষ্ঠানে যাবেন (উক্ত প্রতিষ্ঠান কোন সমিতির সদস্য না হলেও), এবং তাদের উপস্থিতিতেই আলোচনা এবং তথ্য সংগ্রহ করার কাজ করবেন। পরবর্তী যে কোন পদক্ষেপ নিতে হলে সংশ্লিষ্ট সমিতিতে নিয়ে করতে হবে। ২। হঠাৎ পদক্ষেপ না নিলে কোন অপকর্ম প্রমাণ করা কঠিন হতে পারে এমন পরিস্থিতি হলে সংশ্লিষ্ট সরকারী কর্তৃপক্ষের কর্মচারীরা ফ্যাক্টরী বা প্রতিষ্ঠানে গিয়ে পরিস্থিতি নিয়ন্ত্রণে এনে সঙ্গে সঙ্গেই সংশ্লিষ্ট সমিতির কমিটির সদস্যদেরকে ডাকবেন এবং পরবর্তীতে যে কোন পদক্ষেপ নিতে হয় তা সমিতিতে সাথে নিয়ে করতে হবে।	শিল্প, অর্থ, পরিবেশ, আইন মন্ত্রণালয়, সংশ্লিষ্ট সমিতি	এসএমই ফাউন্ডেশন, সংশ্লিষ্ট সমিতি	যে কোন কাষ্টমস কর্মচারী একজন শিল্পোদ্যোক্তার দপ্তরে গিয়ে একার অভিযোগে প্রতিষ্ঠানের সব কাগজপত্র সিজ করে তার কারখানা বন্ধ করে দিতে পারে। আর সেই কর্মচারী যদি দুর্নীতিবাজ হয় তবে অবস্থার উন্নয়নহতা আঁচ করা যায়। যদি কারও বিরুদ্ধে নির্দিষ্ট কোন অভিযোগ থাকে তবে সংশ্লিষ্ট সমিতির মাধ্যমে গেলে শিল্পোদ্যোক্তা আত্মপক্ষ সমর্থনের জন্য কিছুটা সাহস পায়, ও সে ধরণের পরিবেশ সৃষ্টি হয়। অনেক সময় প্রতিষ্ঠানটিকে বাঁচিয়ে রাখার জন্য দুর্নীতিবাজ কাষ্টমস কর্মচারীদের অন্যায় দাবী মেনে নিতে গিয়ে উদ্যোক্তাকে দুর্নীতি করতে হয়। পরে সেই দুর্নীতির সূত্র ধরে শিল্প উদ্যোক্তাকে শাস্তি দেয়া হয়। এভাবে অনেক ক্ষুদ্র শিল্প প্রতিষ্ঠান ধ্বংস হয়ে গেছে, তাতে দেশেরই ক্ষতি হয়েছে।

ক্রম	করণীয়	প্রয়োজনীয় পদক্ষেপ	দায়িত্বশীল দপ্তর/গোষ্ঠী/ব্যক্তি	তদারকী দপ্তর/গোষ্ঠী/ব্যক্তি	মন্তব্য
৬	<p>আমদানী পর্যায়ে কাস্টমস শুদ্ধ, ভ্যাট, ও অন্যান্য শুদ্ধ যৌক্তিকরণ, বিশেষ করে</p> <p>ক) 'ইউরিয়া রেজিন' এর ক্ষেত্রে</p> <p>খ) সিকেডি' আকারে টেলিভিশন এর যন্ত্রাংশ এর ক্ষেত্রে</p>	<p>এখনও কোন কোন ক্ষেত্রে তৈরী পণ্য ও কাঁচামালের আমদানী শুদ্ধ (টোটাল ট্যাক্স ইনসিডেস) দেশীয় প্রস্তুতকারীর বিরুদ্ধে যায় এমন নীতিমাল রয়েছে, যার শুদ্ধি দরকার। বৈদ্যুতিক ক্ষেত্রে দুটি পণ্যের জন্য জরুরী ভিত্তিতে ব্যবস্থা নেয়া প্রয়োজন।</p> <p>ক) গত ২০১৯ সাল থেকে ইলেকট্রিক্যাল সুইচ ও অ্যাক্সেসরীজ তৈরীর কাঁচামাল 'ইউরিয়া রেজিন' এর উপর সর্বোচ্চ হারে (২৫%) আমদানী শুদ্ধ আরোপ করা আছে, আবার ফিনিশড সুইচ বা অ্যাক্সেসরীজ এর উপরও ২৫% আমদানী শুদ্ধ রয়েছে। এটি দেশের সাধারণ কর নীতিমালার বিরুদ্ধে হলেও তা সংশোধন করা হচ্ছে না। জরুরী ভিত্তিতে এর শুদ্ধি দরকার। এর জন্য 'ইউরিয়া রেজিন' আমদানীর উপরে সর্বনিম্ন হারে, অর্থাৎ ৫% শুদ্ধ আরোপ করা দরকার। দেশের কয়েকটি 'ইউরিয়া রেজিন' তৈরীর শিল্প প্রতিষ্ঠান যারা মোট চাহিদার ১ শতাংশের মত তৈরী করে তাদেরকে টিকে থাকার জন্য সম্পূর্ণ ভ্যাট মওকুফ, এবং প্রয়োজনে সার্বসিডি দেয়ার ব্যবস্থা করা যেতে পারে। বিকল্প ব্যবস্থায়, সাদা ইউরিয়া রেজিন, যা দেশে তৈরী হয় না, তার জন্য আলাদা এইচএস কোড আরোপ করে সেটির উপর ৫% আমদানী শুদ্ধ হার আরোপ করা যায়।</p> <p>খ) বর্তমানে ফিনিশড টেলিভিশন আমদানীতে ২৫% শুদ্ধ রয়েছে। পক্ষান্তরে নিবন্ধিত টেলিভিশন সংযোজনকারী শিল্প এর যন্ত্রাংশ সিকেডি অবস্থায় সরাসরি আমদানী করলেও ২৫% শুদ্ধ দিতে হয়। আর দেশের ক্ষুদ্র সংযোজনকারী শিল্পগুলো নিজেরা যন্ত্রাংশ আমদানী করতে পারে না বিধায় সাধারণ আমদানীকারকদের উপর নিভর করতে হয়। এক্ষেত্রে সার্বসিডি শুদ্ধসহ মোট ৪৫% শুদ্ধ দিতে</p>	<p>অর্থ মন্ত্রণালয় (এনবিআর), ট্যাক্স কমিশন, সংশ্লিষ্ট অ্যাসোসিয়েশন, বিষয় বিশেষজ্ঞ</p>	<p>এসএমই ফাউন্ডেশন, সংশ্লিষ্ট অ্যাসোসিয়েশন</p>	<p>সাধারণভাবে প্রযুক্তি নিভর পণ্য প্রস্তুতে বাংলাদেশ আমদানী করা কাঁচামাল বা সেমি ফিনিশড পণ্যের উপর নিভরশীল। কিন্তু কোন কোন ক্ষেত্রে কাঁচামাল বা সেমি ফিনিশড পণ্যও উৎপাদনের চেষ্টা হচ্ছে। এ কারণে প্রতিটি আইটেমকে আলাদা করে বিচার করে তার শুদ্ধায়ণ করতে হবে যেন তা সামগ্রিকভাবে দেশের স্বার্থের জন্য হয়।</p> <p>ক) মেলোমাইন সামগ্রীর কাঁচামাল 'ইউরিয়া রেজিন' দেশে মাত্র কয়েকটি প্রতিষ্ঠানে তৈরী হয়। এটি ক্রিম রঙের, এবং বৈদ্যুতিক অ্যাক্সেসরীজেও ব্যবহৃত হতে পারে। তবে উন্নত মানের বৈদ্যুতিক অ্যাক্সেসরীজে সাদা রেজিন প্রয়োজন যা দেশে তৈরী হয় না। দেশে এক হাজারের মত বৈদ্যুতিক অ্যাক্সেসরীজ প্রস্তুতকারক ক্ষুদ্র শিল্প রয়েছে যারা দেশের চাহিদা পূরণ করে বিদেশেও রপ্তানী করার সম্ভাবনা তৈরী করেছিল। কিন্তু সরকারের এই ভ্রান্ত শুদ্ধায়ণের ফলে গত এক বছরেই এদের সংখ্যা অনেক কমে গেছে। দেশে প্রস্তুতকৃত সুইচ দেশে এবং বিদেশে প্রতিযোগিতায় থাকার জন্য ইউরিয়া রেজিন এর উপর সর্বনিম্ন হারে আমদানী শুদ্ধ থাকা দরকার।</p> <p>খ) ফিনিশড টেলিভিশন ও তার যন্ত্রাংশ আমদানীতে যে শুদ্ধ আরোপ করা আছে (ফিনিশড: ২৫%, যন্ত্রাংশ, সাধারণ আমদানী: ৪৫%) এ ধরণের আমদানী কর নীতিমালা একটি স্বাধীন দেশে থাকতে পারে না, এ নীতিমালা পরিবর্তন করার জন্য জরুরী পদক্ষেপ নিতে হবে। আর যারা নিজেরা আমদানী করতে পারে না এসব ক্ষুদ্র শিল্পকে নিরুৎসাহিত করার জন্য যে উল্টো আমদানী শুদ্ধ ব্যবস্থা চালু আছে তা সম্পূর্ণ দেশের স্বার্থবিরোধী।</p>

ক্রম	করণীয়	প্রয়োজনীয় পদক্ষেপ	দায়িত্বশীল দপ্তর/স্বাক্ষর/ব্যক্তি	তদারকী দপ্তর/স্বাক্ষর/ব্যক্তি	মন্তব্য
		হয়। সিকেডি টেলিভিশনের যন্ত্রাংশের উপর সর্বনিম্ন ৫% আমদানী শুল্ক আরোপ করা উচিত।			
৭	দেশের স্বার্থ বিরোধী শুল্কায়ন করার পিছনে দায়ী কর্মকর্তাদের শাস্তিমূলক ব্যবস্থা নেয়া	যেখানে পরিষ্কার ভাবে দেশের স্বার্থ লঙ্ঘিত হবার মত শুল্কায়ন নীতিমালা দেখা যাবে, সে ক্ষেত্রে দায়িত্বশীল কর্মকর্তাদের বিরুদ্ধে শাস্তিমূলক ব্যবস্থা নেয়া দরকার।	সংসদীয় স্ট্যান্ডিং কমিটি, অর্থ মন্ত্রণালয়, (এনবিআর), ট্যারিফ কমিশন, সংশ্লিষ্ট অ্যাসোসিয়েশন, বিষয় বিশেষজ্ঞ	এসএমই ফাউন্ডেশন, সংশ্লিষ্ট অ্যাসোসিয়েশন	উল্লিখিত দুটি উদাহরণ থেকে, বিশেষ করে টেলিভিশনের ক্ষেত্রে পরিষ্কারভাবে দেখা যায় যে দেশের স্বার্থবিরোধী নীতিমালা তৈরি করা হয়েছে। এ সব ক্ষেত্রে দায়ী ব্যক্তিদেরকে আইন ও বিচারের সম্মুখীন করার ব্যবস্থা করা দরকার।
৮	বড় শিল্পকে সুবিধা দেয়া হচ্ছে, কিন্তু ক্ষুদ্র শিল্পকে নয়, এর শুল্ক দরকার	ইদানিং রেফ্রিজারেটর ও মোটর সাইকল শিল্পে ড্যাট মওকুফ ও যন্ত্রাংশ আমদানীতে শুল্ক কমানো হয়েছে। সব ক্ষুদ্র শিল্পকে এ ধরনের সুবিধা দেয়া উচিত।	অর্থ মন্ত্রণালয়, (এনবিআর), ট্যারিফ কমিশন, সংশ্লিষ্ট অ্যাসোসিয়েশন, বিষয় বিশেষজ্ঞ	এসএমই ফাউন্ডেশন, সংশ্লিষ্ট অ্যাসোসিয়েশন	ক্ষুদ্র শিল্প দেশের জন্য অনেক বেশী জরুরী। বড় শিল্পের জন্য যে ধরনের কর মওকুফের সুবিধা দেয়া হচ্ছে, ক্ষুদ্র শিল্পের ক্ষেত্রে তার চেয়েও বেশী সুবিধা দেয়া দরকার।
৯	পণ্য আমদানীতে আডার ইনভয়েসিং, ও কম শুল্কের পণ্যের নামে মিথ্যা ঘোষণা দেয়া বন্ধ করা	এ বিষয়ে কারও অভিযোগ থাকলে সংশ্লিষ্ট প্রস্তুতকারী ও আমদানীকারক সমিতি ও বিষয় বিশেষজ্ঞদেরকে নিয়ে স্বচ্ছ ওপরের ব্যবস্থা করে প্রয়োজনীয় বিচার করতে হবে।	সংশ্লিষ্ট প্রস্তুতকারী ও আমদানীকারক সমিতি, এবং বিষয় বিশেষজ্ঞ	এসএমই ফাউন্ডেশন, সংশ্লিষ্ট প্রস্তুতকারী সমিতি	কাস্টমস কর্মচারীদের যোগসাজশে এ ধরনের দুর্নীতি হয়ে থাকে, তাই কেবলমাত্র কাস্টমস কর্তৃপক্ষের অভ্যন্তরীণ ওপদ করা ঠিক হবে না।
১০	আত্মপক্ষ সমর্থনের সুযোগহীন মোবাইল কোর্ট বিচার ব্যবস্থা বন্ধ করে অন্যান্যকারীদের বিচারের জন্য বিকল্প ব্যবস্থা করা	মোবাইল কোর্ট একটি অনাকাঙ্ক্ষিত ঔপনিবেশিক ব্যবস্থা। একটি স্বাধীন দেশে এ ধরনের নিয়ম থাকা ঠিক নয়। স্থানীয় সিভিল সোসাইটি সমন্বয়ে বিশেষ কমিটি করে তার মাধ্যমে শিল্প উদ্যোক্তাদের মধ্যে অন্যান্যকারীদেরকে প্রথমতঃ উপদেশ দেয়ার মাধ্যমে নিরুৎসাহ করা, তাতে কাজ না হলে দ্বিতীয়তঃ সাবধান করে দেয়া, ও তৃতীয়তঃ সাবধান করে দেয়া, ও তৃতীয়তঃ কঠিন শাস্তির ব্যবস্থা করা দরকার। কিন্তু আত্মপক্ষ সমর্থনের সুযোগ অবশ্যই রাখতে হবে। হঠাৎ কেন অপকর্ম রোধ করতে হলে উপরের ৫(২) ক্রমিকে প্রস্তাবিত পদ্ধতি ব্যবহার করতে হবে।	স্থানীয় গণ্যমান্য ব্যক্তি-বর্গ (শিক্ষক, আইনজ্ঞ), নির্বাচিত স্থানীয় প্রতিনিধি, সরকারী প্রতিনিধি, সংশ্লিষ্ট প্রস্তুতকারক সমিতি	এসএমই ফাউন্ডেশন, সংশ্লিষ্ট প্রস্তুতকারী সমিতি	মোবাইল কোর্ট একটি ঔপনিবেশিক পদ্ধতি, যেখানে আত্মপক্ষ সমর্থনের কোন সুযোগ থাকে না, তাই এটি একটি কালো কানুন বলা চলে। এর অপব্যবহার হতে পারে এবং হয়েছেও, ভবিষ্যতেও হবে। শিল্প প্রস্তুতকারীদেরকে, বিশেষ করে ক্ষুদ্রদেরকে এ ব্যবস্থার মাধ্যমে অনেক সময় ধ্বংস করে দেয়া হয়েছে, হয়ত জুল অজিয়াগে। কিন্তু পরে জুল প্রমাণিত হলেও সেই ক্ষুদ্র উদ্যোগটি আর ঘুরে দাঁড়াতে পারে না। এতে দেশেরই ক্ষতি হচ্ছে।
১১	আয়করের বিশেষ রেয়াত ব্যবস্থা, বিশেষ করে শিল্পকুঁড়ির ক্ষেত্রে	ক) শিল্পকুঁড়ির জন্য আয়কর সম্পূর্ণ রেয়াত করা। এর জন্য কোন রকমের নিবন্ধনের প্রয়োজন থাকা উচিত নয়। খ) ক্ষুদ্র শিল্পের জন্য ঢাকা ও চট্টগ্রামে	অর্থ মন্ত্রণালয় (এনবিআর)	এসএমই ফাউন্ডেশন, সংশ্লিষ্ট প্রস্তুতকারী সমিতি	দৃশ্যতঃ যেটুকু আইন কমবে, ক্ষুদ্র শিল্পে ও শিল্পকুঁড়িতে বিশাল প্রবৃদ্ধির কারণে রাজস্ব আয় প্রকৃতপক্ষে বাড়বে আর দেশে অনেক ইতিবাচক পরিবর্তন আসবে। ঢাকা ও চট্টগ্রামের

ক্রম	করণীয়	প্রয়োজনীয় পদক্ষেপ	দায়িত্বশীল দপ্তর/গোষ্ঠী/ব্যক্তি	তদারকী দপ্তর/গোষ্ঠী/ব্যক্তি	মন্তব্য
		প্রথম ৫ বছর সম্পূর্ণ রেয়াত, পরবর্তী ৫ বছর ৫০% রেয়াত। ঢাকা ও চট্টগ্রামের বাইরে প্রথম ১০ বছর সম্পূর্ণ রেয়াত, পরবর্তী ১০ বছর ৫০% রেয়াত।			বাইরে শিল্প স্থাপনে উদ্বুদ্ধ করার জন্য যথেষ্ট সুবিধা থাকা দরকার।
১২	বিভিন্ন নিয়ন্ত্রণমূলক নীতিমালা পাশ্চাত্যে উদ্বুদ্ধকরণ নীতিমালা তৈরী করা	শ্রম আধিদপ্তর, পরিবেশ আধিদপ্তর, প্রাচ্যকৃষ্টিভিটি আইন ও পরিদপ্তর, এদেরকে নিয়ন্ত্রণমূলক ভূমিকা থেকে সরিয়ে উদ্বুদ্ধকরণ ভূমিকায় নিয়ে আসার জন্য এসব পরিদপ্তরের কর্ম-ভূমিকার নীতিমালায় পরিবর্তন আনতে হবে। ৩ত বছরগুলোতে ইতিমধ্যে এ লক্ষ্যে কিছু পরিবর্তন হয়েছে, তবে বাস্তবে যেন তা প্রয়োগ হয় সেদিকে লক্ষ্য রাখতে হবে। কোন উদ্যোক্তার বিরুদ্ধে অভিযোগ থাকলে উপরের ৫ ও ৮ অনুচ্ছেদের মত সমিতিতে সংশ্লিষ্ট করে ব্যবস্থা নিতে হবে।	শিল্প মন্ত্রণালয়	এসএমই ফাউন্ডেশন	শ্রম আইন পরিদপ্তর, পরিবেশ দপ্তর, প্রাচ্যকৃষ্টিভিটি আইন ও পরিদপ্তর- এরা সবাই বাস্তবে নিয়ন্ত্রণমূলক ভূমিকা পালন করছে। ফলে উদ্দেশ্য ভাল থাকলেও বাস্তবে তার উল্টো ফল হচ্ছে। কাঙ্ক্ষিত অবস্থা বাস্তবায়ন সম্ভব উদ্বুদ্ধকরণের মাধ্যমে, তথ্য প্রদান ও সহযোগিতা প্রদানের মাধ্যমে। এ জন্য এসব পরিদপ্তরের কর্ম-ভূমিকার নীতিমালায় আমূল পরিবর্তন আনা জরুরী।
১৩	সরকারী ও আধা সরকারী প্রতিষ্ঠানে দেশীয় পণ্য ক্রয়ের অগ্রগণ্যতার নিয়ম পুনর্জীবিত করা, ও বিরোধের ক্ষেত্রে আরবিটার নিয়োগ	গুণগত মান সঠিক হলে ও মূল্যে বিদেশী পণ্য থেকে ২০% পর্যন্ত বেশী হলেও দেশীয় পণ্য ক্রয়ে অগ্রগণ্যতার বিষয়ে সরকারী ও আধা সরকারী প্রতিষ্ঠানে বাধ্যবাধকতার পুরোনো নিয়মটি পুনর্জীবিত/চালু করে প্রতি দপ্তরে চিঠি দেয়া ও প্রচার করা। গুণগত মানের বিষয়ে কোন বিরোধের ক্ষেত্রে সংশ্লিষ্ট বিশেষজ্ঞ সমন্বয়ে আরবিট্রেশন করার জন্য ব্যবস্থা নেয়া। এ ধরনের ক্ষেত্রে অভিযোগ নেয়ার জন্য এসএমই ফাউন্ডেশনে একটি অভিযোগ সেল তৈরী করা।	অর্থ মন্ত্রণালয়, শিল্প মন্ত্রণালয়	এসএমই ফাউন্ডেশন	এ নিয়মটি এক সময়ে চালু ছিল, কিন্তু বিভিন্ন স্বার্থান্বেষী ব্যক্তি/গোষ্ঠীর প্রভাবে এটি ভুলে যাওয়া হয়েছে। দেশীয় পণ্যের প্রসারে এ নিয়মটি চালু করা প্রয়োজন। তবে এ সুযোগে কেউ যেন অতিরিক্ত মুনাফা করতে না পারে তার জন্য এবং গুণগত মানের দোহাই দিয়ে যেন বিদেশী পণ্য কেনা না হয়, তার জন্য অভিযোগ সেল ও আরবিট্রেশন এর ব্যবস্থা করা দরকার।
১৪	স্বল্প শিল্প প্রসারে ও উদ্বুদ্ধকরণে রেডিও টেলিভিশনে অনুষ্ঠান সম্প্রচার	প্রযুক্তি, তথ্য ও উদ্বুদ্ধকরণের জন্য কৃষিকে নিয়ে যেভাবে রেডিও টেলিভিশনে অনুষ্ঠান হচ্ছে, সে ভাবে স্বল্প শিল্পকে নিয়েও অনুষ্ঠান সম্প্রচার করতে হবে।	এসএমই ফাউন্ডেশন, বিষয় বিশেষজ্ঞ, তথ্য ও যোগাযোগ মন্ত্রণালয়	এসএমই ফাউন্ডেশন	এ সম্প্রচারের মাধ্যমে স্বল্প শিল্পে জনগণকে উদ্বুদ্ধ করা যাবে, তথ্য দেয়া, উদ্যোক্তাদেরকে আইন ও তাদের অধিকার সম্পর্কে সচেতন করা, পরিবেশ সম্পর্কে সচেতন করা, ইত্যাদি নানা বিষয় এ সম্প্রচারের মাধ্যমে করা যাবে। উদ্যোক্তাদের অসুবিধা, অভিযোগ এসবও এ অনুষ্ঠানের মাধ্যমে জনগণের ও সংশ্লিষ্ট কর্তৃপক্ষের সামনে তুলে ধরা যাবে।

গ-২) মধ্য-মেয়াদী কর্ম পরিকল্পনাঃ

ক্রম	করণীয়	প্রয়োজনীয় পদক্ষেপ	দায়িত্বশীল দপ্তর/গোষ্ঠী/ব্যক্তি	তদারকী দপ্তর/গোষ্ঠী/ব্যক্তি	মন্তব্য
১	নিরবিচ্ছিন্ন বিদ্যুৎ ও গ্যাস এর ব্যবস্থা করা	বিদ্যুৎ শিল্প তথা সব শিল্পের জন্য নিরবিচ্ছিন্ন বিদ্যুৎ ও গ্যাস এর ব্যবস্থা করা	শিল্প মন্ত্রণালয়, বিদ্যুৎ, জ্বালানী ও খনিজ সম্পদ মন্ত্রণালয়	এসএমই ফাউন্ডেশন	নিরবিচ্ছিন্ন বিদ্যুৎ ও গ্যাস নিশ্চিত করা না গেলে দেশের শিল্প প্রতিযোগিতায় হেরে যাবে।
২	শিল্প পার্ক	ইলেকট্রিক্যাল ও ইলেকট্রনিক্স শিল্পের জন্য শিল্প পার্ক স্থাপন করে নিরবিচ্ছিন্ন বিদ্যুৎ, গ্যাস ও অন্যান্য সুবিধার ব্যবস্থা করা।	শিল্প মন্ত্রণালয়	এসএমই ফাউন্ডেশন	বহুবছর ধরে এ প্রচেষ্টা চলে আসলেও এখন পর্যন্ত বাস্তবায়ন হয় নি।
৩	পণ্যের গুণগত মান পরীক্ষার ব্যবস্থা	কম খরচে এ খাতের পণ্যসমূহের গুণগত মান নিরপেক্ষভাবে পরীক্ষা করে সার্টিফিকেট দেয়ার জন্য সরকারী-আধাসরকারী অনেকগুলো প্রতিষ্ঠান যেমন বিএসটিআই, বিসিএসআইআর, বিটাক, পরমানু শক্তি কমিশন, পাবলিক বিশ্ববিদ্যালয়, এনজিও, পরীক্ষিত দায়িত্বসম্পন্ন বেসরকারী সংস্থা, ইত্যাদি প্রতিষ্ঠানকে দায়িত্ব দেয়া। বিষয় ভিত্তিক দক্ষতার বিচারে তালিকা তৈরী করা যেতে পারে, তবে যে কোন বিষয়ে একাধিক দায়িত্বপ্রাপ্ত প্রতিষ্ঠান থাকতে হবে, নাহলে অতিরিক্ত ফি আদায় বা দুর্নীতির মত ঘটনা ঘটে। বিশেষায়িত প্রযুক্তির জন্য যদি উল্লিখিত কারও কাছে প্রয়োজনীয় টেস্টিং যন্ত্রপাতি না থাকে, সে ক্ষেত্রে প্রস্তুতকারকের কাছেই বিশেষায়িত টেস্টিং যন্ত্রপাতি থাকতে হবে, এবং এক্ষেত্রে উল্লিখিত দায়িত্বপ্রাপ্ত প্রতিষ্ঠানের বিশেষজ্ঞরা প্রস্তুতকারকের যন্ত্র দিয়েই টেস্টিং করে সার্টিফিকেট দেবেন।	এসএমই ফাউন্ডেশন, সংশ্লিষ্ট সমিতিসমূহ, ও প্রযুক্তি-সংশ্লিষ্ট প্রতিষ্ঠান ও বিশ্ববিদ্যালয়	এসএমই ফাউন্ডেশন, সংশ্লিষ্ট সমিতি ও বিষয় বিশেষজ্ঞ	বিএসটিআই এ যথেষ্ট প্রযুক্তিগত জ্ঞানবল ও টেস্টিং এর ব্যবস্থা নেই। তাছাড়া সম্পূর্ণ সরকারী হওয়াতে সেখানে দুর্নীতিও ঢুকে পড়ে। বুয়েট অনেক বেশী খরচ দাবী করে যা ক্ষুদ্র শিল্পোদ্যোক্তাদের পক্ষে বহন করা সম্ভব নয়। তাই অনেকগুলো প্রতিষ্ঠান থাকলে অতিরিক্ত ফি নেয়া এবং দুর্নীতি কমে ধারণা করা যায়।
৪	প্রতি উপজেলায় ক্ষুদ্র শিল্প প্রযুক্তি ও তথ্য সম্প্রসারণ অধিদপ্তর স্থাপন করে বিজ্ঞান, প্রযুক্তি ও প্রকৌশল গ্রাজুয়েট অফিসার নিয়োগ দেয়া	শিল্পকুঁড়ি, ক্ষুদ্র ও মাঝারী শিল্পে প্রযুক্তি ও তথ্য সেবা দেয়ার উদ্দেশ্যে দেশের শিক্ষিত জনগোষ্ঠীকে কাজে লাগানোর জন্য এ অধিদপ্তর স্থাপন করতে হবে। অনেকটা কৃষি সম্প্রসারণ অধিদপ্তরের মত এর কার্যক্রম হবে। বিশেষ করে বিদ্যুৎ, ইলেকট্রনিকস এবং যন্ত্রকৌশলে স্নাতক	এসটিএলিসমেন্ট ডিজিটাল, অর্থ মন্ত্রণালয়, শিল্প মন্ত্রণালয় (এসএমই ফাউন্ডেশন, বিসিক)	এসএমই ফাউন্ডেশন	শিল্পকুঁড়ি, ক্ষুদ্র ও মাঝারী শিল্পে প্রযুক্তি ও তথ্য সেবা দেয়ার উদ্দেশ্যে দেশের শিক্ষিত জনগোষ্ঠীকে কাজে লাগানোর জন্য এটি একটি নতুন পদক্ষেপ হবে। অনেকটা কৃষি সম্প্রসারণ অধিদপ্তরের মত এর কার্যক্রম হবে। নিয়ন্ত্রণকারী ভূমিকা থেকে সরিয়ে সহায়কের ভূমিকায় আমলাতন্ত্রকে নিয়ে আসতে এটি

ক্রম	করণীয়	প্রয়োজনীয় পদক্ষেপ	দায়িত্বশীল দপ্তর/গোষ্ঠী/ব্যক্তি	তদারকী দপ্তর/গোষ্ঠী/ব্যক্তি	মন্তব্য
		অফিসর নিয়োগ দিতে হবে। তাদেরকে দেশে বিদেশে প্রশিক্ষণ দেয়ার ব্যবস্থা করতে হবে।			একটি উল্লেখযোগ্য পদক্ষেপ হবে। প্রযুক্তি ও প্রকৌশলে শিক্ষিত দেশের জনসম্পদকে বড় আকারে ব্যবহার করার জন্য দেশে কোন প্রতিষ্ঠান নেই। এ প্রস্তুতাবলি দেশে বৈপর্কিক পরিবর্তন এনে দিতে পারে।
৩	ঋণ প্রদানে অগ্রগণ্যতার নীতিমালা তৈরী করা	ক্ষুদ্র শিল্পের মধ্যেও অপেক্ষাকৃত ছোটদের ঋণ প্রদানে অগ্রাধিকার দিতে হবে। এজন্য পয়েন্ট ব্যবস্থা করা যেতে পারে।	বাংলাদেশ ব্যাঙ্ক, শিল্প মন্ত্রণালয় (এসএমই ফাউন্ডেশন), বিসিক	এসএমই ফাউন্ডেশন	২০১০ এ সংজ্ঞায় ক্ষুদ্র শিল্পের বিনিয়োগের সীমাটি অনেক বড় (৫০ লক্ষ টাকা থেকে ১০ কোটি টাকা)। ব্যাঙ্ক ও অন্যান্য অর্থ লগ্নিকারী প্রতিষ্ঠান স্বাভাবিকভাবে এদের মধ্যে বড়দেরকে ঋণ দিতে বেশী আগ্রহী হবে। তাই উদ্যোগ এর বিনিয়োগ এর উপর নিত্ত্র করে একটি পয়েন্ট পদ্ধতি চালু করা দরকার যেন ছোটরা অগ্রাধিকার পায়।
৬	ঋণ প্রদানে প্রযুক্তি পণ্য উদ্ভাবক- উদ্যক্তার অগ্রগণ্যতার নীতিমালা তৈরী করা	যারা নিজেরাই প্রযুক্তি-পণ্য উদ্ভাবক, এবং নিজের খরচে বা পরিচিতজনের সাহায্য নিয়ে উদ্ভাবিত পণ্য বাজারজাত করণে কমপক্ষে দু বছরের সফলতার রেকর্ড করেছেন, তাদেরকে কোনেটারাল সিকুরিটি ছাড়াই ২৫ লক্ষ টাকা পর্যন্ত ঋণ প্রদানের ব্যবস্থা করা।	বাংলাদেশ ব্যাঙ্ক, শিল্প মন্ত্রণালয় (এসএমই ফাউন্ডেশন), বিসিক	এসএমই ফাউন্ডেশন	যারা নিজেরাই প্রযুক্তি-পণ্য উদ্ভাবক, ক্ষুদ্র শিল্পে তারই সফল হবার সম্ভাবনা বেশী। কেবলমাত্র কাগজে কলমে পরিকল্পনা না দেখিয়ে যে হাতে কলমে নিজের রিসোর্স ব্যবহার করে সফলভাবে পণ্য বাজারজাত করেছে, তাকে ঋণ দিলে তার সফলতার সম্ভাবনা অনেক বেশী, জনগণের অত্নে সদ্ধাবহার হবে। ঋণ-খেলাপী হবার সম্ভাবনাও অনেক কম হবে।
৭	বাজারজাতকরণে সহযোগী প্রতিষ্ঠান স্থাপন	প্রকৌশল ভিত্তিক ক্ষুদ্র শিল্পের পণ্য বাজারজাত করণে সরকারী সহযোগিতায় প্রতি উপজেলায় সমবায় ভিত্তিক খুচরা বিক্রয় প্রতিষ্ঠান চালু করা	বিসিক, এসএমই ফাউন্ডেশন, সংশ্লিষ্ট সমিতিসমূহ	এসএমই ফাউন্ডেশন	বাজারজাত করণ ক্ষুদ্র শিল্পে একটি বড় সমস্যা। পাইকারী ব্যবসায়ীরা ক্ষুদ্র শিল্পেদ্যক্তাদেরকে ঠকায় ও হয়রানী করে। তাই সমবায় ভিত্তিক বাজারজাত করণ, বিজ্ঞাপন ও প্রদর্শনীর আয়োজন বিশেষ গুরুত্বপূর্ণ।
৮	পণ্য রপ্তানীতে সহযোগী প্রতিষ্ঠানে বিশেষ শাখা স্থাপন	প্রকৌশল ভিত্তিক ক্ষুদ্র শিল্পের পণ্য বিদেশে রপ্তানীর জন্য রপ্তানী উন্নয়ন ব্যুরোতে আলাদা শাখা খোলা প্রয়োজন, যারা তথ্য ও নিয়মকানুন বিষয়ে সহযোগিতা দেবে, পণ্য প্রচারে সহযোগিতা দেবে।	রপ্তানী উন্নয়ন ব্যুরো, এসএমই ফাউন্ডেশন, সংশ্লিষ্ট সমিতিসমূহ, বৈদেশিক মন্ত্রণালয়	এসএমই ফাউন্ডেশন	আমাদের ক্ষুদ্র শিল্পের প্রকৌশল ভিত্তিক পণ্য উৎপাদনে উল্লিখিত পদক্ষেপগুলো বাস্তবায়ন করলে এসব পণ্যের বিদেশে, বিশেষ করে আফ্রিকা মহাদেশে প্রচুর চাহিদা হবে। এ জন্য রপ্তানী সহায়ক কার্যক্রম দরকার হবে।
৯	প্রদর্শনীর ব্যবস্থা	প্রতি জেলায়, প্রতি বছর কেন্দ্রীয়ভাবে, প্রতি ২ বছর অন্তর	শিল্প মন্ত্রণালয়, রপ্তানী উন্নয়ন ব্যুরো	এসএমই ফাউন্ডেশন	দেশীয় বাজার তৈরী করা বিদেশী বাজার তৈরী করা
১০	গবেষণা প্রতিষ্ঠানের	সরকারী ও আধাসরকারী	বিসিএসআইআর,	এসএমই	দেশে উচ্চ শিক্ষিত প্রযুক্তিবিদদের

ক্রম	করণীয়	প্রয়োজনীয় পদক্ষেপ	দায়িত্বশীল দপ্তর/গোষ্ঠী/ব্যক্তি	তদারকী দপ্তর/গোষ্ঠী/ব্যক্তি	মন্তব্য
	প্রযুক্তি-পণ্য উদ্ভাবকদেরকে উদ্যোক্তা হিসেবে পণ্য তৈরী করার দায়িত্ব দেয়া	বিজ্ঞান ও প্রযুক্তি গবেষণা প্রতিষ্ঠানে পণ্য প্রস্তুত ও বিপণনের বিভাগ সৃষ্টি করা, এবং প্রতিষ্ঠানের উদ্ভাবিত সম্ভাবনাময় পণ্যের উদ্ভাবকদেরকে সে পণ্যের প্রস্তুত ও বিপণনের সঙ্গে সম্পৃক্ত করা, ও সফল হলে তাদেরকে এজন্য পুরস্কৃত করার ব্যবস্থা করা। পরবর্তীতে এসব পণ্যের প্রস্তুতকরণের প্রযুক্তি জনগণের মধ্যে ছড়িয়ে দেয়ার জন্য প্রশিক্ষণের ব্যবস্থা করা।	পারমাণবিক শক্তি কমিশন, পাবলিক বিশ্ববিদ্যালয়, বিটাক, ইত্যাদি	ফার্ডেশন	অনেক উদ্ভাবিত পণ্য গবেষণাগারেই পড়ে থাকছে, জনগণের কাছে পৌঁছানো না। অন্য ব্যবসায়ীদের সঙ্গে প্রযুক্তিগত পণ্য প্রস্তুত করে বাজারজাত করা সম্ভব নয়। বাংলাদেশের বিদ্যমান পরিস্থিতিতে প্রযুক্তি উদ্ভাবককেই উদ্যোক্তা হতে হবে (সারা পৃথিবীতে তাই হয়েছে, এখনও হচ্ছে)। এজন্য বিজ্ঞান ও গবেষণা প্রতিষ্ঠানগুলোর আইনী কাঠামোতে এবং বিজ্ঞানী ও প্রযুক্তিবিদদের চাকুরীর নিয়ম-কানুনে প্রয়োজনীয় পরিবর্তন আনতে হবে।
১১	একীভূত 'বিজ্ঞান, প্রযুক্তি ও ক্ষুদ্র শিল্প মন্ত্রণালয়' প্রতিষ্ঠা করা	বিজ্ঞান ও প্রযুক্তি কর্মকাণ্ডের প্রধান প্রয়োগ ক্ষুদ্র শিল্পে। তাই এ তিনটি বিষয়কে এক মন্ত্রণালয়ের আওতায় এনে এটিকে প্রয়োজনীয় অর্থ ও জনবল প্রদান করতে হবে।	প্রধানমন্ত্রী	এসএমই ফার্ডেশন, বিষয় বিশেষজ্ঞ	বর্তমান পরিস্থিতিতে দেশে বিজ্ঞান ও প্রযুক্তি চর্চার প্রধান উদ্দেশ্য হওয়া উচিত প্রযুক্তি উদ্ভাবন ও তার শিল্পায়ণের মাধ্যমে দেশের আপামর জনসাধারণের জীবনের মান উন্নয়ন করে একটি ন্যূনতম সুস্থ অবস্থায় তুলে নিয়ে আসা। তাহলে দেশের 'মিলেনিয়াম ডেভেলপমেন্ট গোল', 'ডিজিটাল বাংলাদেশ' তৈরীর ইচ্ছা, ২০২৯ সালের মধ্যে মধ্য সারির দেশে উন্নীত হওয়া সম্ভব হবে। এজন্য এ সমন্বিত মন্ত্রণালয়টির প্রয়োজন এবং গুরুত্ব যথেষ্ট বেশী।
১২	কর নীতিমালা প্রণয়নের দায়িত্ব উচ্চ ক্ষমতার সংসদীয় কমিটির হাতে ন্যস্ত করা	সংবিধানের ৮৩ অনুচ্ছেদ অনুযায়ী কর নীতিমালা প্রণয়নের দায়িত্ব সংসদের, কিন্তু বাস্তবে এনবিআর তা করে থাকে। এটিকে সিভিল সোসাইটির সমন্বয়ে সংসদীয় কমিটির হাতে ন্যস্ত করার পদক্ষেপ নেয়া, এবং তর জন্য প্রয়োজনীয় অবকাঠামো গড়ে তোলা।	প্রধান মন্ত্রী, অর্থ, পরিকল্পনা, কৃষি, শিল্প, বাণিজ্য, বিজ্ঞান-প্রযুক্তি-ক্ষুদ্র শিল্প মন্ত্রণালয়	এসএমই ফার্ডেশন, বিষয় বিশেষজ্ঞ	কর নীতিমালা একটি দেশকে সামগ্রিকভাবে এগিয়ে নিতে পারে বা ধ্বংস করে দিতে পারে। বৃটিশ ঔপনিবেশিকেরা কেবলমাত্র কর নীতিমালা তৈরী করে এ দেশের শিল্পকে ধ্বংস করে দর্শিত ও আমদানী নিষেধ দেশে পরিণত করেছিল। তাই কর নীতিমালার সুদূর প্রসারী প্রভাব একটি দেশের জন্য অতি প্রয়োজনীয়, যা এনবিআর এর হাতে ছাড়া ঠিক হয় নি।**

গ-৩) দীর্ঘ-মেয়াদী কর্ম পরিকল্পনাঃ

ক্রম	করণীয়	প্রয়োজনীয় পদক্ষেপ	দায়িত্বশীল দপ্তর/গোষ্ঠী/ব্যক্তি	তদারকী দপ্তর/গোষ্ঠী/ব্যক্তি	মন্তব্য
১	ইনকিউবেশন সেন্টার প্রতিষ্ঠা করা	নতুন নতুন পেশার ও তার প্রস্তুতকরণের যাবতীয় প্রযুক্তি উদ্ভাবন করে তার উপর ক্ষুদ্র উদ্যোক্তাদেরকে প্রশিক্ষণ দেয়ার ব্যবস্থা করা	বিসিক, বিসিএসআইআর, বিটাক, ক্ষুদ্র শিল্প সম্প্রসারণ অধিদপ্তর (যা স্থাপনের সুপারিশ আগে করা হয়েছে)	এসএমই ফাউন্ডেশন	বিসিএসআইআর এর মত প্রতিষ্ঠানকে ক্ষুদ্র শিল্পের সাথে সম্পৃক্ত করা দরকার।
২	স্কুলের পাঠ্য বিষয়ে ক্ষুদ্র শিল্প স্থাপনের কিছু প্রযুক্তি ও উদ্যোক্তা হবার মত বিষয় অন্তর্ভুক্ত করা	বিজ্ঞান প্রযুক্তি বিষয়ে এ উদ্দেশ্যে পাঠ্য বিষয়বস্তু অন্তর্ভুক্ত করা, আশে পাশের ক্ষুদ্র শিল্প প্রতিষ্ঠান দর্শনের ব্যবস্থা রাখা।	শিক্ষা মন্ত্রণালয়, জাতিয় কারিকুলাম ও টেস্টট বুক বোর্ড, জাতিয় কারিগরী শিক্ষা বোর্ড, সংশ্লিষ্ট বিশেষজ্ঞ, শিল্প মন্ত্রণালয়	এসএমই ফাউন্ডেশন	যে সব কিশোর স্কুল পর্যায়েই বাবে যায় তারাও যেন দেশের ক্ষুদ্র শিল্পে অবদান রাখতে পারে, তার জন্য পাঠ্য বিষয়ে এ ধরনের বিষয়বস্তু রাখা ও হাতে কলমে অভিজ্ঞতা অর্জনের জন্য আশে পাশের ক্ষুদ্র শিল্প প্রতিষ্ঠান দর্শনের ব্যবস্থা রাখা দরকার।
৩	আরও বেশী পলিটেকনিক স্কুল চালু করা ও কারিকুলামে উদ্যোক্তা হবার মত বিষয় অন্তর্ভুক্ত করা	নতুন পলিটেকনিক স্কুল স্থাপন, পুরানোগুলোর উন্নয়ন, ও পাঠ্য সূচীতে পেশার প্রযুক্তি, শিল্পের জন্য ডিজাইন, এবং উদ্যোক্তা হবার মত বিষয় অন্তর্ভুক্ত করা	শিক্ষা মন্ত্রণালয়, জাতিয় কারিগরী শিক্ষা বোর্ড, সংশ্লিষ্ট বিশেষজ্ঞ, শিল্প মন্ত্রণালয়	এসএমই ফাউন্ডেশন	বাংলাদেশের বিদ্যমান অর্থাৎ- সামাজিক এবং প্রযুক্তিগত অবস্থানের স্কেমপটে নতুন নতুন ক্ষুদ্র শিল্প প্রতিষ্ঠান স্থাপনে পলিটেকনিক ডিপ্লোমাপ্রাপ্ত প্রকৌশলীদের ডুমিকা বেশী। তাই এ ধরনের শিক্ষা প্রতিষ্ঠান আরও বাড়াতে হবে এবং তার পাঠ্যসূচীতে উল্লিখিত বিষয়াদি অন্তর্ভুক্ত করতে হবে।
৪	বিশ্ববিদ্যালয় পর্যায়ে বিজ্ঞান ও প্রকৌশল শিক্ষায় প্রযুক্তিভিত্তিক পেশার এবং পণ্য-প্রস্তুতকরণ বিষয় অন্তর্ভুক্ত করা	বিশ্ববিদ্যালয় পর্যায়ে বিজ্ঞান ও প্রকৌশল শিক্ষায় প্রযুক্তিভিত্তিক পেশার এবং পণ্য-প্রস্তুতকরণ প্রক্রিয়ার উদ্ভাবন, ডিজাইন ও উন্নয়নের জন্য পাঠ্যসূচীর মধ্যে প্রয়োজনীয় পরিবর্তন আনতে হবে।	বিশ্ববিদ্যালয় মঞ্জুরী কমিশন, বিশ্ববিদ্যালয়সমূহ, শিক্ষা মন্ত্রণালয়, শিল্প মন্ত্রণালয়	এসএমই ফাউন্ডেশন	বিদ্যমান পাঠ্যসূচীতে বিভিন্ন প্রযুক্তির মৌলিক বিষয়াদি শেখানো হয়, কিন্তু প্রযুক্তিটিকে কিভাবে শিল্পে নিয়ে যাওয়া যায়, শিল্পের জন্য ডিজাইন করা যায়, জনসাধারণের সংস্কৃতি, আচার ইত্যাদি মাথায় রেখে কিভাবে প্রতিযোগিতামূলক মূল্যে এ ডিজাইন করা যায়, কিভাবে তার জন্য প্রস্তুতকরণ প্রযুক্তি তৈরী বা ইমপ্রভাইজ করা যায় এ সব বিষয় পড়ানো হয় না। এ বিষয়গুলো অন্তর্ভুক্ত করতে হবে। তাহলে বিশ্ববিদ্যালয়গুলো ভবিষ্যতে দেশের শিল্পায়ণে সাহায্য ও সহযোগিতা করতে পারবে।