The European Union's INSPIRED Program for Bangladesh

Technical Assistance to Stimulate Applications for the SME Competitiveness Grant Scheme

Electronics and Electrical Sector: Value Chain Analysis Included And Proposed Action Plans

January 2013

This project is financed by : The European Union

Project Beneficiary : Ministry of Industries
Government of Bangladesh

The project is implemented by : PKF

PKF

Accountants &
business advisers

Technical Report

Electronics and Electrical Sector

Includes

Value Chain Analysis

and

Proposed Action Plans

Intended to be Used as Source Material in the Development of Concept Notes

Bangladesh INSPIRED

January 2013

Contents

1. Acronyms

BEMMA	: Bangladesh Electrical Merchandise Manufacturers' Association
BEIMA	: Bangladesh Electronic Innovative Manufacturers' Association
BILIA	: Bangladesh Institute for Law and International Affairs
BIO	: Business Intermediary Organisation
BSTI	: Bangladesh Standards and Testing Institution
BUET	: Bangladesh University of Engineering & Technology
CIPE	: Centre for International Private Enterprise (USA based)
EU	: European Union
FBCCI	: Federation of Bangladesh Chambers of Commerce and Industry
MoI	: Ministry of Industries
NBR	: National Board of Revenue
RSTS,B	: Relevant Science & Technology Society, Bangladesh
SCGS	: SME Competitiveness Grant Scheme
SMEs	: Small and Medium Enterprises
SMEF	: SME Foundation
SWOT	: Strengths, Weaknesses, Opportunities and Threads
VCA	: Value Chain Analysis

2. Executive Summary

This technical report is intended for the BIOs and partners who must present Concept Notes to the EU by January 31 2013.
This report for the Electronics and Electricals sector is based on findings derived from meetings with SME associations, BIOs and prior surveys, reports, policy papers, etc., prepared by different groups at different times for this sector. These were consulted to prepare SWOT analyses. The contracted period of fifteen days was too short to prepare a VCA analysis for this sector. Therefore a VCA done by IFC-SEDF in 2009 was used as a basis which was updated using information collected through discussions with some entrepreneurs.

The recommendations address major constraints in the sector which can be taken up by the Inspired Programme. They focus on targeted clusters and BIOs which will be positively affected by the recommended actions. The report elaborates Action Plans which will help the BIOs in preparing quality Concept Notes for the SCGS.

1.1 Major Findings

a. The two sub-sectors, Electronics and Electrical have some significant differences although overlapping in a few areas.

b. Electronics is mainly a knowledge based sector and small manufacturing enterprises are usually initiated by knowledgeable innovators themselves at their own homesteads. Therefore, these are scattered throughout the country, not forming any clusters.

c. On the other hand, electrical sub-sector proliferated through skilled workers coming out of pioneering enterprises, which formed in the neighborhood, thus creating some well defined clusters in several geographical regions.

d. Most raw materials and components required for this sector are imported, at the same time competing finished products are also imported, the latter dictating the selling price. Therefore, survival of these manufacturing SMEs depend very much on the careful balancing of the import duty structures and VAT at the point of manufacture, to allow the manufacturing SMEs to earn a minimum of profit.

e. Once thriving Electronics sub-sector has been hit hard due to antagonistic VAT and import duty structures since 1998 and most well known SMEs have either vanished or have turned to importing of finished goods. There is no active registered association of manufacturers of this subsector at present. Only BEIMA, formed in 2003 and still unregistered, maintains a little presence.

f. Being able to solve local erratic power supply conditions, locally designed Voltage stabilizers and Instant Power Supplies have a demand in the domestic market. However, because of unfavorable taxes, this business has recently moved from the well known established SMEs to still smaller and unknown SMEs, who remain invisible to evade taxes and customs officials.

g. Therefore, the electronics sub-sector cannot gain much from the SCGS support at present. However, if the Action Plan 1 presented in this report works out and becomes successful, it may create a situation where this sub-sector may make a come-back in the future.

h. On the other hand, a large and growing domestic market has allowed the electrical sub-sector to survive. Besides, the duty structure was slightly favorable to most products in this sub-sector. Therefore they could survive and at present have strength of nearly 3000 units in several clusters across the country. BEMMA is the sole registered association in this manufacturing sector with membership of about one third of these SMEs.

i. Due to a recent import duty structure that went against the local production, the electrical accessory industry has started to decline as well.

j. The imposition of VAT at manufacture coupled with unfavorable import duty structure forces these entrepreneurs to concede to unreasonable demands of corrupt customs field officials. This forces the entrepreneurs to evade taxes as well, which in turn makes them vulnerable and they try to avoid any interaction with people belonging to the Government.

k. The above mentioned situation discourages SMEs to advertise their products through branding. They mostly sell to wholesale dealers which encourage cheaper products, without having any concern for quality. Therefore, low quality products eventually drive away good quality products from the market.

l. Although Bangladesh constitution authorizes only the Parliament to levy any taxes, the Parliament does not have any supporting office with research capabilities to draft and formulate the detailed policies, which has to be done for thousands of items. The responsibility for drafting has been given to NBR whose major task is to collect revenues for the Government. Although it gathers recommendations from different organizations and individuals, it has no research facilities and capabilities to carry out such an important task. Individual perceptions of NBR officials ultimately dictate the national tax policies, making it easy for vested interest groups to formulate the tax policies in their favor. This explains why most tax policies work against the interests of the manufacturing SMEs.

m. In spite of repeated appeals from different quarters, the tax policies hardly changed to favor manufacturing SMEs. Even if they changed in favor sometimes, it did not take long to get the policies reversed back.

n. The Electrical sector has a large domestic market and their quality is reasonable. However, further technological improvement will be necessary before they can reign in the domestic market in a better way and can export.

o. The products need to be standardized in quality through rigorous testing.

p. This sector also need affordable semi-automatic or automatic machinery, and trained workers to operate such machinery, in order to increase the production volume which is necessary for export.

q. Entrepreneurs need to be trained in financial management, environmental issues, sub-contracting and personnel management.

r. The entrepreneurs lack contacts with foreign companies or associations which is necessary for overall improvement and for seeking export markets.

s. Indigenous R&D can also provide some solutions which are more appropriate to the needs of these small enterprises, and capabilities exist within the country. Action Plan 2 of this report proposes a central facility which may improve the quality and capability of the SMEs in the electrical sub-sector.

1.2 Action Plans

Through meetings and discussions with associations, BIOs and information acquired through a long direct personal experience, two viable and important action plans have been proposed in this report. These are:

Action Plan 1: Establishing a BIO to provide legal and Media support to the Electronics and Electrical SMEs (under Lot 2, capacity building with BIOs), and

Action Plan 2: A multifaceted Electrical Institute offering facilities for product quality testing, skill training, entrepreneurship training including financial management and environmental issues, R&D for process and product technology development, foreign collaboration for export etc. (under lot 1B, intensive growth and consolidation clusters). This facility is mainly targeted to electrical sub-sector.

No direct support could be proposed for the electronics sub-sector as most of the once successful manufacturing enterprises have vanished or resorted to importing of finished products. Besides, they do not have any active registered association at present.

The **Action Plan 1** is vital to the survival of manufacturing SMEs not only in the Electronics and Electrical sector, but to all sectors. One part of it will file writs at courts to stop immediate implementation of policies that clearly favour imports of finished products against local manufacture. It will also try to put up legal battles in cases where entrepreneurs of manufacturing SMEs are fined or arrested by mobile courts which do not allow self defence, a basic human right. It will also file cases where corrupt officials harass small SMEs on fake, made up offences. The other part of this action plan will use the media, particularly the television channels in creating public awareness and support for local manufacturing SMEs, in order to mobilise public opinion in its favour, which will contribute to formulation of favourable national policies. Thus this will complement the legal actions and will help in sustaining such policies for a long time. The media plan will also provide technical education for entrepreneurs who are scattered all over the country. This will help improve the quality of manufacture and will cover the majority of the small enterprises in this sector which are not members of any clusters or associations. BEMMA will be the applicant with BILIA and RSTS,B as the partners.

Action Plan 2 will be specifically addressed to quality improvement of the electrical sub-sector. This sub-sector has demonstrated its strength in sustaining its presence over difficulties and has reached a stage where it is ready to take off, both to have a wider coverage in the local market and in export. Again, BEMMA will be the applicant with BUET, SME Foundation and BSTI as its partners.

3. Background

a.Background of the study

The Ministry of Industries of the Government of Bangladesh has selected a number of "booster" sectors for SME that have the potential to contribute significantly to the country's economy. The sectors are: agro- processing, natural fibres, leather, plastics, light engineering, electronics, furniture and home textiles. The *SME Competitiveness Grant Scheme* (SCGS) programme intends to support these chosen sectors through direct development projects and skills development and capacity building of related *Business Intermediary Organisations* (BIOs). As a part of this programme, the present project has been taken up to provide technical assistance to the Ministry of Industries of the Government of Bangladesh and the SME Foundation, so that the chosen clusters and sector business associations and other business organisations can submit high quality applications under the SCGS. This report is intended to provide the above mentioned assistance to the Electronics sector. It needs to be mentioned that Electronics sector includes two sub-sectors, i) Electronics and ii) Electricals which have some common requirements, again some different ones too. This report will handle these perspectives and requirements as appropriate.

b.Scope

The Electronics sub-sector has faded out over the last decade in Bangladesh and has a very limited formal presence at this point in time. This sub-sector used to be represented by a few associations in the past but currently none are active and none of the currently recognisable associations are registered with the Government. The factors have been discussed elsewhere in this report. Therefore, the interests of this sub-sector cannot be directly supported by the SCGS as per the set conditions. On the other hand the electrical sub-sector has a very visible presence for a long time with recognisable clusters and about a third of the SMEs in this sub-sector is represented by and an active association or Business Intermediary Organisation (BIO). Therefore, attempts will be made to couple some of the vital requirements of the Electronics sub-sector into that of the Electricals sub-sector besides catering to separate requirements of the latter.

The contracted period of 15 (fifteen) days for preparing this report is too short for carrying out any elaborate survey or for making proper Value Chain Analyses (VCA). Therefore, most of the analyses were based on available data, produced by different organisations – Government and Non-Government, meetings with associations and individuals, and from information gathered through earlier personal work of the consultant himself. The consultant has direct interactions with both the sub-sectors, particularly with the Electronics sub-sector over a long time, himself

being an entrepreneur at one stage. He was involved with several surveys looking at problems and prospects of these sectors at earlier times, took direct part in lobbying with the Government for formulating favourable policies. Possession of this insider information, combined with that obtained through fresh meetings with the Associations and potential BIOs helped in identifying some very important and appropriate action plans under SCGS. The technical report will emphasise the existing constraints, obstacles and limitations and will formulate recommendations that will be the basis of the Action Plans for both the Clusters and the BIOs to prepare Concept Notes under SCGS.

c.Methodology

i. Meeting with EU representatives/experts and the Team Leader.
ii. Drawing information from different reports.
iii. Drawing from the consultant's own direct experience with clusters and firm level information.
iv. Meetings with Association representatives, BIOs.
v. Submission of a draft technical report with main findings and recommendations.
vi. Production of Action plans for both selected clusters and BIOs to help preparation of Concept Notes under the SCGS.

The whole activity was carried out under the guidance of the Team Leader.

d.Sources of Information

i.Earlier survey results carried out by the consultant or by others
ii.Local and Foreign sources
iiiRelevant Bangladesh Government documents
ivPersonal interaction with entrepreneurs within and outside clusters of the sector
(Source references given in Appendix C)

e.Approach

Some information was already available in softcopy with the consultant through his direct involvement with this sector. These were updated through fresh interaction with stakeholders and BIOs. Based on this information, SWOT analyses were carried out on both the sub-sectors. The contracted time was not adequate to carry out studies to obtain Value Chain Analyses (VCA). VCA performed by an international body in 2009 was used as a guide. The VCA were updated through discussions with stakeholders in the Associations of the manufacturers. Through this exercise some areas were figured out for the ensuing action plans under the SCGS. The consultant met or talked to persons responsible in various organisations who were thought to be of importance as partners in the proposed projects. List of meetings are given in Appendix B.

4. Action Plans for Concept Notes

The purpose of this chapter is to illustrate how our clients, BIOs and partners, can translate the information in this report, and our findings, into Concept Notes. As the purpose of this report is to assist clients with practical information, we have added an Activity Plan which spells out the various steps required from the submission of this report by January 31, 2013, when Concept Notes are due. This Chart takes into account the EU Guidelines which is an essential road map in this last step.

Background

"Small industry is the backbone of a nation" - this saying is well established in any industrially developed country. However, small industry that can form the backbone of a nation can only be those that manufacture products that are based on technology, particularly on technology acquired by the indigenous people or based on home grown technology. Here Electronics & Electrical sector can offer a great opportunity in Bangladesh. The main advantage of home grown technology is that affordable products that enhance the quality of life of the common local people flourish in the market easily. When such an industry grows it creates a network of backward linkage for supply of component parts. Since these rely on local expertise and locally available raw materials, the technology is usually within the grasp of many others, and the network builds up quickly.

An indigenous technology based industry needs a very little capital to start with. With gradual increase in the sales, which again helps improve the technology, the industry sees a rapid growth after a critical threshold is reached. Here the entrepreneur learns the tricks of the trade through real life feedback, which is adapted to the particular socio-econo-political situation, unlike foreign bred management practices which cannot be applied in the local conditions directly. Most of the time such an industry builds itself into a network which patronises each other. These may be located in different places, or sometimes build into a single neighbourhood forming a cluster. Local customers also support such nascent innovative enterprises due to an innate cultural urge.

It needs to be emphasized that even in the industrially developed West. The backbone of their economy is still innovative technology based small industries. Microsoft, Apple, Hewlett Packard, Ford all started from garage sized endeavours.

Another important point that needs to be emphasized in the commercialization of technology based products is that it can be only successful when the technology innovator turns into an entrepreneur him/herself. Looking back to successful industries in the recent times like Sony, HP, IBM, Intel, Microsoft, Apple, Ford, Toyota, Honda, Marconi, General Electric, and going further back into the great players of the industrial revolution like George Stevenson, Cartwright, Wedgwood, Arkwright and others, the same picture emerges. Here the designer's ability to

understand the people, their culture and habits, market dynamics, etc. plays a very important role. Choosing a wrong product may lead to wastage of money and effort. Besides, the challenge is very daunting in the Third world at the present times since the people have become used to high standards of products imported from the industrially developed world.

Coming to the real scenario in Bangladesh, there is a tremendous amount of ingenuity and initiative among the common people that are very much conducive to the growth of manufacture based SME. Culturally the people in general are also supportive of such enterprises. In the long past almost 50% of the population in Bengal used to be artisans – meaning people involved in industries like pottery, metal work, textiles, etc. After the industrial revolution in Britain, unfavourable tax policies were imposed by the colonial rulers here to create a market for British textiles and products by putting up unfavourable competition to local small industries. In order to do this, high excise duties were levied on locally produced goods while the imported finished goods were made tax free (Nehru, The Discovery of India, 1944). This resulted in large scale poverty and deaths of artisans. An environment was created which went against the growth of manufacture based SME in this part of the land. It can be envisaged that these situations also gave rise to an environment of large scale corruption by Government employees. An entrepreneur who carried on the expertise for a particular trade through generations and depended on it for livelihood could not switch to any other means quickly. Understanding this predicament the Government officials who were given the task of collection of taxes possibly offered a breathing space in lieu of personal benefits to them. The culture of corruption thus grew in this region. This regulatory regime also led to the grooming of importers and traders of foreign goods who became rich eventually.

After independence, the rich importers influenced the national tax policies in their favour, and this went against the interests of manufacture based SME in this country. Even though the overall Government policy wanted to favour the SMEs, the specific tax and VAT structures that directly related to the products made by the local SMEs were not in their favour in many areas. This particularly hit hard the Electronics sub-sector, which, in spite of showing a lot of ingenuity and initial success, has been almost destroyed, most manufacturers either closing down, or switching to import trades. The Electrical sub-sector struggled hard and could make some progress because of the presence of a large domestic market, but again has been faced with unfavourable tax policies in some potential areas in the recent times.

Such unfavourable policies allowed an opportunity for customs officials to harass any SME, ordinary police constables or traffic policemen to stop movement of goods on the roads asking for bribes, mobile courts to stop the functioning of an SME instantly on minor offences.

It is easily understandable that such an antagonistic environment cannot lead to healthy growth of a manufacturing sector. The entrepreneurs have to live in a state of fear all the time. They try to keep their visibility low so that they do not attract the corrupt Government officials and field workers. This prevents them from advertising their products or to create branding which is needed to create a market for quality products. In fact this situation has created an environment where bad products are driving away good quality products from the market, even though capability exists to manufacture relatively better products. Therefore, even if heroic efforts are made to improve the quality of the products made by the SMEs, this overall scenario eventually result in the failure of all such efforts.

The Electronics sub-sector and the Electrical sub-sector, have a few significant differences although having a good deal of overlap. Electronics is mainly a knowledge based sector and small enterprises start at homestead of knowledgeable innovators, scattered throughout the country. This, combined with the fear of being visible, kept these enterprises isolated; not creating a situation to form clusters. On the other hand, electrical sub-sector proliferated through skilled workers coming out of pioneering enterprises, which formed in the neighbourhood, thus creating some well defined clusters. These clusters also allowed them some protection against the harassment by corrupt Government officials and to form associations to present their cases to high ups in the Government at certain times. This explains why electrical small industries are in a better position compared to their electronic counterparts. The Electrical sector has a large domestic market and their quality is reasonable. However, further technological improvement will be necessary before they can export.

The role(s) of BMOs/BIOs/NGOs in this particular sector

The organisations or institutes involved in the proposed action plans of the Electronics and Electrical sector are BEMMA, BEIMA, BILIA, RSTS-B, SME Foundation, BUET and BSTI, whose detailed names have been provided in the Acronyms page.

For Action Plan 1, BEMMA, representing about one thousand SMEs under the electrical sub-sector will be the applicant with BEIMA, BILIA and RSTS-B as the collaborating partners. BEIMA represents about 100 electronics SMEs and is maintaining a low key at present. BILIA is a 40 year old institute for Law with very high profile personalities of Bangladesh in its Executive body, some of whom were responsible to draft the original constitution of Bangladesh. RSTS-B is a 16 year old Society of persons committed to the development of relevant science and Technology in Bangladesh. Though it has been maintaining a low profile, its key personnel have been very active through more than a decade in establishing favourable policies for manufacturing SMEs in Bangladesh. With a background of

being entrepreneurs of an electronics manufacturing SME, they have worked to carry out surveys in these sectors, prepared policy papers on contract from different organisations including SME Foundation, FBCCI, DCCI, and CIPE. Thus these members have first hand information on many aspects of the relevant sector issues which can provide important support to this action plan.

For Action Plan 2, BEMMA will again be the applicant with BUET, SME Foundation and BSTI as the partners. BUET is the prime Engineering University in the country bringing in knowledge and expertise in technological matters and will provide all the planning and consulting for this proposed Institute. SME Foundation is a private public partnership which is helping the growth of SMEs in Bangladesh and has a wide connection with local and foreign groups which can help development of the sector. It can also provide minor resources if needed. BSTI as the country's lone Government agency to test product quality for standardisation will be able to provide the much needed expertise and connections with foreign resources.

The existing state of data and firms on the ground

Electronics

Manufacturing SMEs in Electronics was a thriving sector in Bangladesh in the nineties. The number of enterprises went over a few thousands, and quite a few of these came to prominence through innovation, quality of products and after sales service. However, due to framing of short-sighted import policies to support the proliferation of computers and solar PV systems in 1998, the whole electronics sector has been devastated. This has been described to some extent in the background segment. However, whatever local production is being made at present is due to very small enterprises who prefer to keep themselves hidden, in order to avoid visibility. A visible industry in this sector cannot survive due to the requirement to comply with the faulty taxation regime. No one knows the number of such businesses and they do not form any cluster. Neither any registered associations are there representing this sector. BEIMA is the only association maintaining a low profile. It was formed in 2003 with more than 50 members specifically to plead with the Government with the hope of bringing in changes in favor of manufacture. As all efforts failed, most of the members vanished or shifted to importing of finished goods. If Action Plan 1 succeeds in bringing in favorable changes, this sector may again rise to significance. More details on this sub-sector is given in Appendix A.

Electrical

Electrical manufacturing industries started proliferating in the late eighties, and have continued their presence since then. The domestic market is large, and due to increasing electrification, the growth will continue for a long time. At present there are about 2500 small and medium industries out of which about 1000 are members

of BEMMA. Clusters have developed mainly near Dhaka city. The wholesale market is within the Dhaka city, therefore, the manufacturers try to keep their factories within a reasonable distance. The main items manufactured and a value chain analysis of one product is given in Appendix A. There are small clusters within Dhaka and outside Dhaka district who are yet not members of BEMMA. Actually, many of these industries are recent and are trying to establish a footing. Joining an association draws on valuable time of the entrepreneur, and therefore, unless an enterprise stands on a reasonable footing, it is difficult for it to become a member of an association. Besides, unless a significant benefit is observed, entrepreneurs usually remain outside the folds of such associations.

BEMMA has been providing valuable leadership to this sector, and their perseverance has borne some fruit. They have a plot of land within 20 km of Dhaka city which houses many members of BEMMA. A request for an industrial park has been placed with the Ministry of Industries, some feasibility studies were done as well. However, this effort has met with some difficulty in getting a large piece of land. Hopefully this will be solved in the near future.

The quality of products is reasonable, but there is much room for improvement, and the present EU grant, if received, may give this sector a very vital boost.

Issues relating to EU Guidelines

Issues that are relevant in view of the present state of the sectors are covered by the two proposed action plans. The first vital one regarding a legal and media support can come under component 2 for enhancing BIO capability. Not only the members of BEMMA and BEIMA, not only the SMEs under the electronics and electrical sector will be benefitted, the whole manufacturing SME sector will be benefitted through this action plan. The number of beneficiaries will run into many thousands and the contribution to the national economy will be astounding. It would be difficult to give a number, but if this action plan is successful and the Government policies are changed to favor the local manufacturing SMEs, it can be guessed that the GDP will go nearly to a double digit figure from the current value of about 6.5%.

The other vital issue is that of quality improvement, skill development, financial management improvement, R&D for product and process development, etc. This is covered under lot 1b. BEMMA has about 1000 members who will be benefitted by this action plan.

Action Plans from the Technical Study

A. Action 1: Establishing a BIO to provide legal and Media support to the Electronics and Electrical SMEs (under Lot 2, capacity building of BIO)

i. Background

Article 83 of Bangladesh constitution stipulates that no tax can be levied or collected except by or under the authority of an Act of Parliament. However, the Parliament does not have any organisational infrastructure to perform this task. Therefore it delegates the powers to National Board of Revenue (NBR) which prepares the detailed policy formulations. The drafted policy is discussed in the parliament before it becomes a national policy. It is important to note that tax policies that affect nation's industries including SMEs are numerous. One is the overall tax policy with respect to income, VAT and others, while the other relates to import duties and taxes levied on individual items – both on finished products and on raw materials and components for manufacture. Since most of Bangladesh's engineering based industry depends on import of foreign raw materials and components, the difference of the tax rates on such items and the corresponding finished products is very important. A small change in one direction can boost the local industry and economy, while a small change in the other can bring in devastation. Again, this exercise needs to be performed on thousands of individual items, belonging to different sectors and branches and it is not possible for a few individuals to sift through all these policies, how they are going to affect the country's economy and society in the short term or in the long term. Therefore, this calls for giving utmost importance to the framing of tax policies, which should be supported by extensive research, survey, archiving of previous data and survey reports to analyse how a particular policy helped or worked against national development. This also needs a permanent research facility manned by expert permanent or long term research staff, who would be supported by stakeholders of each individual sector.

Unfortunately, this important aspect of tax policy formulation was never understood or appreciated by the people at the policymaking bodies of Bangladesh Government and it has been carrying on this task through part time efforts of an office of the National Board of Revenue (NBR). The main terms of reference of NBR is collection of revenues, and in a resource starved country like Bangladesh it is always under heavy pressure to increase revenue collection, therefore, it is not possible for NBR to spend time and effort to work in details how the tax policies they formulate would make impacts to industry or economy of the country in the long run. Besides, NBR has no research wings or facility to study the effects of the tax policies on national development; therefore, personal perceptions of officials play a very important role in the formulation of the final draft. Of course NBR invites recommendations from different commercial and

trade bodies, Government and Non-Government think tanks and research organisations, but the final decision depends on the individuals at NBR. This has a very important bearing. It becomes very easy for any vested interest group to influence individuals in this organisation either through political influence or corruption. This has happened throughout the history of Bangladesh and the manufacturing SME sector has not been able to make the impact that it was capable of.

As mentioned above, corrupt Government field officials harass the manufacturing SMEs in various ways, in order to satisfy their own self-interests. The legal entity, if formed, will also file cases against such harassment.

When this new idea was floated to the manufacturing associations (BEMMA, BEIMA) they welcomed this initiative immediately. In fact these simple entrepreneurs are facing the above mentioned obstructive forces for a long time and they could clearly see the potentials of this new action plan. This plan, if materialised, will not only benefit the electronics and electrical sector, it will have an overall impact over the whole SME manufacturing arena of Bangladesh. In all these sectors, the number of enterprises out of the folds of the BIOs or registered associations is still the majority. Therefore, all these enterprises which still remain unaccounted for in the formal sector will be benefitted.

Side by side it was thought that media coverage, particularly in the electronic media, of the manufacturing SMEs will be an important complementary activity. This will have multiple dimensions with immediate and long term impacts. Firstly, this will help create public awareness that is needed to sustain favourable policy decisions obtained through court orders, and in the long term, in influencing policy makers towards formulation of SME friendly policies. Secondly, this will allow broadcasting of technological education needed to improve the quality of products, particularly for the majority of the SMEs scattered throughout the country, which are not supported by any cluster or BIO activities. Thirdly, this will allow promotion of the indigenously made products which will contribute greatly towards marketing of the products of these manufacturing SMEs. Again, although this action plan will primarily be taken up for the electronics and electrical sector, eventually it will serve the interests of the whole manufacturing SME base of the country.

ii. Objectives:

(The following objectives will initially apply to the electronics and electrical sector, but will eventually extend to cover other manufacturing sectors. This will also apply for all the items below)

To take legal steps in order to stop implementation of Government policies going against the interests of the manufacturing SME, or to rectify such policies.

Through media coverage, to create public support in favour of national policies in the interests of the manufacturing SMEs, to educate SME personnel scattered throughout the country in both technology and in entrepreneurship, and in promoting purchase and use of locally made products.

iii. Key stakeholders group:

a. BEMMA (Applicant): The main association of Electrical merchandise manufacture

b. BILIA (Partner): A prime institute and think tank on Law issues, and is prepared to establish a legal wing for the SMEs.

c. BEIMA (Partner): The main association of innovative electronic manufacturers

d. RSTS-B (Partner): A Society having expertise to provide the required advice and consultation, and to take up media programme under this action plan.

iv. Type of activities:

a. Filing writs at the Court to stop immediate implementation of specific tax formulations (including VAT and import duties) that go against the interests of indigenous manufacturing SMEs.

b. Filing cases at the Court to obtain ruling on tax policy formulations that goes against the interests of indigenous manufacturing SMEs.

c. Filing cases at the Court when unreasonable fines are imposed on manufacturing SMEs on flimsy grounds or fake allegations by mobile courts (which does not give any scope for self defence), sometimes together with possible arrests of the entrepreneurs.

d. Filing cases at the Court against corrupt Government employees who harass manufacturing SMEs on fake allegations.

e. Through media, creating public awareness for the promotion and nurturing of manufacturing SMEs.

f. Through media (primarily television), stimulating public discussion on the effects of national policies, particularly tax policies, on the manufacturing SMEs, with a view to influence appropriate corrective actions by the Government.

g. Through media, providing technical education needed to improve the quality of products and processes of the manufacturing SMEs scattered throughout the country.

h. Through media, projecting successful products manufactured by local SMEs in order to create public acceptance of indigenous products. This will help in marketing of local products.

v. Specification of related outputs and results:

a. Stopping implementation of Government policies, particularly related to tax and import duties, that go against the interests of manufacturing SMEs.
b. Changing policies in favour of manufacturing SMEs.
c. Creation of public awareness in favour of manufacturing SMEs which will enable the formulation of favourable national policies through the media activity.
d. Enhancement of the quality of products and processes of all SMEs in this sector whether in a cluster or scattered in remote areas.
e. Creating a local market of products made by the indigenous SMEs.

vi. Description of linkages/relationships between activity clusters:

Partner BILIA will establish a legal support centre with adequate manpower, library, archives and other relevant documents. Direct interaction with BEMMA and BEIMA will be ensured. RSTS-B with the experience of its key personnel in policy related issues relevant to SMEs will be able to provide necessary advice and guidance. Filing of writs or cases with the court will be initiated through a discussion of all the four groups. Beneficiaries from BEMMA and BEIMA will financially support the activities.

Partner RSTS-B will establish a media centre with adequate equipment and manpower. It will primarily focus on electronic media (television). It will produce programmes following the objectives mentioned above and will broadcast the programme through a popular Television channel where it will showcase activities of the members of BEMMA and BEIMA, who in turn will be benefitted directly or indirectly. The educational programmes will also be recorded in DVDs for open sales to entrepreneurs.

vii. Timeframe:

a. Legal support centre: 3 years
b. Media support Centre: 3 years

viii. Estimated cost: € 250,000 = Tk.2.5 crore (to apply for a grant of € 200,000)

B. Action 2:
Technical Institute for testing, skill training, technology development (under lot 1B)

i. Background:

The electrical sub-sector has consistently grown over the years, and an ever growing large domestic market has helped it to sustain in spite of various difficulties common to all the manufacturing SMEs in Bangladesh. The quality of the products is reasonable, but there is much to improve. Particularly in the face of competition from foreign products, even in the domestic market, there is an urgent need to improve the product quality. The local manufacturers are also eying an export market, but both the product quality and the volume of production per worker need to be improved in order to compete in the international market. In order to improve the quality, it should be done in phases, which may be different for different industries.

In the first phase, attempts should be made to increase the product quality through minimal changes in the processes. Side by side the entrepreneurs should be made aware of the environment so that all their development efforts are environment friendly right from the beginning. The steps required here are:

a. Provide a quality testing of the supplied raw materials
b. Testing of products at appropriate intermediate processing steps
c. Final testing of products at end of production
d. Process improvement through indigenous efforts
e. Standardization of product quality
f. Providing information to perform environment friendly operations.

In the second phase the focus should be process improvement, targeted for volume production and export. This will require going for automated computer controlled machinery for production using foreign machinery. However, this also requires highly trained skilled manpower which is not available in Bangladesh right now. Therefore, training of manpower in modern methods of production is also a necessity for this sector.

Therefore, under lot 1B, a Technical Institute to provide a central facility for quality testing of products and skill training of technicians is proposed. It should also have a facility for indigenous development of product and process technology and entrepreneurship training together with training for increasing environment consciousness. In some cases expertise and facility to develop certain products and process technology may be available with other organisations. So, this proposal should have scopes to get things done through sub-contracting. Again, foreign visits may be necessary to expose entrepreneurs and technologists to

newer processes and products, and to build up contracts for marketing. This plan should have provisions to cover such activities as well.

The proposed central facility should have quality testing services for widely made products by the small units of the association under consideration (BEMMA), who cannot afford the expensive machinery and manpower needed. These products include Ceiling Fans, Electrical accessories (includes Switch, Plug, Socket, Power Indicator, ceiling rose, lamp holders, etc.), Electrical cables and Light fittings.

Many electrical fittings need good quality sheet metal cabinets and plastic parts. Therefore, this central facility should have die making facilities for metallic cabinets and quality plastic mould making facility as well.

ii. Objectives:

Providing a central laboratory with quality testing and standardisation, R&D facilities, entrepreneurship and skill training, and die/mould making facility for making of sheet metal cabinets and plastic parts.

iii. Key stakeholders group:

a. BEMMA (applicant): The main association of SMEs
b. BUET (Partner): Provide expert consulting services
c. SMEF (Partner): Provide linkages with other organizations at home or abroad, provide minor sponsorships
d. BSTI (Partner): Provide expert advice and consulting in quality testing for standardization.

iv. Type of activities:

a. Providing a central testing facility for ceiling fans, electrical accessories, electrical lamps and cables, to allow standardization of products.
b. Providing a centralized die making facility for sheet metal cabinets and mould making facility for plastic parts required for electrical appliances.
c. Providing skill training to workers, particularly in the operation of automated machinery.
d. Providing entrepreneurship training together with issues of environment protection.
e. Establishing R&D facility with in-house manpower for development and/or improvement of products and processes.
f. Providing facilities for die/mould making for sheet metal cabinets and plastic parts.
g. Subcontracting to other organizations for development and/or improvement of products and processes.
h. Providing interactive linkages with foreign industrial associations for collaboration and marketing.

v. Specification of related outputs and results:

Establishment of all the activities listed in item ***iv*** above.

vi. Description of linkages/relationships between activity clusters:

BEMMA is the main initiator and coordinator of this activity. Partner BUET brings in knowledge and expertise for preparing project profiles and to provide detailed planning for this central facility. They can also provide some skill training. Partner SMEF provides contacts with local and foreign collaborators and some sponsorships for such activity. SMEF also has the ability to organise training on entrepreneurship and environmental compliance issues. BSTI provides information and support for quality standardisation particularly that needed for export.

vii. Timeframe: **3 years**

viii. Estimated cost: €850,000 = Tk.8.5 crore (to apply for €750,000)

5. Key Recommendations

i. Establish a legal and media support centre for the electronics and electrical SME sector which would eventually serve the whole of the manufacturing SMEs in Bangladesh. The legal support is vital to the survival of the manufacturing SMEs since the national policies are frequently influenced by rich importers causing extreme harm to the manufacturing SMEs.

ii. Establish a central facility for the electrical sector providing multiple facilities including Quality testing of products, R&D facility to improve product and process technology, Skill training on modern automated machinery used in this sector, entrepreneurship training with emphasis on environmental issues

6. Appendix A:

Technical Report on the Value Chain Analysis for the Electronics/Electrical Sector.
This is a highly potential sector for Bangladesh as the mental abstraction needed to understand the inner unseen working of electronic devices and circuits is special and somehow the people of Bangladesh are very good at it. The following lists give products that were commercialised previously or are being commercialized now, or are almost ready to be commercialised in the near future if suitable support is given. Here the main items under SME can be divided into the following two categories.

A. Items using foreign technology (assembly industry)

1. Video Cassette Recorder/Player (VCR/VCP) – now obsolete because of technological changes.
2. Radio – Once thriving, but again almost non-existent now because of market changes. The recent enthusiasm in digital radio has not made an impact in the local industry as yet.
3. Television (TV) – This has a large local market. Many small TV assembly industries proliferated in the nineties but all but a few large ones have disappeared now, because of tax policy mistakes since 2002. At present the import duty on finished TV stands at 25%, that on its components, if imported by an industry directly is also 25% (the same), and is 45% (= 25% customs duty + 20% supplementary duty) if the components are imported by an ordinary importer (which is the one relevant to small industries). Therefore, TV assembly remains out of bounds for small industries.
4. Computer assembly: As finished computers enjoyed zero import duty since 1998 (now it is only 3% and 0% VAT), while import duties and VAT on raw materials (12.5% and 15% respectively) and VAT at production (15%) are much higher, no one could think of initiating any assembly industry for producing computers which has a large domestic market. Only recently a Government organization (Telephone Shilpo Sangshtha) started assembling laptop computers with Government funding and a commitment by another Government body (Ministry of Education) to purchase the products. It would not be practical for any private concerns to attempt producing computers locally under the present tax regime.

B.Items using locally developed or acquired technology

This can be again sub-divided into three

B.1 Items for general consumer use

1. Voltage protection devices (Volt-Guard, protecting from unsafe high or low mains voltages, a local innovation by the consultant which became popular through marketing efforts)
2. Voltage Stabilisers with or without built-in Voltage Protectors (more than 90% of local demand produced locally)
3. Surge Suppressors
4. Electronic Light dimmer
5. Electronic Fan regulator (copied designs, not of very high quality)
6. Emergency charger light (local production dropped because of cheaper LED lamps from China)
7. Instant Power Supply (IPS) - Emergency power systems (more than 90% of local demand produced locally)
8. Uninterruptible Power Supply (UPS) for computers (were being made locally earlier, but zero duty on UPS imported with computers since 1998 led to closure of all local productions)

There is a large domestic market for the above items and some local industries were doing very good business in the nineties. However, making the imports of computers and solar photovoltaic systems together with their accessories totally duty free in 1998 created an opportunity for importers of almost all such electronic items to import most of the above products tax free, declaring these as accessories of computers or of solar PV systems in connivance with customs officials. On the other hand a local producer had to pay much higher import duties on raw materials and VAT both at import of raw materials and at production. Besides, since all the small industries procure components from component dealers they cannot claim the rebate on VAT paid at import. So there is in effect double payment of VAT by small manufacturers (Annex-1 gives some details on how VAT affects innovative indigenous electronics small industries negatively). Therefore, many of the manufacturers either closed down, or switched to importing business in order to survive. More than 90% of the local demands of items 2 and item 7 are still being produced locally, but not by registered manufacturers any more. These have spread to small informal producers working informally, at almost cottage industry levels. This gives the opportunity to remain hidden, thus maintaining some profitability by not paying VAT, but this anonymity prevents any activities to improve the quality of these products.

This double payment of VAT mentioned above applies almost equally to all other small manufacturing sectors which use imported raw materials.

B.2 Items for specialised professional, industrial and educational use

1. Computerised on-line ECG Monitor (just being launched commercially)
2. Computerised EMG equipment (just being launched commercially)
3. Muscle & Nerve Stimulator (very limited commercialization over 15 years)
4. Iontophoresis equipment for treatment of excessive sweating (very limited commercialization over 15 years)
5. Industrial temperature controller (developed but marketing was not very successful
6. Electrical Energy Meter calibrating equipment (developed but had limited marketing)
7. Electronic Scoreboard (developed but marketing was not very successful)
8. Traffic Light (using micro-controller, developed but marketing was not very successful)
9. Automatic light sensitive switch (developed but marketing was not very successful)
10. Taxi meter (using micro-controller, developed but marketing was not very successful, for not being able to receive Government approval)
11. Trainer board for general electronics teaching (very limited marketing)
12. Trainer board for teaching Radio, Television (very limited marketing)
13. PABX system (developed but marketing was not very successful)
14. Conference audio system (developed but marketing was not very successful)
15. Hi-Fi audio system (developed but marketing was not very successful)
16. Public Address system (limited marketing, not of high quality)
17. Charge Controller for Solar Photovoltaic system (going well, with most solar PV systems)
18. Inverter for Solar Photovoltaic System (going well, but requirement has gone down because of LEDs replacing CFLs)
19. Moving message display (limited marketing)
20. Micro-controller trainer system (very limited marketing)

The above items were developed by different groups at different times, but could not sell well because of marketing failure mostly. Since the cost of similar imported products are very high, there is an opportunity for local producers to tap this market. However, for individual enterprises, the costs involved for marketing are too much to afford. For the solar PV products a few large local private companies and NGOs are doing the marketing in their own brands and they are subcontracting the production of the electronic equipment to some local producers who are making quality products.

B.3 Components and support items for electronic manufacture

1. Small Transformers (going well, supplying local voltage stabilizers)

2. Metallic sheet cabinets (hand made, going well, supplying local voltage stabilizers and similar products, limited volume does not allow die based cabinets)

These products go to the local producers of voltage stabilizers and IPS mainly, and are doing well in business. However, the quality has room to improve.

STRENGTH

1. Bangladeshi people have a natural ability to visualise the actions of unseen abstract designs as demanded by Electronics.
2. This sector has been initiated by relatively educated group of people, particularly people with science and engineering background. Therefore there is potential for product and process improvement locally.
3. Workers are easy to train. Even uneducated or little educated workers can produce high quality products given necessary environment, facilities and incentive.
4. Potential exists for high quality indigenous product design. Some of the local products are better in quality than similar items imported from neighbouring countries, which is the reason for their survival in spite of inverted Tax and VAT policies.
5. Scope for innovating products matching the needs of local population. Customer design is possible if an innovator becomes an entrepreneur himself.
6. Existence of large domestic market.
7. Needs a very small fixed investment.
8. Products needed for calibration or automation of other process industries can be designed and fabricated locally.
9. Mostly technology innovators have turned into entrepreneurs. This is a big advantage for growth of this sector.
10. Local support industries for transformers and cabinets help reduce the cost of products. In spite of lack of required infrastructure for producing world class cabinets, innovative use of existing capabilities have produced designs that are reasonable, and better than those produced in some exporting countries in the neighbourhood.

WEAKNESS

1. An apparent negative attitude of tax policy drafting bodies create long term obstacles by making locally manufactured major electronic products uncompetitive against imported finished products.
2. Harassment of small manufacturing enterprises by corrupt Government officers taking advantage of some impractical tax policies.

3. Unfavourable tax policies and corruption prevents the enterprises to expose themselves through exhibitions and advertisements, and in establishing own brands.
4. The above situation keeps the small manufacturers under the control of the wholesale and retail dealers, which in turn inhibits efforts to enhance quality and to sustain a regular cash flow.
5. The above situation creates a situation where low quality products drive away good quality products. The wholesale or retail dealers tend to go for cheaper low quality products to get more profit.
6. Government purchases sometime favour foreign products, categorically mentioning places of origin excluding the local ones, even in cases where local products have demonstrated their quality and reliability.
7. Needs a large working capital.
8. Lack of infrastructure for fabricating high quality cabinets. World-class cabinets mostly use plastics or die shaped sheet metal. Both of these need huge investments and are economically viable for a very large volume for each individual product. Since the existing volume is small the necessary infrastructure has not grown in Bangladesh so far.
9. No large scale marketing chain exists. The manufacturers have to negotiate with retailers directly and the dealers take advantage of the situation. The manufacturers do not get the price regularly and this sector suffers from cash flow crisis.
10. Because of low volume, small manufacturers cannot import components directly from component manufacturers abroad. They have to depend on the components imported by ordinary importers. So it is difficult to ensure component quality leading to reliability problems. Besides, minor design changes have to be made for each batch if components are not available to exact specifications. This needs the presence of an expert in every industry. However, this is not a problem with assembly industry since they import all their parts and components in a kit form.

OPPORTUNITIES

1. A large domestic market exists for low and medium priced quality products, which is increasing gradually as people come out of poverty through various Government and Non-Government initiatives.
2. The customers are not yet conscious about consumer rights. This is helpful for start-up enterprises till they get a good foothold.

3. There is ample scope for export. The quality of some of the local products is already of international standard. In fact some products that are imported into this country are inferior to local products.
4. If the Government policies regarding tax and VAT can be changed so that corrupt officials cannot disturb the entrepreneurs, some enterprises will come out of the shell by trying to improve quality, advertise, and establish brands. This will initiate a healthy competition and allow the firms to increase their production volume and management experience. This will be useful to tap the export market as well.
5. If favourable policies are adopted (as suggested above) more people with technical background will enter this arena. This will pave the way for producing high quality products in large volumes within the country.
6. A centralized marketing support can create a situation for many small industries to take this opportunity.

THREATS

1. Unfavourable Government policies already exist against local products in this sector, and may continue in future due to lobbying of powerful vested interest groups.
2. Growth of a local market in a new product through the effort of the small local manufacturers sometime goes against their interests. Seeing the developed market, importers can influence the tax policies to make the local products uncompetitive against imports.
3. Cheaper and better looking, not necessarily of better quality, products from China.
4. Possibility of dumping from these countries.
5. Most of the products depend on imported raw materials. A large scale disruption abroad may affect the local production, though it is a remote possibility in the present day world.

ELECTRICAL SUB-SECTOR

The main items under SMEs of this sub-sector are:

1. Ceiling Fans
2. Electrical accessories (includes Switch, Plug, Socket, Power Indicator, ceiling rose, lamp holders, etc.)
3. Electrical cables
4. Extension cords
5. Electrical heater, iron, Soldering iron
6. Small fans, exhaust fans

7. Lamp fittings
8. Rechargeable battery (Lead-acid)
9. Motors
10. Transformers (large power), Welding transformers
11. Electrical switch gears and distribution items

There is a large domestic market which is increasing because of steady reduction of poverty and increase of consumers of electricity. Most of the items are improvised or made through adaptation of foreign designs. A company has recently started assembling refrigerators, but it is a large industry and will not fall under SMEs. Almost 100% of local requirements of ceiling fans are produced by local SMEs. Electrical cables, which are exported to several countries, are produced by SMEs as well as a few large industries.. Most of the accessory industries use Bakelite, a type of urea resin based thermoset plastic and metal parts, predominantly, brass. Although there is room to improve the quality, these local industries have been taking care of the huge local demand. Transformers needed for substations and small distribution networks are also being manufactured locally, mostly by the private sector. A Government industry was there (GEM plant) earlier, but it has closed down in the recent times. Through struggle and perseverance, this sector have been able to succeed in their efforts to sustain, in spite of obstacles posed by various elements in the country.

STRENGTH	WEAKNESS
Highly intelligent and skilled manpower can perform skillful manual operations to produce good quality items. Low labour cost Local workshop expertise available for fabricating process equipment at low cost. (Most of the existing small industries depend on such equipment). Large domestic market with high growth rate (due to increased earnings and spread of electricity) Existence of an efficient chain of independent marketing network for reaching the whole of the country.	Dependent on imported raw materials that are prone to shortages, unstable prices and non-standard specifications, totally controlled by input suppliers. Lack of adequate scientific and technical knowledge. Cannot improve quality beyond a certain level. Low educational level of manpower. Lack of high volume production machines and interchangeable parts. Scarcity of workplace. Little outsourcing and sub-contracting done because of the absence of standardized and interchangeable parts designs. Do not have adequate funds. Since banks usually ask for collateral, most entrepreneurs avoid banks. Majority does not have proper accounting knowledge required for project evaluation, pricing, etc. The independent marketing network is beyond the control of the enterprises, rather these distributors play a control over the small manufacturers. The pressure from the distributing firms for greater margins to themselves and lack of consumer awareness leads to cheaper and low quality products flooding the market, even though capability exists for producing better quality items. Thus bad products drive good products away damaging the reputation of local products. This eventually makes road to import of better quality foreign products. Attitude of customers to go for foreign products, thinking that quality products are not produced in own country. This also results in manufacturers putting labels of foreign brands on local products for easy marketing. Existing Government laws relating to tax and VAT at production level, where corruption is also rampant, discourages these enterprises to expose themselves through exhibitions and advertisements, and in establishing own brands. There is a high end market in the country where quality rather than price is sought. However, it would be difficult for SME's to enter this market unless quality brands are established. Government is a big purchaser in the country. Vested interest groups manipulate policies to make it difficult for local products to enter.

OPPORTUNITIES	THREAT
A large domestic market exists for low priced products, which is increasing gradually as people come out of poverty through various Government and Non-Government initiatives. The customers are not yet conscious about consumer rights. This is helpful for start-up enterprises. If the Government policies regarding tax and VAT can be changed so that corrupt officials cannot disturb the entrepreneurs, some enterprises will come out of the shell by trying to improve quality, advertising, and establishing brands. This will initiate a healthy competition. When quality improves, a large export market, both in the economically developing countries and in the Economically Advanced countries, can be tapped as well. If favourable policies are adopted by the Government, youths with technical education will enter this arena. This will pave the way for producing high quality products in the country. Producing quality products need measuring and calibration equipment which are expensive if imported. Expertise to develop such equipment (which are mostly electronic) at low cost exist within the country, which if tapped, may result in significant improvement in quality. 1. Experienced labourers can form new enterprises after they have learned the skill. 2. Products from neighbouring countries that are marginally better than local ones have occupied a substantial market in Bangladesh. This market can be taken up through achievable improvement in quality.	Better quality products from India and China at reasonable prices. Possibility of under invoicing, false declaration, smuggling and dumping from neighbouring countries. Unfavourable Government policies may be taken up due to lobbying of powerful vested interest groups when the local entrepreneurs become a challenge to imported products – both in quality and in price. This also results in continuously changing rates of import duties and other taxes. Insecurity and hostile law and order situation arising at the time of political agitation, strikes and hartals. Frequent disruption of electricity. Most of the products depend on imported raw materials. A large scale disruption abroad may affect the local production, though it is a remote possibility in the present day world.

SOME QUANTITATIVE INFORMATION

Electrical Sub-Sector (IFC-SEDF, 2009)

A significant study was performed on the electrical sub-sector by an IFC-SEDF project in 2009. Some relevant information and a value chain analysis for a particular product, the ceiling fan, is presented below from that work.

- Number of Enterprises : 2,000 – 2,500
- Employment : 0.1 m
- Indirect Employment : 0.3 – 0.4 m
- Major Clusters : Dhaka, Chittagong
- Market Demand : ~ Tk. 150 billion
- Local Production : ~ Tk. 70-80 billion
- Types of Products : ~ 350
- Level of Technology : Low to Intermediate

The present situation will not be very much different, although it may be anticipated that the number of enterprises should increase in this sub-sector, however, because of a mistaken policy since 2011 on the import duty of urea resins, the main raw material for the accessory industry, numbers of industries in this particular area has decreased considerably. Before 2011, the customs duty at import on finished accessories was 25% while that on urea resin, its raw material was 12%. In 2011 both were made the same at 25%. This resulted in a decrease in the import of urea resins from 1600 tons to 1000 tons in a year (source: BEMMA). The demand for accessories is supposed to increase in recent years. Therefore, this decrease in the import of this raw material indicates that the demand gap was fulfilled through import of finished accessories. This also indicates that the number of accessory industries have decreased considerably.

The following table (Table-1) gives some relevant information with respect to the electrical subsector as it was in 2009 (IFC-SEDF, 2009). However, some data with respect to the profit margins of ceiling fans, at 17%, appears to be rather exaggerated. Because of a severe competition, the present profit margins are much smaller, virtually under 5% (Source, BEMMA). Table-2 shows the quantity of manufactured products per industry in a year. This again shows the potential quantity of production with or without machine breakdown, with or without electricity load shedding, and with or without enough market orders. The third table (Table-3) shows the average yearly production in a company and value added by a worker. It shows that in some products like light fittings and bakelite accessories, the productivity is considerably less than that in other industries. The reason may be in

the unit value of the products which is small in the case of accessories, and the manual processes used.

Again, it says in a note that the output per employee is less than that in India. This is because of the adoption of semi-automatic or automatic processes in India. A point is worth noting here. India, since its inception in 1947, has been following a policy of promoting indigenous technology based industries following pragmatic ways and changing national policies whenever needed. Thus most of this automation in processes is based on home grown technology. Bangladesh and its predecessor Pakistan never had similar policies, rather the policies effectively encouraged import of readymade products. Therefore, in spite of having no less indigenous technological capabilities, Bangladesh has fallen behind India by a big margin. However, whatever be the time lag, Bangladesh needs to formulate policies to tap its indigenous technological capabilities. This will also reduce expensive brain drain and will utilize the nation's educational expenses to the benefit of its own population.

Table-1: Cost economics of five electrical products (IFC-SEDF, 2009)					
Revenue and Cost Items	Fans	Cables	Light Fittings	Bakelite Accessories	Electric Motors, Transformers & Distribution Apparatus
	Mean (Tk.)	Mean (Tk.)	Mean (Tk.)	Mean (Tk.)	Mean (Tk.)
Total Output	73,213,305	101,881,619	13,306,253	12,573,414	86,502,111
Raw Materials	52,792,380	86,426,899	8,352,427	8,247,975	67,082,910
Total Emoluments	3,340,581	3,602,657	1,105,219	853,697	5,872,680
Utilities	1,016,964	783,595	126,075	72,071	297,744
Consumables	57,151	13,346	71,751	655	173,520
Other Costs	715,007	250,742	151,517	99,983	290,550
Depreciation	465,488	116,296	16,086	15,038	30,000
Net Value Added	14,825,734	10,688,084	3,483,178	3,283,995	12,754,707
Net Value Added	20.3%	10.5%	26.2%	26.1%	14.7%
Net Profit	15%	7%	17%	2%	7%

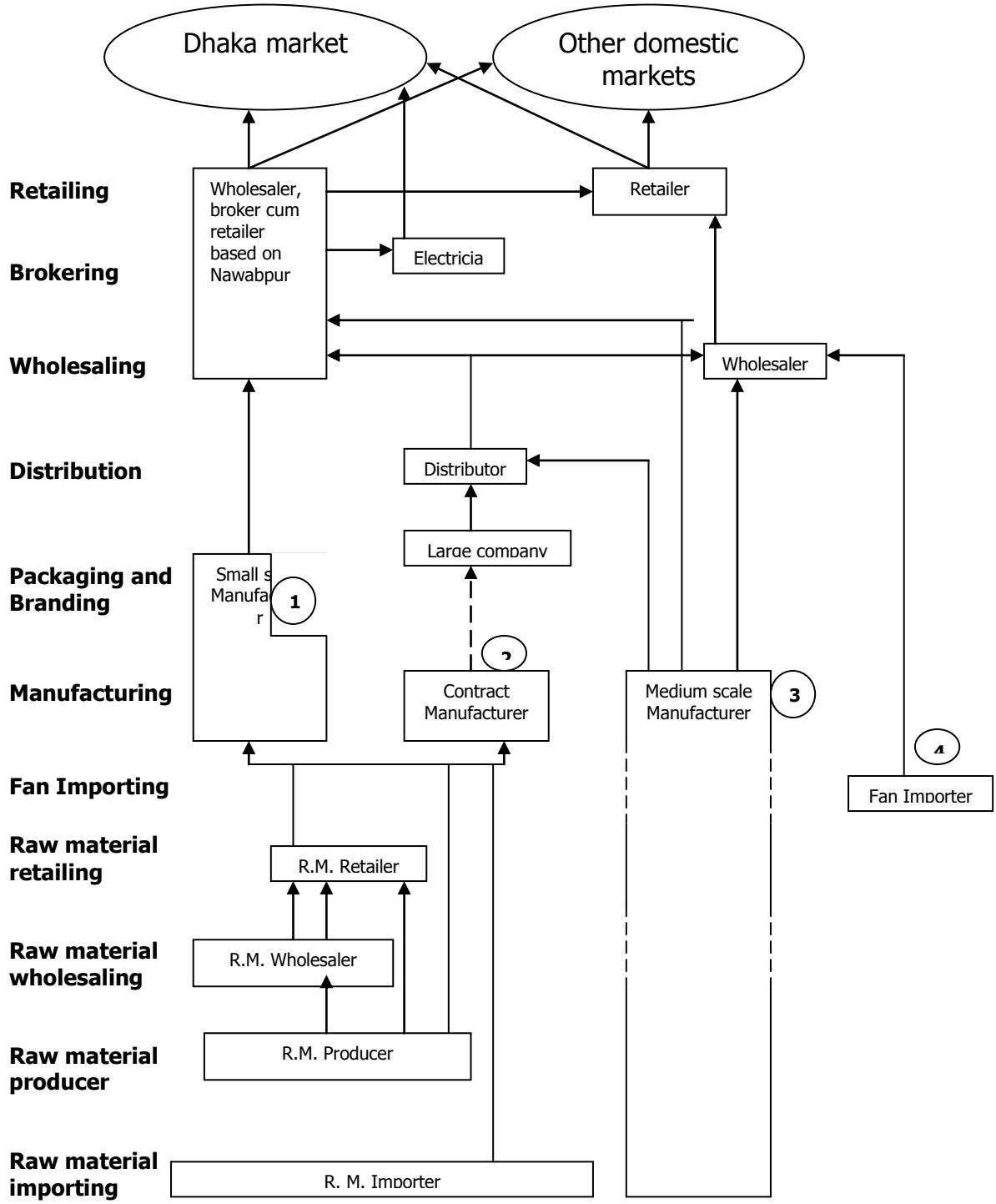
Table-2: Potential and capacity utilization (yearly) per average enterprise (IFC-SEDF, 2009)

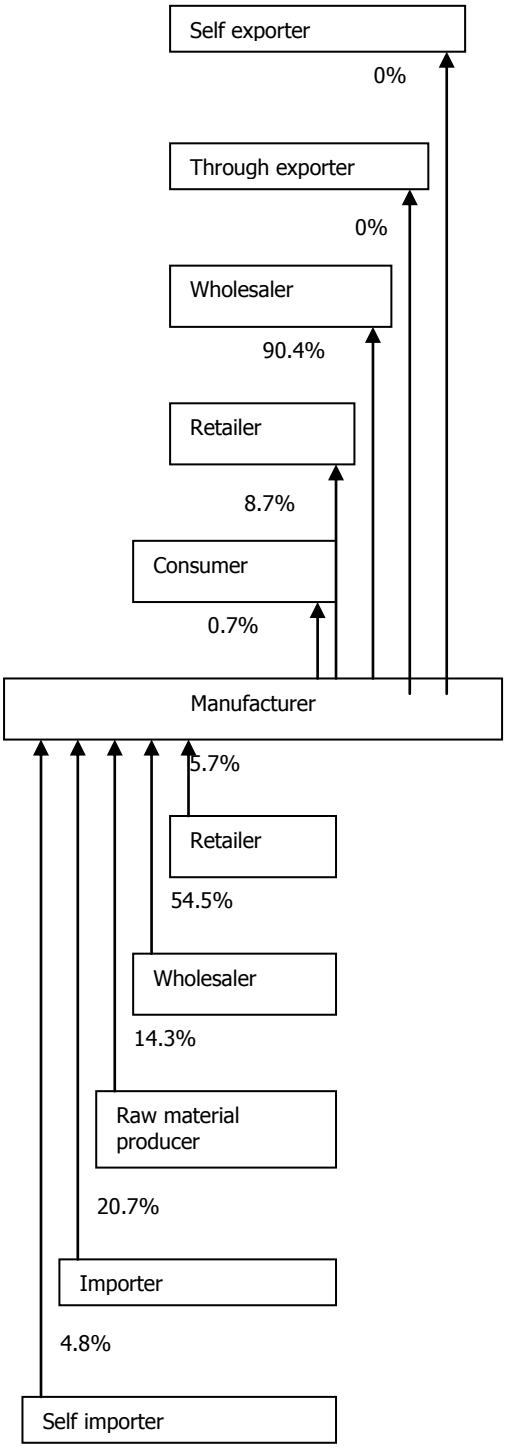
Particulars	Fans		Cables		Light Fittings		Bakelite Accessories		Electric Motors, Transformers & Distribution Apparatus		Average Utilization %
	Mean	%	Mean (m)	%	Mean	%	Mean	%	Mean	%	
Units of Major Products Produced	67,059	68	1,365,359	63	148,854	76	179,961	70	342	55	66.4
Units of Major Products Produced if no Machine Breakdown	78,809	80	1,584,469	73	162,969	83	209,183	82	420	68	77.2
Units of Major Products Produced if no Machine Breakdown no Load-shedding	87,110	89	1,766,767	82	177,746	90	231,841	91	562	91	88.6
Units of Major Products Produced if no Machine Breakdown, no Load-shedding and Enough Orders	98,390	100	2,163,091	100	196,949	100	255,811	100	618	100	100

Table-3: Worker output in the electrical sector (IFC-SEDF, 2009)					
Particulars	Fans	Cables	Light Fittings	Bakelite Accessories	Electric Motors, Transformers & Distribution Apparatus
	Mean (Tk.)	Mean (Tk.)	Mean (Tk.)	Mean (Tk.)	Mean (Tk.)
Total Output	73,213,305	101,881,619	13,306,253	12,573,414	86,502,111
Number of Workers	66	56	24	20	66
Number of Employee	71	60	26	22	73
Output per Worker	1,109,293	1,819,315	554,427	628,671	1,310,638
Output per Employee	1,031,173	1,698,027	511,779	571,519	1,184,960

- Bangladeshi enterprises need much larger working capital as they have much more capital locked in inventories.
- Bangladeshi manufacturing enterprises get almost none of their work done by out-sourcing.
- Bangladeshi manufacturing enterprises also do not subcontract other enterprises' work.
- Bangladeshi enterprises spend more on raw-materials than their Indian counterpart
- Net value added per person in Bangladesh is much lower than that of India which indicates that the Indian enterprises use higher production machines and more productive methods of work.

VALUE CHAIN ANALYSIS for Ceiling Fan (IFC-SEDF, 2009)





Comments on the VCA:

It can be seen that most of the procurement of raw materials (54.5%) is done through wholesalers, while that from direct importers and from local raw material producers are 20.7% and 14.3% respectively. Own import is very small, performed by only a few large or medium industries. Again what is being placed under local raw material producer has its inputs from import of some other raw materials. Therefore, this segment can also be put under imports.

Again on the selling side, 90.4% is done through wholesalers. Therefore, it can be seen how wholesalers influence this industrial sector. It helps in one sense that the small manufacturer does not have to think about marketing the products. However, as mentioned earlier, this puts the manufacturer at lower end of the pecking order. The wholesaler dictates the terms, and the demand is usually for low price, whatever the quality. This is because customer awareness and consumer strength is still low in Bangladesh. This scenario goes against production of quality products.

Why do the small manufacturers do not try to brand their products and sell directly to retailers? Because this will invite corrupt customs officers to their factories asking for bribes. So the VCA indicates how the harassment of Government officials affects the industry and the quality of the products. Again, the final price is dictated by the price of imported products, If the import duty is low, or if the importers dodge tax through under invoicing, the local producers cannot get the margin needed to produce quality products. Therefore, again the import duties or corruption at imports come into the picture of the value chain.

7. Appendix B:

List of Meetings/ telephonic interactions

i. Meeting with EU experts and Team Leader
ii. Meeting with BEMMA representatives (twice)
iii. Meeting with BEIMA representatives
iv. Meeting with BILIA representatives
v. Meeting with RSTS representatives
vi. Telephonic discussion with concerned people at BUET

8. Appendix C:

References

i. K S Rabbani, Problems and prospects of electronics industry in Bangladesh, Keynote speech at National Electronics and IT Exhibition Seminar, 2003.
ii. K S Rabbani, Access to Finance for SMEs in Bangladesh, Keynote speech at FBCCI seminar, 2005
iii. National SME Taskforce recommendation, 2005.
iv. Report of the Electronics Sub-Committee of National SME Taskforce, 2006.
v. Survey of six SME sectors, contracted by SME Foundation, prepared by CDS, 2008.
vi. Dr. Mostafa Abid Khan, Recommending for SME Enabling Tax (tariff) rates and procedures for the growth of SMEs without hampering government revenue collection, contracted by SME Foundation, September 2009.
vii. K S Rabbani, Potentials, obstacles and ways for solutions to promote small industries in the Electronics & Electrical sector (in Bangla), contracted by SME Foundation, July 2012.
viii. K S Rabbani, Economic Policy Paper on Light Engineering & Electronics enterprise in Bangladesh, Prepared under DCCI – CIPE project, 2005.
ix. IFC-SEDF study report on Electronics and Electrical sector, 2009