SOCIO-ECONOMIC ANALYSIS OF OPERATIONS OF BANGLADESH MACHINE TOOLS FACTORY

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CERTIFICATE OF APPROVAL

The project titled "**Socio-Economic Analysis of Operations of Bangladesh Machine Tools Factory**" submitted by Mohammad Zubair Alam Roll no: 040208140(P) session April 2002 has been accepted as satisfactory in partial fulfillment of the requirement for the Degree of **Master of Advanced Engineering Management** on January 30, 2008.

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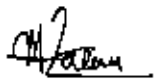

Mohammad Zubair Alam

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ABSTRACT

Bangladesh Machine Tools Factory was conceived and started construction in 1967. Bangladesh Government decided to carry forward with this project and in 1980 BMTF started as mother industry to support other industries of the country. But unfortunately this organization had never made any profit until it closed down in July 1994. Government of Bangladesh handed over this factory to Bangladesh Army in 2000.

The subject has been selected for full-scale study on analysis of productivity and socio-economic contribution of BMTF under current management. Emphasis has been given to asses existing facilities, financial analysis and SWOT analysis. In financial analysis main focus were given on capital structure, sales growth, asset utilization, ratio analysis, profit growth and risk analysis. A comparative analysis about strength, weakness, threat and potential opportunities had been carried ont in detail to find out present position of the organization. An attempt have been carried out to find out the prevailing working condition through interview and structured questionnaire focusing on job satisfaction, working hour, employee- management relation. At the end economic contributions of BMTF on our national economy were analyzed. Finally a set of guidelines for production strategies, reengineering, and current business approach has been listed in order to sustain this organization.

ACKNOWLEDGEMENT

At the outset I wish to acknowledgement the immeasurable blessings and profound kindness of Almighty Allah - the supreme authority of the universe. A number of people have made significant contribution in preparing this report. Their insights, advice and suggestions helped me a lot. I would like to pay special thanks to my supervisor Professor Dr. M. Ahsan Akhtar Hasin, Head of the Department, IPE department, BUET for continuously guiding me about the development and preparation of the paper. He has enriched me with necessary ideas and concept for incessant improvement of the report.

This project is based on several audit reports, official documents, independent briefs, magazine, different revised proposals, financial and other reports prepared by consultants of national and international agencies and staffs of Bangladesh Machine Tools Factory. I would like to express my sincere gratitude to the Authority of BMTF for allowing me to work in this organization within a congenial atmosphere. My heartfelt thanks to Colonel Shaheed Sarwar, psc and Lt Col Md Shamsul Azam, psc, Lt Col Md Anwar, Lt Colonel Abu Taher, Lt Col Ahsan, Maj Parvez Sattar and all other officers and staffs. A series of open discussions with them have significantly contributed to prepare this report.

My heartfelt thanks to Maj Belayet, Maj Helal, Maj Mohiuddin, Maj Jalal, Maj Moktaruzzaman who have served previously and furnished me with many traceless information of initial days after army management took over BMTF.

The author

ABBREVIATIONS AND ACRONYMS

Short Form	Description/De-abbreviation
AHQ	Army Head Quarter
AFMC	Armed Forces Medical College
BDR	Bangladesh Railway
BIM	Bangladesh Institute of Management
BISF	Bangladesh Insulator and Sanitary Factory
BMTF	Bangladesh Machine Tools Factory
BOF	Bangladesh Ordnance Factories
BRTA	Bangladesh Road Transport Authority
Br	Branch
BSEC	Bangladesh Steel and Engineering Corporation
CBU	Complete Build Up
C & F	Clearing & Forwarding
CKD	Complete Knock Down
crore	10 million
DGDP	Director General of Defense Purchase
HQ	Head Quarter
IBA	Institute of Bachelor Administration
IT	Income Tax
KSL	Khulna Shipyard Limited
lac	0.1 million
LD	Liquidity Damage
Ltd	Limited
L/C	Letter of Credit

MCI	Malleable Cast Iron
MD	Managing Director
DMD	Deputy Managing Director
MIST	Military Institute of Science and Technology
MOD	Ministry of Defense
PDB	Power Development Board
PLA	Peoples Liberation Army
QA	Quality Assurance
REB	Rural Electric Board
RAB	Rapid Action Battalion
RMG	Ready made garments
SWOT	Strength, Weakness, Opportunity and Threat
SPR	Store Purchase Requisition
TBL	Trust Bank Limited
TDL	Temporary Daily Labour
TSC	Technical Scrutiny Committee
Tk	Taka (Bangladeshi Currency)
Trg	Training
UNDP	United Nation Development Programme
VAT	Value Added Tax
Wg	Wing
Maj	Major
Gov	Government
EME	Electrical and Electronic Engineering
Lt	Lieutenant
Col	Colonel
Brig	Brigadier
CAS	Chief of Army Staff

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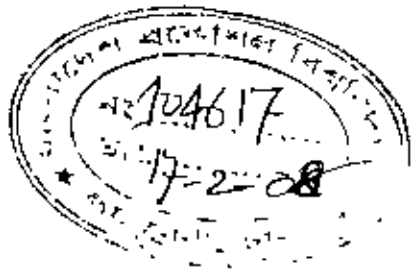
CHAPTER 1

INTRODUCTION



1.1 BACKGROUND

Bangladesh Machine Tools Factory (BMTF) Ltd was once the pride project of Bangladesh is one of the biggest engineering factories of its kind in the country. This factory which is situated at Gazipur about 40 km from Dhaka, having good road and rail communication was planned in the Pakistan days but completed at a cost of Tk. 135.09 crores in the year 1980. This factory had been established as mother industry to support other industries of the country. But unfortunately, this expensive project proved to be a white elephant and a constant drain on the national exchequer due to which it was ultimately closed down in July 1994, after being in operation for only 14 yrs. The factory is established on a total area of 247.66 acres of land. The facilities required for a product from the planning and design stage down to its final stage of calibration and quality control tests are available.[1]

The reasons for the failure of the factory were many, but the fact is that this factory is a great asset of our country, which needed to be harnessed as soon as possible. As a result, Government of Bangladesh (GoB) decided to handover the factory to Bangladesh Army as test and trial basis to see ultimate result. On the other hand, army does not have any business experience in the past but trying to coop up with the business environment to make it an economically viable industry. Army is mainly looking after the management and operational activities of the factory. Still the 437 civilian employees are main driving force. As the table of organization is not yet approved by GoB thus employment could not be regularize as permanent member, which affect morale of employees and hampering efficiency.

BMTF is not yet doing the marketing of its product properly as its marketing sector is not organized properly. Authority could not give due attention on this aspect. Actually, marketing is the main focus of any business organization, which is lacking

here. Focus should be on assessing market first then go for production subsequently capture market share

Main emphasis has given on strategic management, sustainability, development of human resource, product diversification, and impact on national economy and socioeconomic environment of BMTF. The subject has been selected for full-scale study on development of BMTF under Army management, its present position and future potentials to develop.

1.2 OBJECTIVES

The proposed project will aim at the following objectives:

(a) Determine the present status of BMTF under Army management in comparison to previous management.

(b) Profitability and investment analysis using ratio analysis, NPV and IRR.

(c) SWOT analysis of BMTF to find out a comparative analysis about strength, weakness, threat and potential opportunities.

(d) Determine the socio-economic aspect of BMTF employees

(e) Impact of BMTF on national economy while on operation.

The main outcomes of this project are-

a) Critical analysis of current management and production strategies

b) Financial analysis of BMTF its present and future profitability analysis.

c) Current strength, weakness, opportunities and potential threats to BMTF

d) A set of guidelines for reengineering, current business and production strategies, in order to facilitate profitability.

The research will identify –

- Suitable product for marketing, in terms of profitability and business strategy
- Present Financial Progress of BMTF under army management
- A comparative analysis about strength , weakness, opportunities& probable threats
- Weakness of the management and recommended solution for the problem.
- Measures to develop the morale of the employees
- Human Resource Management measures to increase efficiency of the work force.

1.3 METHODOLOGY

The study has followed the steps outlined below:

1. Study the current organizational practices and strategies followed.
2. Identifies the competitors and their capabilities through business survey and subsequent statistical analysis.
3. Identify suitable product strategy through market study
4. Identify management weakness and its remedial measures through existing data.
5. Identify potential opportunities, through diversification and other strategies
6. Profitability and investment analysis using NPV and IRR methods.

The project involves interviews with employees, using extensive self-explanatory questionnaire. Information collection has also been done through small group discussion with different stakeholders, including current customers, past customers and related professional & trade bodies. The required information for the research has been collected from both primary and secondary sources. Appropriate statistical methods have been used to interpret the result.

1.4 SCOPE AND LIMITATIONS OF THE PROJECT

Scope

- This study encompasses the over all performance analysis of BMTF for 6 financial years within the period of July 2000 to June 2006.

- Industry analysis has been excluded from the study to avoid complexity as information regarding steel industry in Bangladesh is rarely available. As such only internal analysis has been performed.

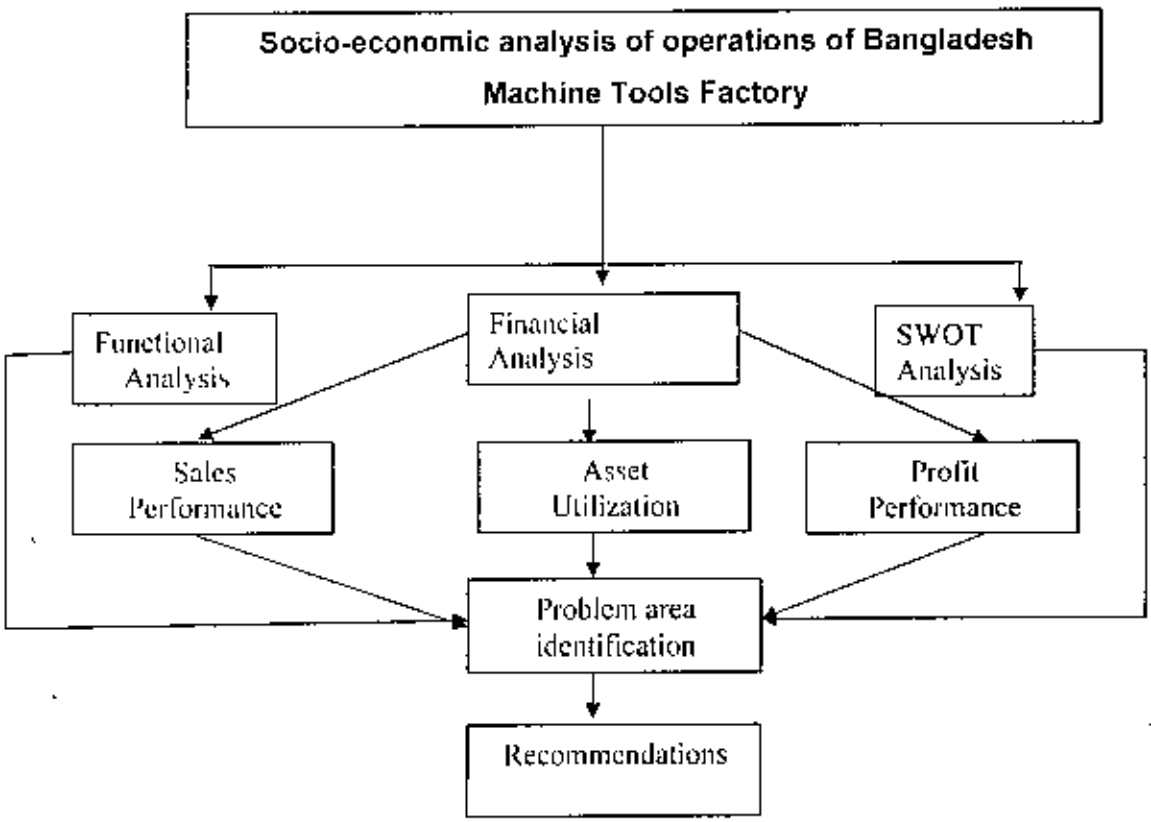
- To asses the utilization of assets, external environment has been taken into consideration.

Limitations

To conduct the study many limitations were there some of the major limitations are stated bellow:

- Paucity of required data was a major limitation of this study.
- To analyze the financial performance of BMTF, hosts of historical data are required. But the data sources are unavailable to the present BMTF management.
- Most of the documents containing historical data have been left out in unknown places without any trace.
- Many available data are only figurative, not equipped with supporting documentation.
- Some information, especially those pertaining to costing of products is considered secretive by the management and as such some useful areas of this research remained unexplored.
- BMTF is in business for only 6 years. As such available data and information are insufficient to conduct useful statistical analysis

1.5 RESEARCH MODEL



RESEARCH MODEL

1.6 RESEARCH DESIGN

To find out desired objectives the research has been designed as follows

Table2: Research Design

Area of Analysis	Tools Used	Purpose
Revenue Growth	▪Arithmetical Progression of yearly revenues	▪ To study the pattern of growth in the business. ▪ To determine sustainability in the industries.
Sales Performance	▪ Breakeven analysis ▪ Data comparison	▪ To determine whether sales can meet the requirement of organizational sustenance. ▪ To recommend measures to improve sales performance.
Asset Growth	▪Arithmetical progression of asset figures ▪ Product growth ▪Introduction of new products	To determine how strong BMTF is likely to become financially.

Asset **Utilization**	▪ Utilization Ratio : ▫ Asset turnovers ▪ Financial Leverage ratios. ▫ Debt to Asset ▫ Equity Multiplier ▪ Liquidity Ratios : ▫ Current ratios ▫ quick ratios ▫ Payable turnovers ▪ Asset utilization percentage	▪ To determine how well the assets of BMTF are being utilized to support sales . ▪ To determine the extent to which borrowed or debt funds of BMTF are used to finance assets. ▪ To recommend ways BMTF can maximize asset utilization. ▪ To determine BMTF's ability to meet short-term obligations.
Profit **Growth**	▪ Arithmetical progression of yearly profit ▪ Risk analysis	▪ To determine how efficient BMTF is in maintaining progressive growth of profit. ▪ To determine the ability to operate under minimal risk.
Profit **Performance**	▪ Profitable Ratios : ▫ Operating profit margins ▫ Net profit margins ▪ Rates of Return : ▫ Operating profit returns ▫ Returns on assets ▫ Returns on equity	▪ To determine BMTF's effectiveness in terms of profit margins and rates of returns. ▪ To recommend ways for improving profit performance.
Performance **comparison**	SWOT Analysis	To determine over all scenario of BMTF
Work Environment	Questioners to the stakeholder	To determine internal working condition of BMTF under military management

CHAPTER 2

ORGANIZATIONAL PART

2.1 BRIEF REVIEW OF PREVIOUS WORKS ON BMTF

Some economic studies on costs and returns of BMTF were carried out by different institute of Bangladesh. But no attempt has been made to study on socio-economic aspect and sustainability of BMTF within the context of potential policy in Bangladesh from any institute or organization in home and abroad. The main purpose of the section is to review the past research work related to the present study.

Hammed (1987) conducted study on the expenditure and income of BMTF. He mentioned that the fiscal year 1987-88, 1988-89, 1989-90 BMTF was not a profitable organization but in the year 1990-91 and 1991-92 some forecast was made likely to be a profitable organization. Hammed only addressed the different types of problems and constraints but he could not find out what are the ways to solve those problems as the process of laying off BMTF was already under consideration by the government .

Realizing the importance of industrialization of Bangladesh, some policy makers recommended different technologies to increase the production and how to develop these product items. The rate of acceptance and sustainability of BMTF products depend on many factors like profitability, availability of technology, raw materials, technical know- how, storage facility, production and marketing uncertainty the adoption of technologies and their economic profitability, efficient use of resources, sustainability and production constraints at firm level were not studied systematically. But very few information are available on this aspect for the researcher, planners and policy makers on this aspect to improve the production of BMTF's product and promoting its marketing activities.

2.2 BACKGROUND

Situated at 40 km away from capital suburbs of Gazipur, BMTF belonged to Bangladesh Steel and Engineering Corporation (BSEC) before it was closed down due to heavy losses in 1994. It is a steel and engineering manufacturing concern, considered to be the largest enterprise of its kind in the country. After 6 years of closure, BMTF was turned into a limited company and handed over to Bangladesh Army in mid 2000.

The factory is established on a total land area of 248.41 acres and is situated on the western part of Gazipur, about 40 Km from Dhaka by road and a short distance from Gazipur railway station. The proximity of the railway is an advantage as it is expected that the incoming and outgoing products will be carried mainly by rail.

During Pakistan period, a plan to establish a machine tools factory in the then East Pakistan was prepared and approved between 1964 and 1968 the main aim of this factory was to help in the industrialization of the country. A German firm made the feasibility study of the project and a French firm named Serri Renault Engineering prepared the plan for the factory. A three- phased plan was to be completed as follows.

Phase 1. Production shop facilities were to be established to provide services to the local industries.

Phase 2. Shops were to be established for casting of Alloy Steel and Malleable Steel. Such castings are required and the manufacture of sophisticated machineries and equipments.

Phase 3 BMTF was to be extended and enlarged as a Mother industry to help in the growth of medium and small- scale industries of the country. But before our liberation war, only the buildings for the basic shops like the foundry, machine shop, heat treatment etc of the 1st phase were established.

Later on, after the liberation war, the rest of phase 1 of the project was carried out without many changes to the original plan. ABR France, a French firm completed the phase 1 of the project under a semi- turnkey contract on 30 June 1980. Phases 2 and 3 of the project could not be implemented till the closure of the factory in July 1994.

The factory after establishment started incurring huge losses from the first year. The government , thinking that the losses were due to poor management entered into a contract in 1985 with a Belgian firm Fabric National for management of the factory and training of the technicians . The contract was for three years in which the firm was to turn the factory into a profitable concern and also to train the employees. But the firm failed to do so. The firm at the cost of their performance guarantee of 30 % stayed for another one and a half year but could not turn the factory around. Within this period the government had to pay TK 260 million to the firm as per contract and the factory incurred a loss of another TK 550 million. At the end of this period, the firm submitted a recommendation for a 5 year recovery plan the adoption of which would make the factory profitable. The main points of the plan included reduction of manpower, freedom of action in running of the factory, writing off of the loans etc. in short it proposed that the factory be an autonomous body. This was not agreed to and the factory was ultimately closed down in July 1994. All employees were retired on Golden Handshake.

The issue of hand over of BMTF to the Army as an extension of Bangladesh Ordnance Factories (BOF) was first initiated from Army Headquarters (AHQ) in 1995. On this proposal, the government instructed that an inventory committee be set up and suggested that Army personnel may be deployed to BMTF for security and prevention of theft and pilferage etc. Accordingly, an Army unit was deployed at BMTF on 22 March 1998. Following is the amount of loss BMTF incurred before closure in 1994.

Table3: Loss incurred by BMTF between 1980 and 1994

Financial Year	Loss incurred During The Year (Million Taka)	Accumulated Loss (Million Taka)
1980-81	76.107	76.107
1981-82	69.849	146.093
1982-83	67.602	206.802
1983-84	82.290	297.955
1984-85	81.845	378.057
1985-86	53.074	397.364
1986-87	66.583	460.949
1987-88	75.055	537.757
1988-89	102.626	627.360
1989-90	90.550	741.424
1990-91	141.824	900.585
1991-92	178.334	1080.680
1992-93	134.463	1215.462

Source: BMTF Management Report, June 30 2001

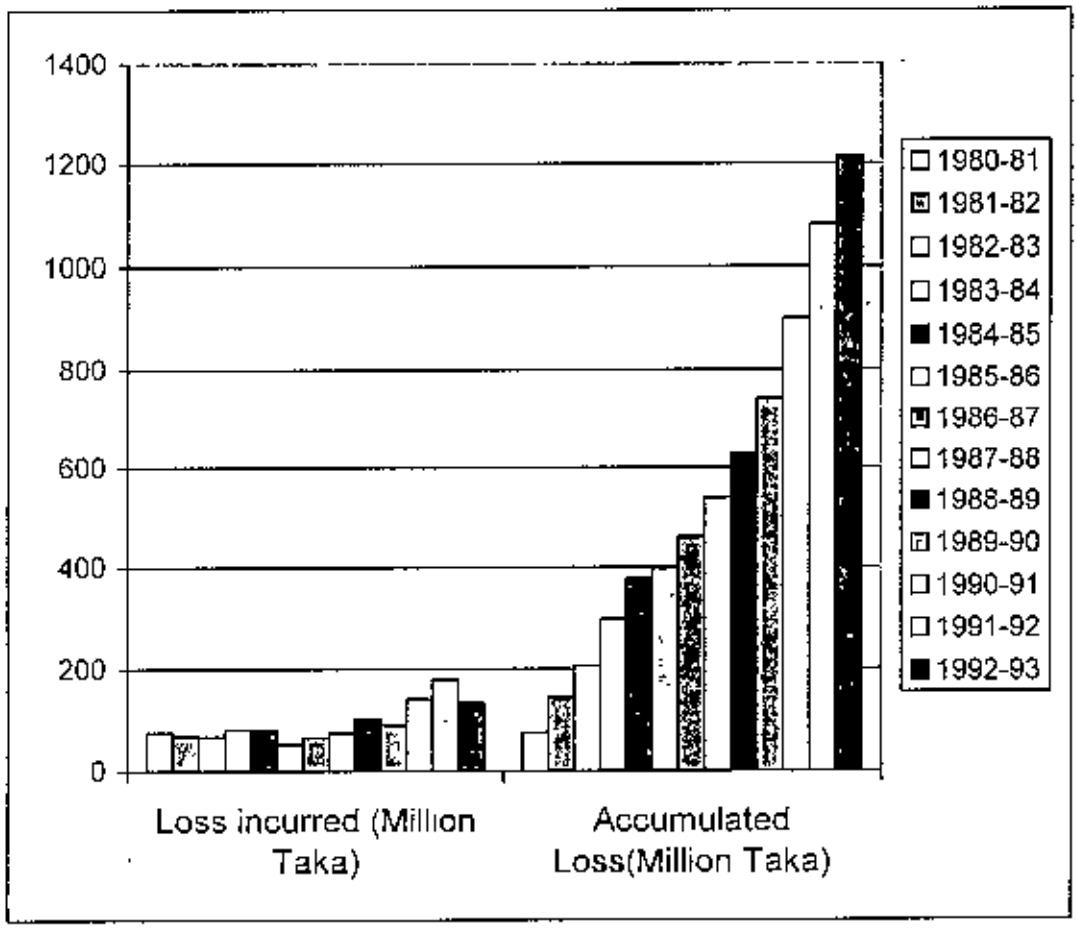


Fig-1

Loss incurred by BMTF between 1980 and 1994

On the completion of the inventory of the assets and stores of BMTF, there was a Cabinet meeting decision that 155.47 acres of BMTF be handed over to the Army as an extension of BOF by October 1999. The government, in consideration of the new proposal of the Army and also due to other legal factors, ultimately decided that the BMTF should be handed over to the Army in lock- stock and barrel. Furthermore it was decided that the factory was to remain as a commercial organization and be a separate entity. A Gazette to this effect was accordingly published and the factory was officially handed over to the Army in July 4, 2000. Army unit started working in the factory from July 27, 2000. It was an uphill task for the army management to restart the factory after six years of closure. However, within the short span between 2000 and 2006, BMTF is trying to go for product diversification and technological enrichment to survive. BMTF main products are agricultural machines,

cutting and machine tools, spare parts of chemical and Fertilizer Company, cast and forged parts. REB and PDB line hardware.

Currently assembling of vehicles and modification of specials vehicles are carried out by BMTF, which is a major life line of its survival. Initially, BMTF was managed by a team of officers belonging to Army corps of Electrical and Mechanical Engineers (EME). Now, an ad-hoc army unit is raised to manage BMTF. The unit is named BMTF Technical Support Unit with 380 personnel who are pulled from various units and military workshops. Ironically, Army does not have any business experience in the past. Still it is trying to cope with the business environment to make BMTF economically viable. Army is mainly looking after the management and operational activities of the factory. 437 civilian employees are the main driving force. As the table of organization is not yet approved by GOB thus employment could not be regularized as permanent member. which affect morale of employees and hampering efficiency.

Now BMTF is a public limited company under the management of Bangladesh Army. Main causes of loss during previous management were imbalance machineries and equipment , excess manpower , overhead bank loan, lack of government protection , lengthy raw materials procurement system, labor unrest, political agitation and fewer works incorporation to its capacity above all corruption . Now, chronic losing concern organization has changed its direction from negative to positive showing reasonable profit by taking works based on actual machine capacity.

Bangladesh Army put the factory into operation in late 2000. Till now, some amount of progress has been made in turning the factory into a commercially viable unit as the principal aim set during the change over. But still there is a long way to move forward It has been conceived by now by the new management that is needed markets in both home and abroad to turn the factory in a sound footing. It is moving with caution towards that goal without taking many risks. It is believed that the factory has enough potential to utilize its full resources.

2.3 GOVERNING BODY

BMTF is a public limited company under the management of Bangladesh Army. Bangladesh Government is the founder of the company. It is running under a Board of directors. The names of the members are as under:

President:	Chief of Army Staff, Bangladesh (BD) Army
Vice Chairman.	Master General of Ordnance, BD Army
Director:	Director of Ordnance Services. BD Army
Director:	Director of Electrical & mechanical Engineer, BD Army
Director:	Director of Weapon, Equipment & Statistics, BD Army
Director:	Director of inspectorate of Technical Development, BD Army
Director:	Joint Secretary, Ministry of Defense. Government of BD
Director:	Managing Director, BMTF (Secretary)

2.4 MISSION, VISION, OBJECTIVES AND STRATEGIES

There is no set vision and mission of BMTF. However, it is the responsibilities of new management to set vision and mission. To set company vision and mission, Army Management of BMTF is provided with certain guidelines. These are as follows:

- To establish BMTF as a commercially viable organization.
- To contribute to nation building activities in the field of agriculture machinery industry and youth development.
- Production of defense stores and equipments to achieve self- reliance
- Integrat BMTF personnel will replace defense personnel gradually after completing the mission given to army management

The organization is still in the process of defining its appropriate vision, mission and strategies that will vest suit the interest of the nation.

2.5 ORGANIZATION STRUCTURE

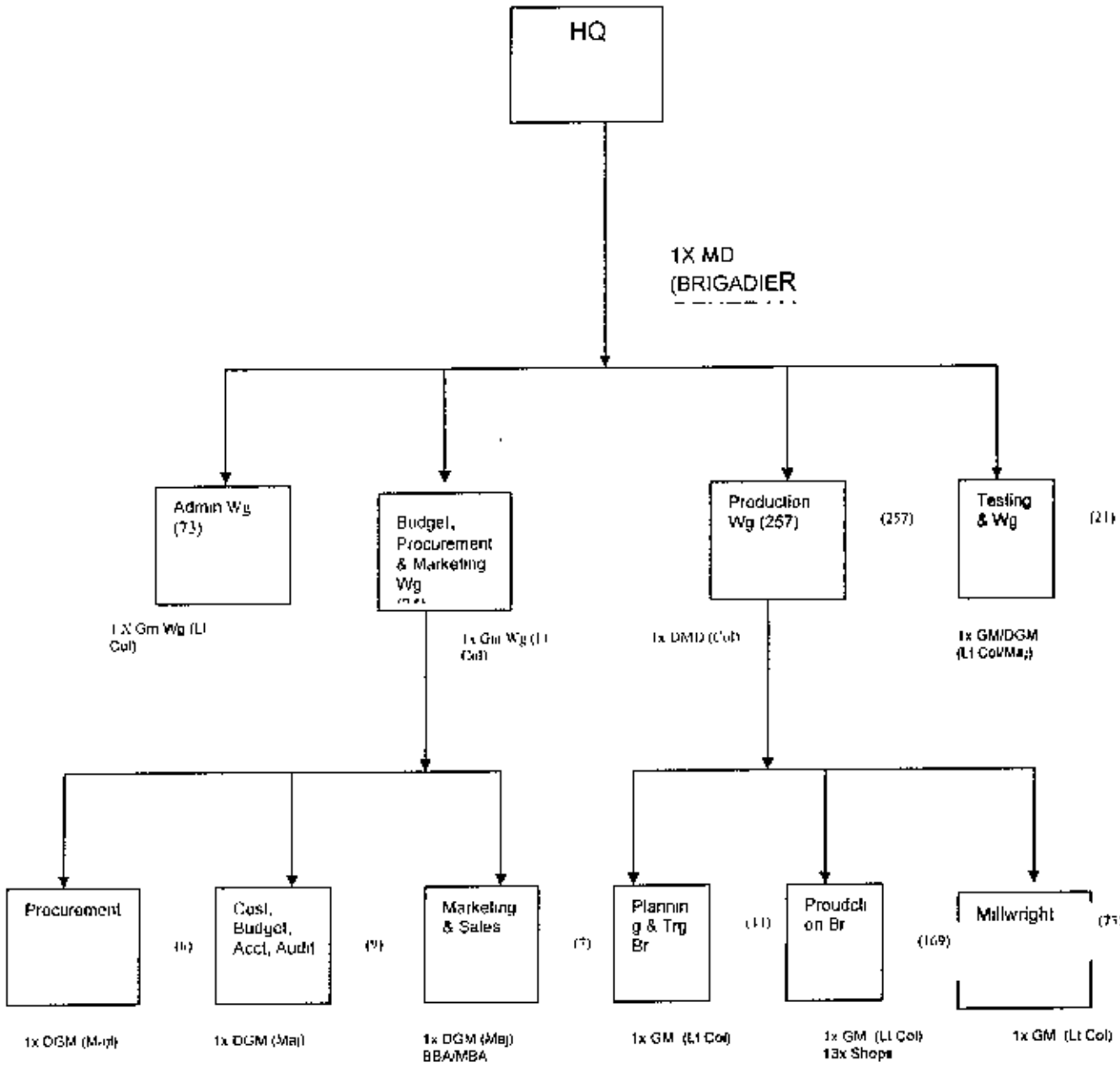
The organizational structure of BMTF has undergone substantial changes after it was handed over to the army. As previously said, the Army Management Team of BMTF is known as BMTF Technical Support Unit. It has an authorized strength of 380 excluding temporary workers. The main working force of BMTF is provided by the temporary daily labors (TDL). These labors are hired on monthly, weekly or daily basis. The recruitment is carried out by a team of officers through administering practical examinations. Due to the increase in present load of production; the Technical Support Unit is facing extreme difficulties to fulfill the requirement of BMTF by maintaining high standard of recruitment. At present about 437 TDL are working at BMTF on hired and Fired basis.

Ad-Hoc BMTF Technical Support Unit

The organizational structure of BMTF is still under review and scrutiny. The proposal for restructuring of BMTF was sent to the Ministry of Defence for approval. Until the approval of the proposed organizational structure, the BMTF Technical Support Unit would be known as the Ad- hoc Technical Support Unit. [2]

The organizational tree of Ad- hoc BMTF Technical Support Unit is given below:

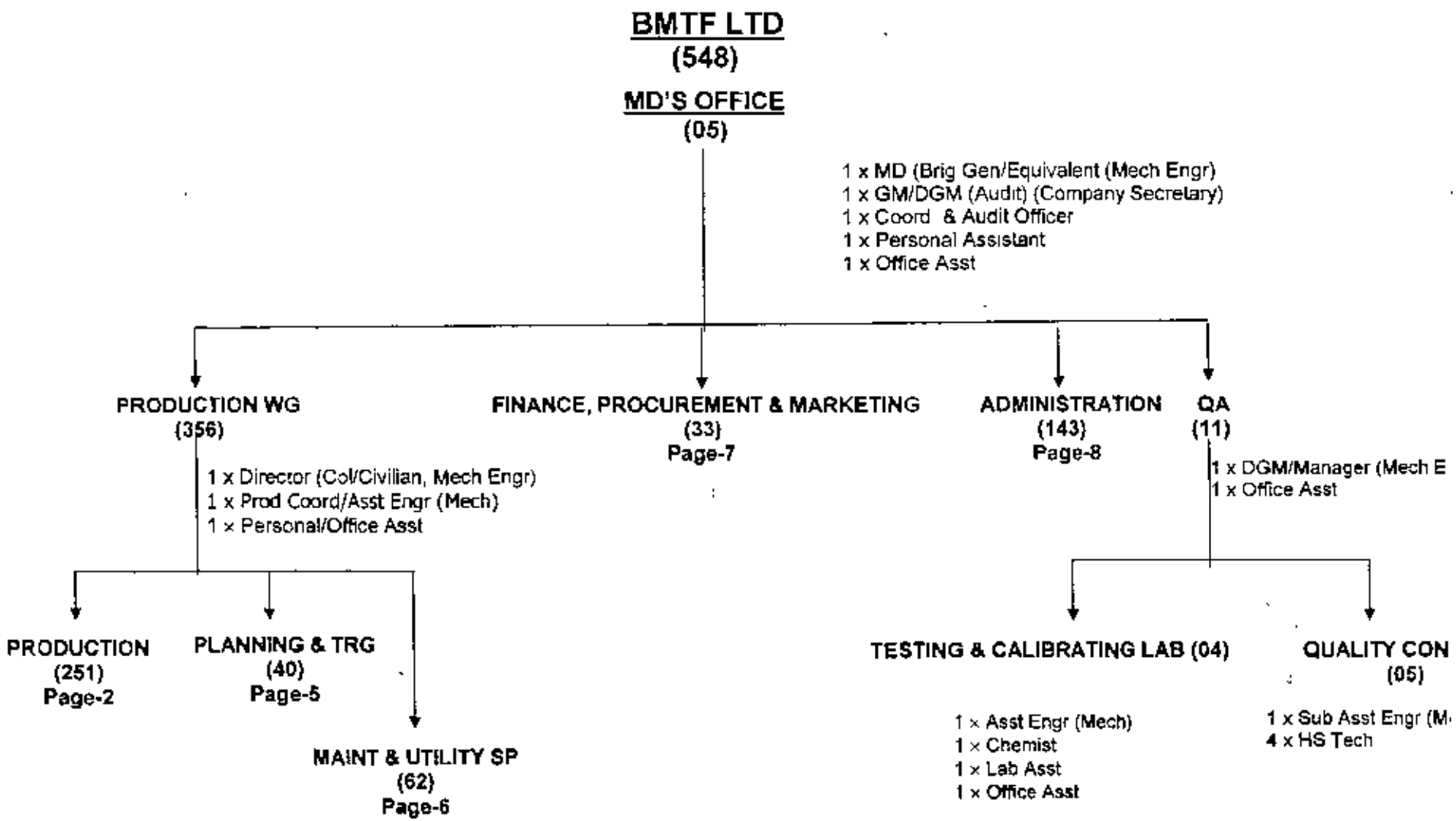
Ad-Hoc BMTF Technical Support Unit (380)

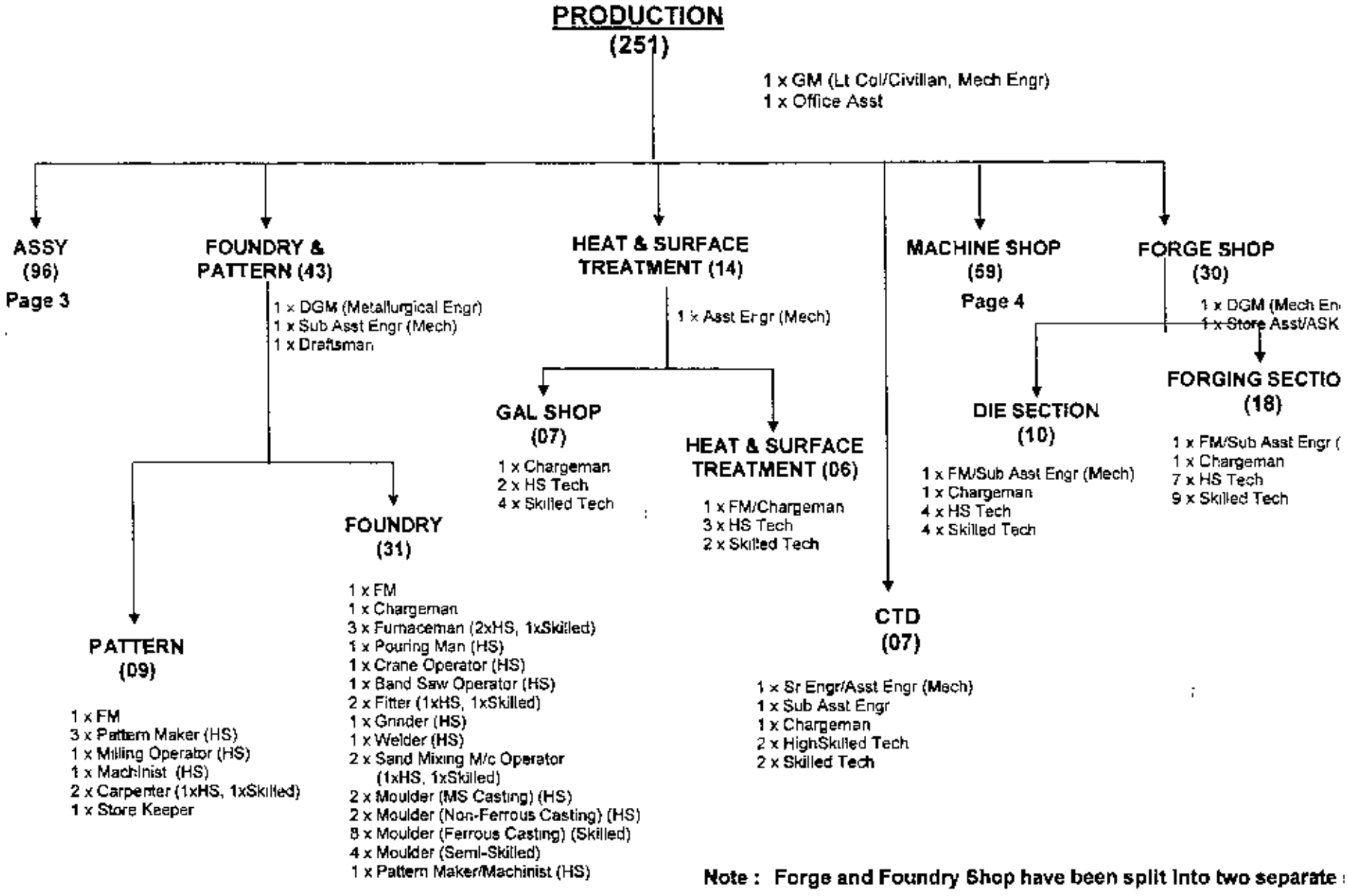


Comments

The current structure is a complex mix. It does not indicate whether the structure is product based, function based of based on some other criteria. Marketing and sales department under budget and procurement wing does not appear to be logical.

ORGANOGRAM OF BMTF LTD (PROPOSED)





Note : Forge and Foundry Shop have been split into two separate

ASSY SHOP
(96)

1 x DGM (Mech Engr)
1 x Sub Asst Engr (Elec)

LINE-1
(25)

1 x Sub Asst Engr (Mech)
1 x AFM
1 x Store Keeper/ASK
12 x HS Tech
(1xElec, 1xMod Tech,
1xInsp Tech, 7xFitter,
1xSpot Welder, 1xMetal Tech)

10 x Skilled Tech
(1xElec, 1xMod Tech,
1xInsp Tech, 5x Fitter,
1x Spot Welder, 1x Metal Tech)

LINE-2
(25)

1 x Sub Asst Engr (Mech)
1 x AFM/Chargeman
1 x Store Keeper/ASK
9 x HS Tech
(2xSpot Welder, 1x Elec,
1x Insp Tech, 2x Mod Tech,
2x Fitter, 1x Metal Tech)

13 x Skilled Tech
(2x Spot Welder, 1x Elec,
1x Insp Tech,
1x Fork Lifter Driver, 7 x Fitter,
1x Metal Tech)

PAINTING SECTION
(24)

1 x Chargeman
18 x Painter
(4xHS, 8xSkilled, 6xSS)
5x Surface Treatment
(2xHS, 3xSS)

MOD & FABRICATION SECTION

1 x AFM
6 x HS Tech
8 x Skilled Tech
5 x Semi Skilled Tech

Note : Major reorganization has been done as per existing and forecasted job requirement.

MACHINE SHOP
(59)

1 x DGM (Mech Engr)
1 x Store Asst

UNIT-1 (TOOLING) (13)

1 x Sub Asst Engr (Mech)
1 x CM
6 x HS Tech
5 x Skilled Tech

UNIT-2 (MILLING & TURNING) (13)

1 x Sub Asst Engr (Mech)
1 x AFM/CM
6 x HS Tech
5 x Skilled Tech

UNIT-3 (GEARS) (13)

1 x Sub Asst Engr (Mech)
1 x AFM/CM
6 x HS Tech
5 x Skilled Tech

MISC/ANCY UNIT (18)

1 x Sub Asst Engr
1 x AFM
1 x CM
4 x HS
5 x Skiled Tech
6 x SS

PLANNING & TRAINING
(40)

1 x GM (Lt Col/Civilian, Mech Engr)
1 x Office Asst

STORE (21)

1 x Manager
Manager/Asst Mgr
1 x Store Officer
(BBA, MIS)
13 x Store Asst
Prog
3 x Office Asst
Asst
3 x USM

PRODUCTION PLANNING (06)

1 x DGM (Mech Engr/Elec Engr)

2 x Sub Asst Engr (Mech+Elec)

2 x Draftsman

1 x Office Asst

R, D & TRAINING (08)

1 x DGM (Mech Engr/Elec Engr)

2 x Sub Asst Engr (Mech+Elec)

1 x FM

1 x Draftsman

1 x Office Asst
2 x HS

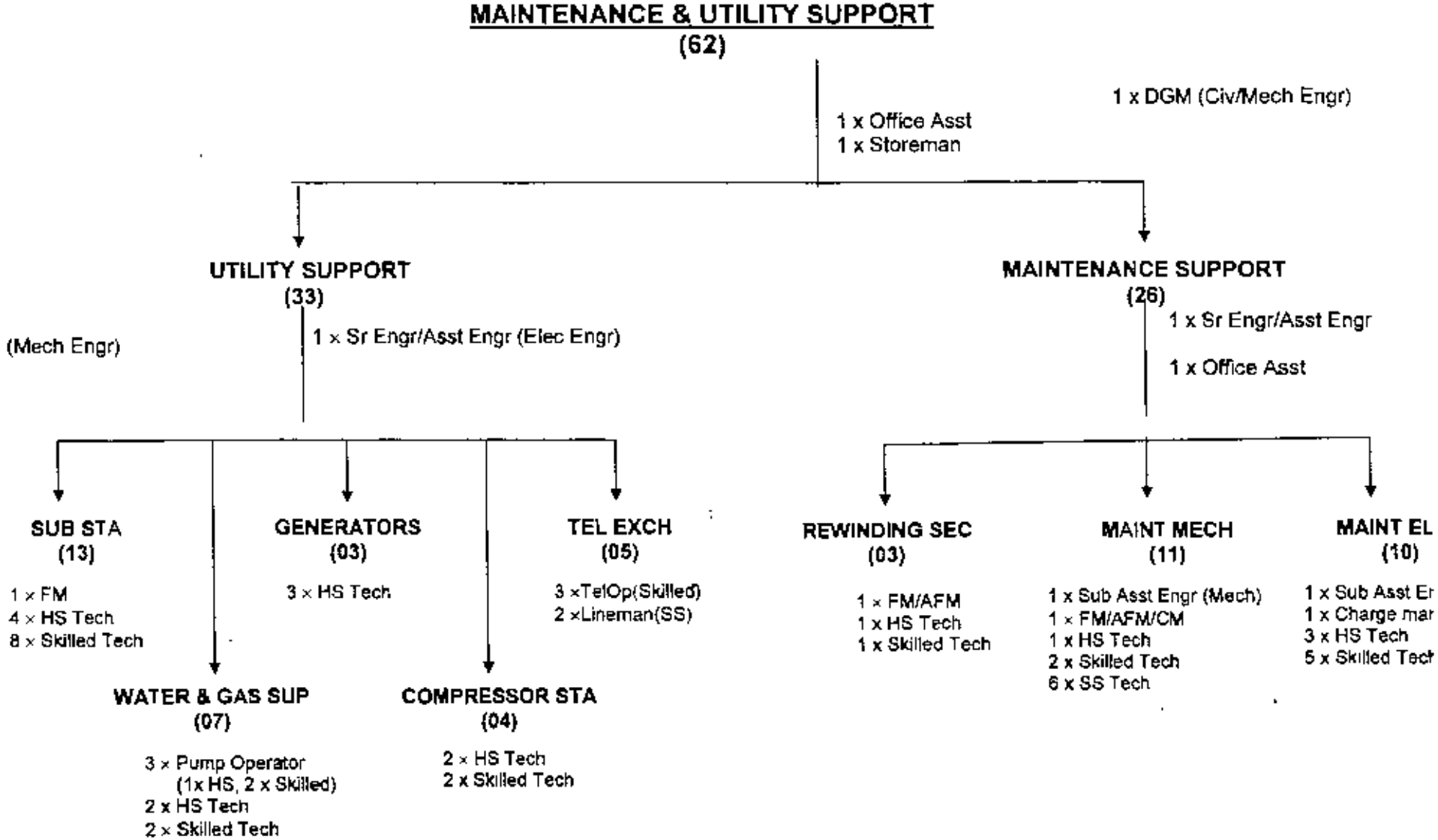
MIS (03)

1 x

1 x Comp

1 x Office

Note : R, D & Trg and MIS are newly introduced.



Note : Maint & QC have been split. Maint is renamed as Machine Repair, Maintenance & Utility Support.

FINANCE, PROCUREMENT & MARKETING
(33)

1 x GM, MBA/BBA (Finance/Accounts)
1 x Office Asst

FINANCE
(08)

1 x DGM, BBA (Finance/Accounts)
1 x Accounts Officer
1 x Asst Accounts Officer
3 x Accounts Asst
2 x Office Asst

PROCUREMENT
(07)

1 x DGM (Mech Engr)
2 x Procurement Offr
3 x Procurement Asst
1 x Office Asst

MARKETING
(16)

1 x DGM (Mech Engr with MBA, Marketing)
1 x Office Asst

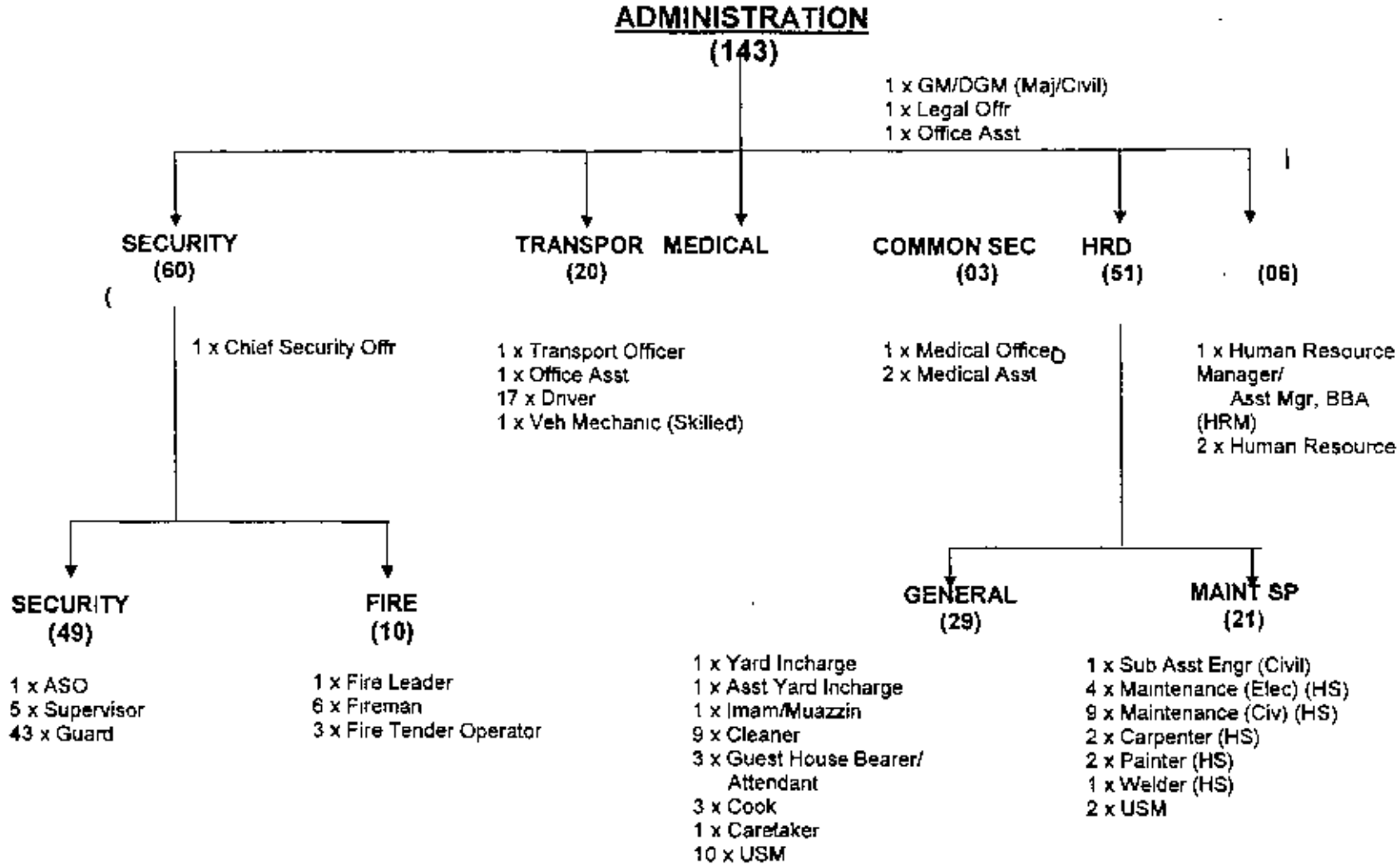
MARKETING & SALES (09)

1 x Manager, BBA (Marketing)
3 x Marketing Officer
1 x Sub Asst Engr
3 x Marketing Asst
1 x Office Asst

COMMERCI CELL (05

1 x Manager, (BBA)
1 x Marketing Executive
1 x Sub Asst Engr (Elec/
2 x Office Asst

Note : Commercial Cell is newly introduced.



Note : Major reorganization is done. Few branches are renamed.

Comments:

Proposed structure has similar drawbacks like the current structure presented in the last page. Documents of information are unavailable in BMTF to justify the basis of formulating the proposed structure. Executives of all level involved in formulating this proposed structure have been posted out of BMTF. Not a single executive is available to give light in this. However, the author discussed with some officers who were present during that time and come to know that both the organization has been prepared on gauzing of expected requirement by the serving officer of that time, not in a planned way or by expert persons.

2.6 COMPANY'S MAJOR BUSINESS APPROACH

BMTF is a heavy engineering /manufacturing concern. Presently vehicle assembly line is the only production line of BMTF. But it produces machines, tools, spare parts and hardware materials to support different types of industries /organizations in Bangladesh. BMTF is not a believer in aggressive marketing. It participates in tenders for products it can manufacture and goes for production after the contract deed is completed. As such, it cannot make forecast for production, sales etc.
Its production is totally depending upon tenders offered in the market.

CHAPTER 3

FUNCTIONS OF VARIOUS DEPARTMENTS

3.1 ADMINISTRATION WING

Administrative wing looks after the recruitment of all civil workers, day to day administration, medical, residential facilities etc. it also looks after the security of the factories.

3.2 BUDGET, PROCUREMENT & MARKETING WING

This wing comprises with purchase department, marketing department and accounting department.

Purchase Department

Purchase Department is one of the branches of Budget, Procurement & Marketing Department (BPM).All materials including machineries, which are required for Line Production, Project and maintenance work, materials are procured through this Department. On 04 July 2000, after inauguration of BMTF Ltd working volume of Purchase Department had grown up to meet the requirement of commercial product.

After handed over to Bangladesh Army, the board of directors decided by a meeting that all works of Purchases Department should be followed as per 'Purchase Manual' of Bangladesh Steel and Engineering Corporation (BSEC). In response of that decision Purchase Department has been doing all works as per 'Purchase Manual-1989'.

Different Purchases procedure:

SPR (Store Purchase Requisition) is the basis of all procurement process and without a valid SPR no procurement action is being initiated. After receiving the SPR duly approved by MD, Purchase Department takes action on it. Normally for local purchase it requires approximately 2-3 months and for foreign purchase it requires 4-5 months time.

a **Press tender –**Exceeding TK 10.00 Lac & above, the item does not fall in Proprietary nature, the items shall be advertised through daily newspapers. Normally minimum 10 days time is given for submission of quotations. After technical scrutiny, the purchase order is given to the supplier by the recommendation of Purchase Committee as well as approved by the MD.

b. **Proprietary Tender** – Quotations are to be invited directly from manufacturer or their Authorized agents irrespective of Value. Purchase order is given to the supplier by the recommendation of Purchase Committee as well as approved by the MD.

c. **Limited Tender-** This mode of purchase should be general items in case value of purchase is Taka 10.00 Lac or less. Tender notice is to be published on the Notice Board. Purchase order is given to the supplier by the recommendation of Purchase Committee as well as approved by the MD.

d. **Spot tender** – In exceptional (present context) cases where procurement through a limited enquiry becomes difficult and the work is likely to suffer for want of materials, spot quotations to be obtained from the genuine business firms/ shops through a Board of Officers. Spot tender capacity is Taka fifty thousand only. Purchase order is given to the supplier by the recommendation of Purchase Committee as well as approved by the MD.

e. **Cash Purchase:** Only no exceptional and emergency cases, cash purchase up to 10 Lac can be made by a committee formed by MD. Up to taka fifty thousand cash purchase can be made without any committee.

1. **Foreign Purchase** In case of materials are not available in the local market and if available but price & quality if not suitable then materials to be imported through International Press Tender or directly from the Principal Suppliers.

After receipt of approved SPR, International Press Tender Notice to be published in the daily news papers giving minimum 10-15 days time for submission of quotation or enquiry directly sent to the manufacturer/supplier for submission of offer. On receipt of quotation/offer, technical scrutiny is completed by the TSC. Letter of Indent is given to the supplier for submission of Performance Guarantee on recommending by the tender committee as well as approval of the MD. At the same time, L/C application forms are collected from Bank. After receipt of Performance Guarantee, formal purchase order to be issued and L/C application to be sent to Banker for opening of L/C. L/C particulars is forwarded to the supplier for arrangement of shipment. On receipt of non-negotiable shipping documents, original documents collected from bank by debiting payment of L/C amount and then the documents handed over to the C&F Agent (Clearing & Forwarding Agent) for custom assessment. After the assessment figure, the payment to be made to the concerned authority for clearance of imported goods. Then C&F Agent send the goods to BMTF site.

Marketing & Sales Branch

The main jobs of the marketing and sales department are to participate in different tender and schedule prepared by Planning Branch. After getting job it communicates to the procurement and production branch for procurement of raw materials and production. Again it distributes the finished products to different concerned organizations. It also takes the direct orders and supplies the products in the same way.

Cost, Budget, Accounting & Audit Branch

It performs the following functions:

- costing of all products
- Preparations of Profit and Loss Account, Balance Sheet, Cash Flow, Owners Equity statements etc
- Auditing
- Pay and Accounting

Accounts Branch

Job list of accounts branch is stated below:

a Application of overhead on direct expenses (direct material and direct labour)

b MRR pricing, checking, posting to ledger, etc.

c. Prepare & payment of supplier's bill, overhead exp, advances, etc with prior approval of MD.

d. Preparing sales bills after delivery of goods/products.

e Deposit cheque/cash to bank collected by marketing branch against sales.

f. At the end of month, all transactions are posted to related ledgers.

g. Deducted VAT and AIT are deposited to govt. treasury every month.

h. End of the year, final accounts are prepared for audit.

i. Preparation/compilation of the budget for BMTF.

j. Bill payment and receiving procedure of accounts branch is as follows:

a) **Bill payment procedure -**

(i) Material received through MRR.

(ii) (a) Bill prepared as per work order, MRR and bill voucher.

(b) Bill recorded in bill payment register.

(iii) MD's approval accorded in cheque sanctions registers and note sheet.

(iv) Cheque paid to suppliers through cheque payment register.

h) **Bill receiving procedure -**

(I) Purchase of tender schedule on payment and submitted tender.

(ii) (a) Received work order.

(b) Supply the ordered quantity through delivery challan..

(c) Submitted bill as per work order.

(iii) (a) Bill received by cheque/DD

cheque/DD are Deposited in bank account for collection.

Present State of BMTF

Financial State

The summary of the provisional profit and loss statement till 30 Jun 2008 is tabulated below which gives a picture of the financial state of the factory

Table 4: summary of provisional profit & loss statement

Description	Financial Year (Taka in Lacs)						Total
	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	
Sales	152.63	976.57	1683.74	2131.25	2044.58	2021.93	9010.70
Expenditure	359.16	933.66	1515.00	1533.30	1459.98	1385.12	7186.22
Profit before IT	(206.53)	42.91	168.74	597.95	584.60	636.81	1824.48
Coy IT (37.5%)	-	16.09	53.36	156.70	219.23	202.12	647.50
Net Profit/Loss	(206.53)	26.82	115.38	441.25	365.38	434.69	1176.99

Table3: summary of provisional profit & loss statement

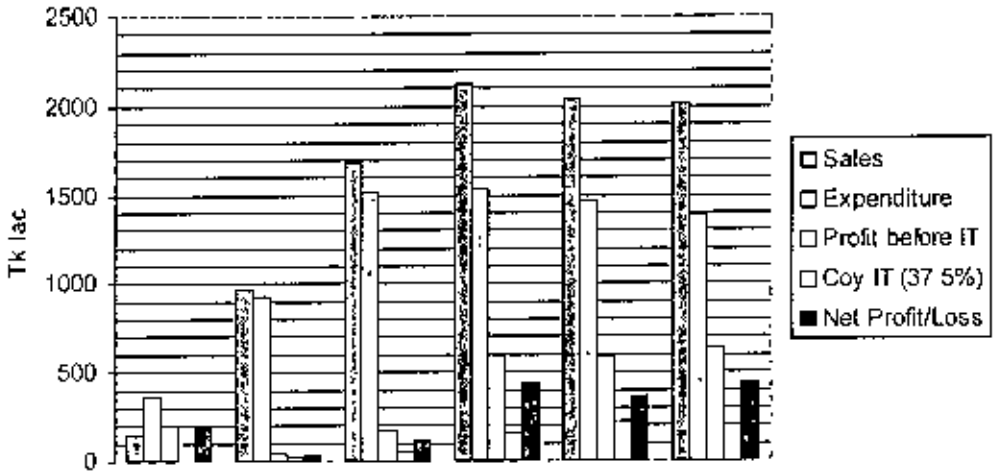


Fig-2

Profit & Loss Statement 2000-2006

From the profit and depreciation the total cash available at BMTF ltd. is about Tk. 27 crores from which Tk. 26 crores has been kept as FDR in Trust Bank Ltd. Rest of the money is being used as running working capital.

3.3 Planning & Training Branch

Soon after the handover of the factory to the Army, the CAS and chairman BMTF outlined three main objectives for BMTF. According to objective a 3 year plan was set up.

3 Years Plan

The BMTF management is set to achieve the 3 objectives and is working on a 3 yrs plan based on the objectives:

a) **1st year Jul 2000 to Jun 2001**

(1) Repair and maintenance of plants and machineries depending on the probable work load.

(2) Limited maintenance and repair of utility services, like gas, electricity and water supply on priority basis.

(3) Market study, participation in tenders and commencement of limited production.

b) **2nd year Jul 2001 to Jun 2002**

(1) Repair and maintenance of major machines and plants.

(2) Re-installation of major sections of gas and water supply lines.

3) Repair and service of sub-station.

(4) Repair and maintenance of electric supply lines.

(5) Assessment of market for goods that could be produced at BMTF.

(6) Expansion in the production of items and its marketing

(7) Expansion in the production of items for the defence services.

(8) Gradual production of items and sub assembly of vehicles for local and foreign markets

(9) Assessment, production and export of items for foreign markets.

(10) Production of agricultural equipments and machineries under joint venture

(11) Launching of vocational training for youth development and rehab of retiring soldiers

c) **3rd yr Jul 2002 to Jun 2003**

(1) Gradual replacement of service personnel by trained civilians.

(2) Re-establish of railway line.

(3) Attain at least 60% of full production capacity. Develop product for internal markets and export in full swing.

(4) Identification and full production of some defence items.

(5) Establishment of steel casting facilities.

Production Planning

The functions started below has standard in limited scale:

a. Preparation of SPR.
b. Preparation drawing and Design.
c Estimation of Man. Material and Machine for particular job.
d. Opening of job Card
e. Design and Development of product.
f. Monitoring the production progress.
g. Production quality assurance etc.

Training

The vocational training program for youth development was started on the directives of the chairman as one of our 3 main objectives on the 10 Technical Trades. So far they have conducted 3 vocational courses in BMTF.

The 1st batch (total strength of student was 256) was a big success. But in 2nd and 3rd Batch the response was very poor Total number of students trained was 50 and 55 respectively in the 2nd and 3rd batch. The main reasons being:

a) The charges of Tk 3000 per course were unaffordable by most of the students.
b) Living accommodation and meals at low rates are not available at Gazipur.
c) There is no surety of getting jobs after the training.
d) Raising the minimum education require for the training in some of the labour oriented basic trades from Class VIII to SSC.

To run a training program which would be economically viable, required a minimum of 60 students at Tk. 3000 each for a course of 4 months. So BMTF has temporarily discontinuing the training program.

Store and Material Handling

BMTF has got its main store which gives support to the sub-stores located with every shop. The main store has started functioning as per corporation system from 9 Jan 2002. But due to shortage of manpower the sub stores located at every shop are not functioning.

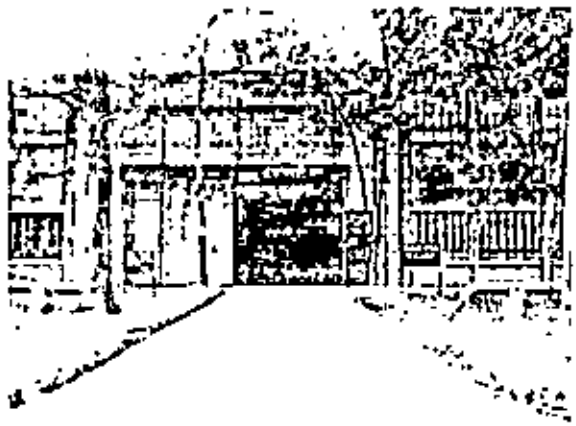
The store account which is maintained by account department is not also functioning well. For smooth functioning of store they need proper manpower with appropriate equipments. Software has been installed for proper account of store but it is not yet made fully functional.

3.4 PRODUCTION WING

Production Wing is the life line of BMTF and it is not only involved in production but also carries out planning and part of costing. DMD is the head of this wing. It has three branches: Planning & Training Branch, Products Branch and Millwright. All these branches are headed by a GM each. Planning & Training Branch estimates the raw materials required for the products. It also plans for all types of training and conducts the training. The production Branch has a few shops. These are:

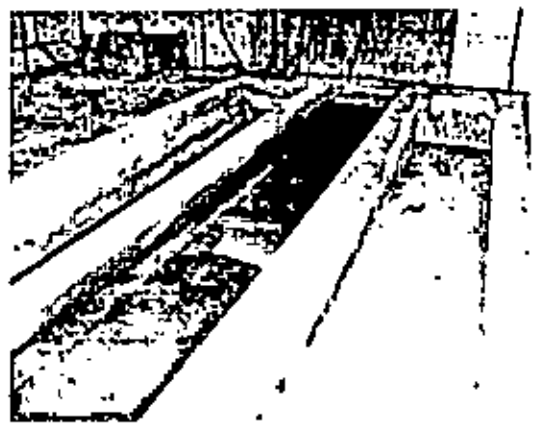
- Assembly Shop
- Machine Shop
- Foundry Shop
- Forging Shop
- Heat and Surface Treatment Shop
- Testing and qualify Control Shop

- Tools and Cutter Shop



ASSEMBLY SHOP

Fig-3-1



GALVANIZING SHOP

Fig 3-2

Infrastructure Facilities

Land and Buildings

The total area of BMTF is 247.66 acres. The distribution of the total land as per Gazette Notification No.SIC-1/98/122 was based on the recommendation of the Privatisation Board and the Inventory Committee.

a. Area for railway siding and approach road – 31.05 acres.

b. Actual BMTF area – 216.61 acres.

(1) Factory area-69.33 acres. It includes:

(a) 13x Production shops.

(b) 1x Administrative building.

(c) 1x Training school.

(2) Officers residential area - 21.61 acres

(3) Staff colony area – 24.14 acres.

(4) Open area for Industrial complex – 69.68 acres.

(5) Open area for proposed workers colony – 31.66 acres.

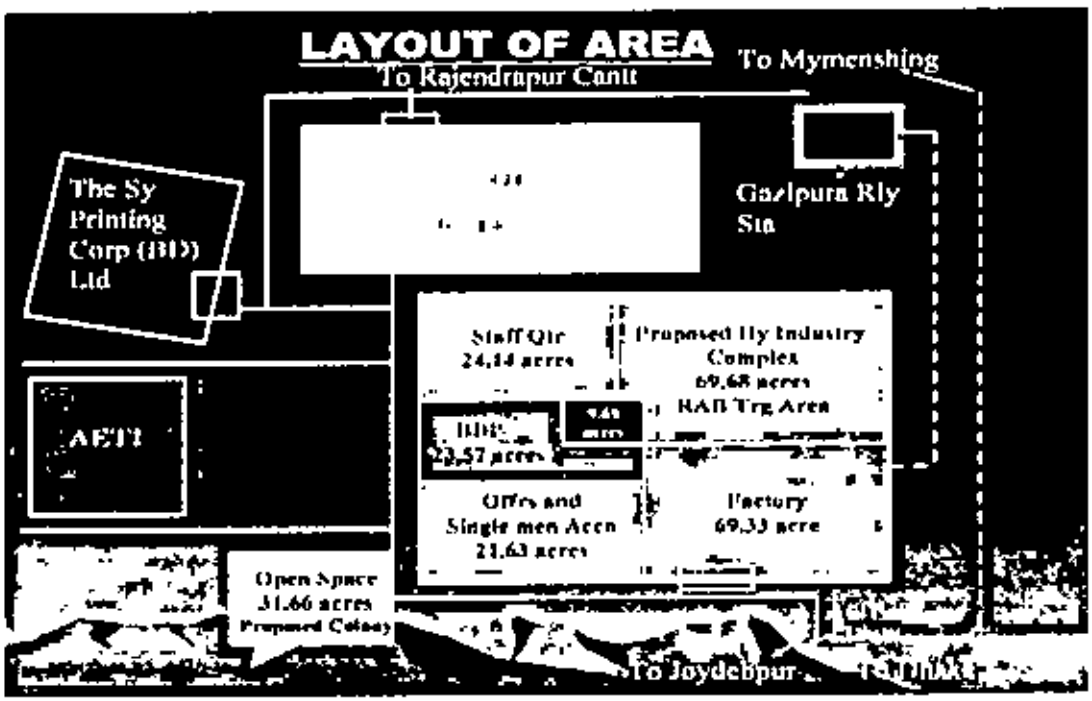


Fig-4

Lay out of Area

Production Facilities

The factory and its plants and machineries are all basically of universal type which can be utilized for production of light to medium range mechanical products. However, many of the facilities are not in operation .The production facilities that exist in the factory are:

a. Pattern making both wooden and metallic.

b. Light and heavy ferrous and non-ferrous castings. (Heavy Ferrous Casing facility is not operational).

c. Forging.

d. Machining like turning, milling, shaping grinding, honing, broaching, jig boring, gear making etc.

e. Heat treatment for both forged and machined components.

f. Surface treatment (not operational) including Galvanizing.

g. Vehicle (including body manufacturing), Machinery and equipment assembly facilities.

h. Manufacturing of machines and spare parts for wide range of machines and equipment.

Testing and Quality Control Facilities

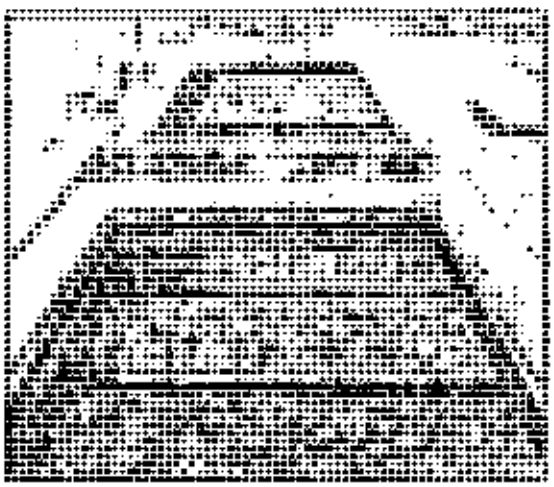
Some of the facilities, which provide quality control of products as per international standards, are:

a. Chemical analysis lab (not operational)
b. Mechanical testing lab.
c. Magna flux cracks detection. (Not operational)
d. Pump test bench. (Not existing, cannot be made operational)
e. Hydraulic dynamometer for small engine tests. (Not operational)
f. International measuring scales for sensitive tests. (Not operational)

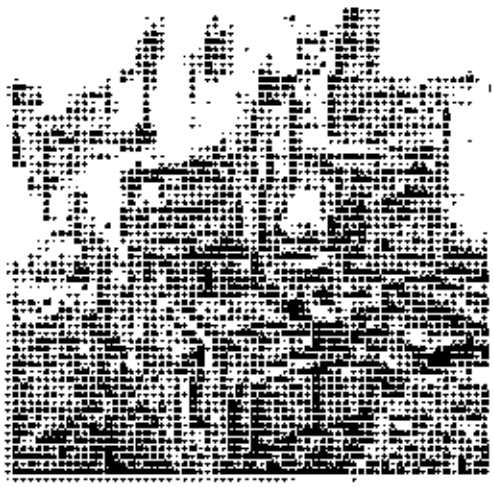
Machineries and Major equipment

There are about 674 machineries, plants and equipments available at BMTF. Though most of the machines are of French origin, there are some machines from Germany, Switzerland, Czechoslovakia and Russia. The summary of machines is given below:

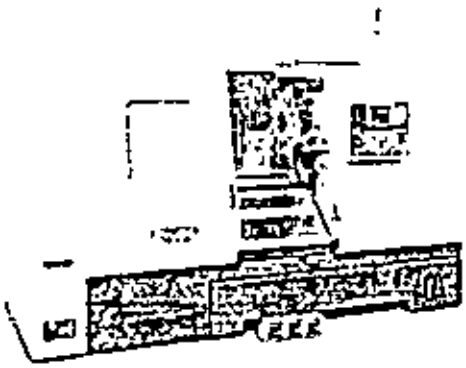
a. Total Machines/Equipment/Plant: 674 (03 installed by Army Management)
b. Serviceable: 594
c. Serviceable but Idle: 376
d. Unserviceable, needs major repair: 41
e. Unserviceable and beyond economic repair: 39



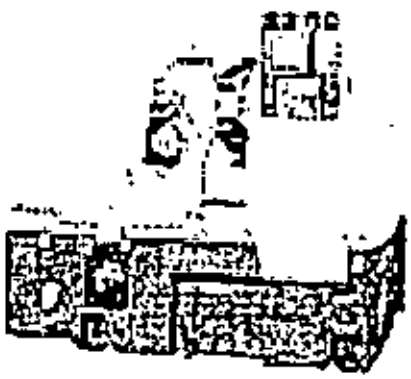
ACID BATH



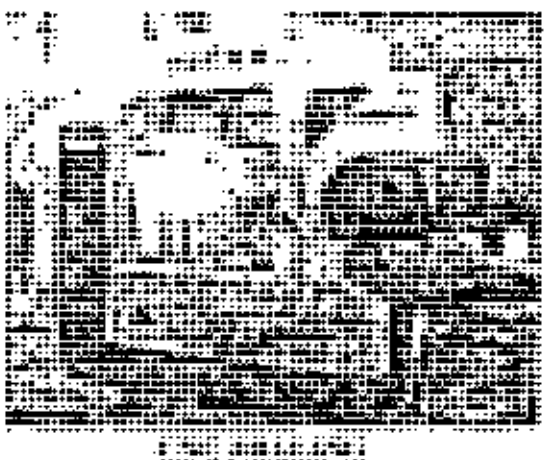
CIRCULER SAW

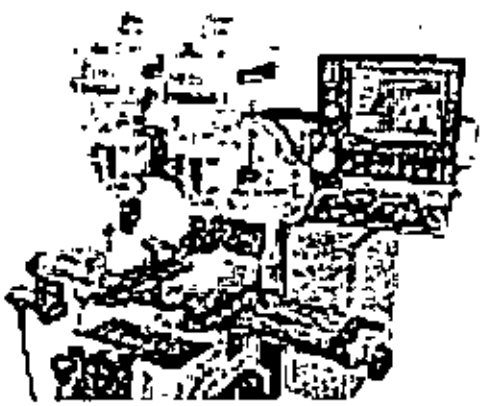


CNC LATHE



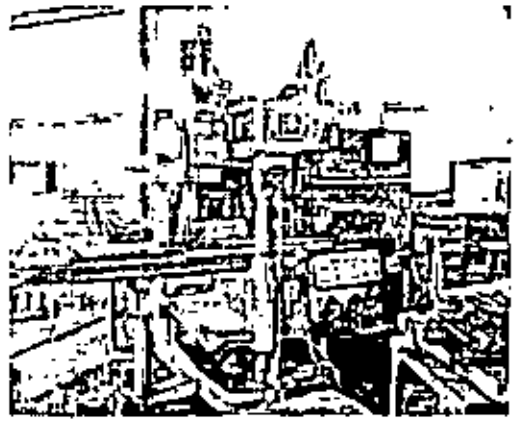
CNC LATHE



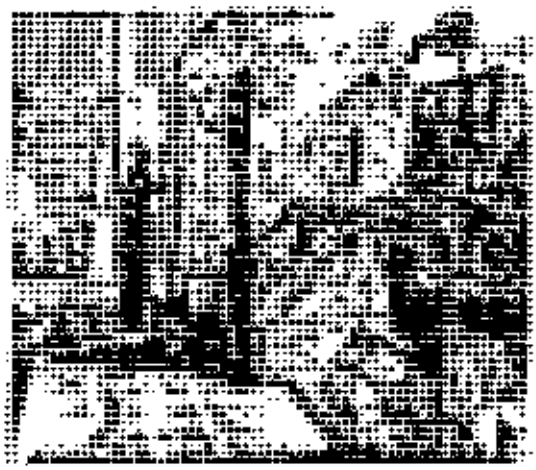


CNC MILLING

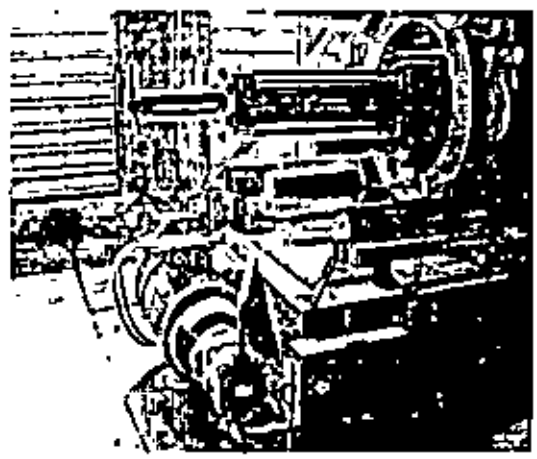
COLD SHEARING MACHINE



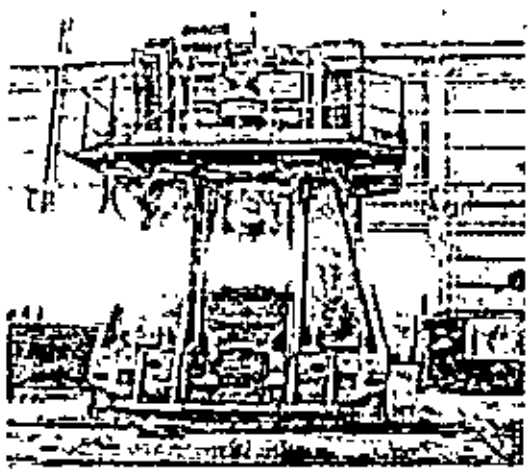
COPY MILLING MACHINE



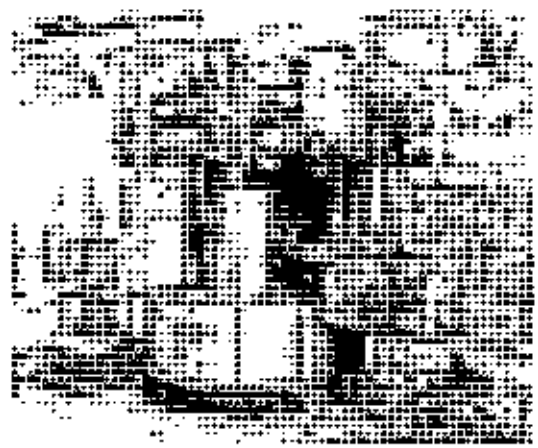
DIE CASTING MACHINE



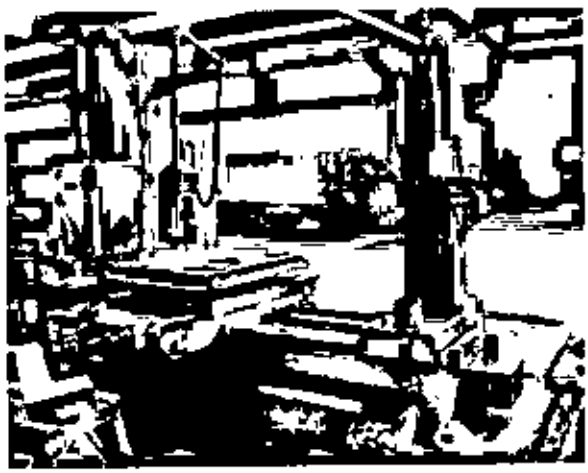
DIE CASTING MACHINE



DROP FORGING HAMMER MACHINE



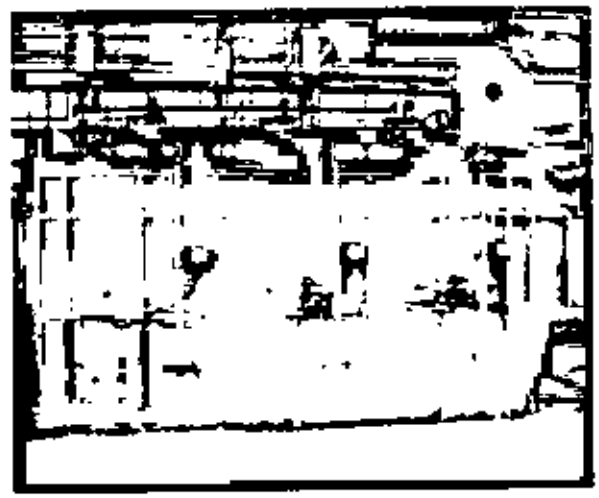
VERTICAL TURNING & BOARING



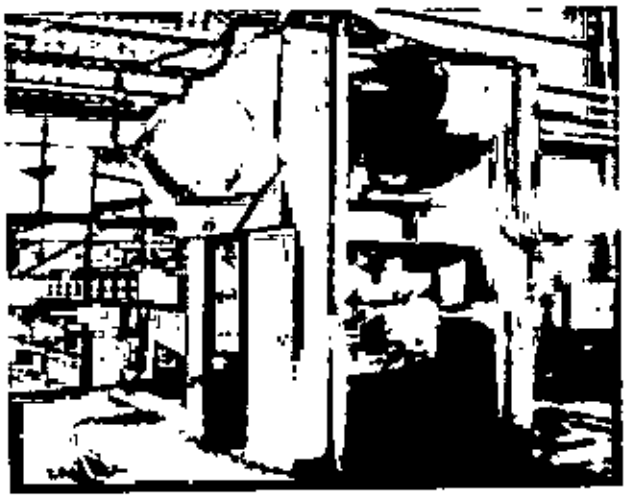
DUPLEX HORIZONTAL MILLING MACHINE

DIE CASTING MACHINE

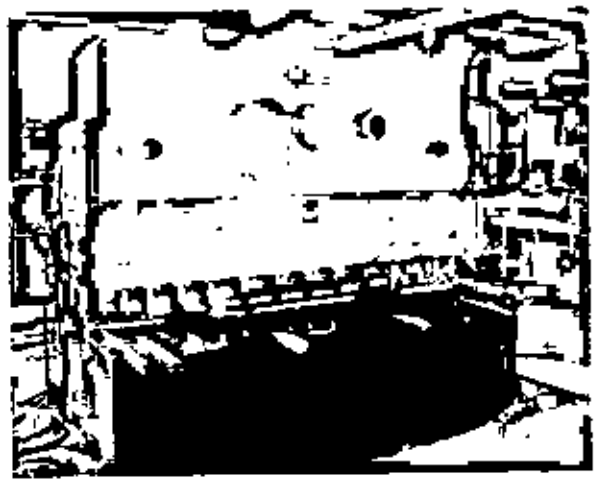
GUDEL HAMMER



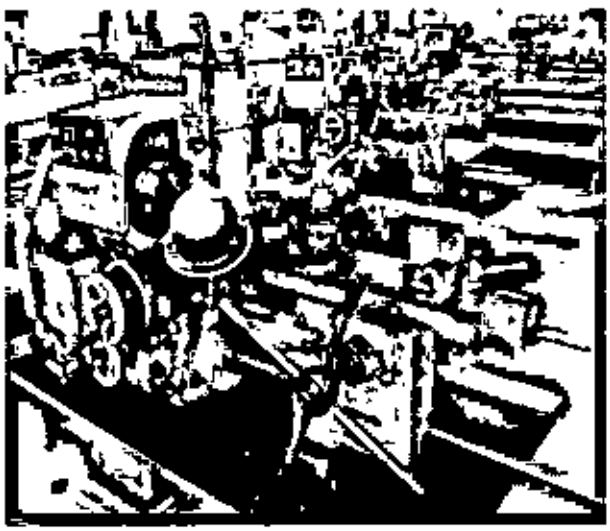
HARDENING FURNACE



HOT SHEARING MACHINE

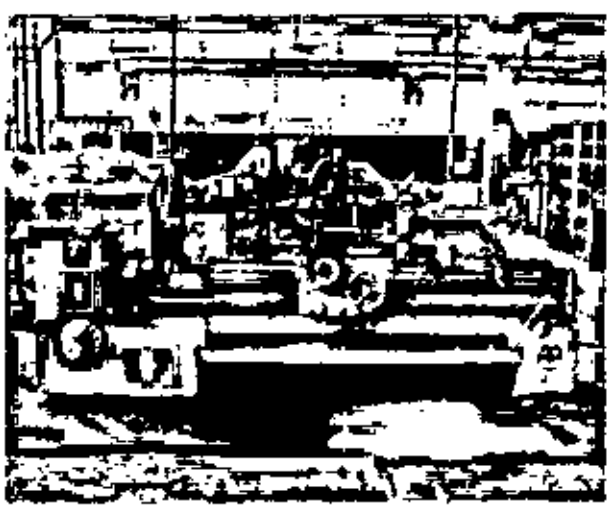


HYDRAULIC SHEARING MACHINE

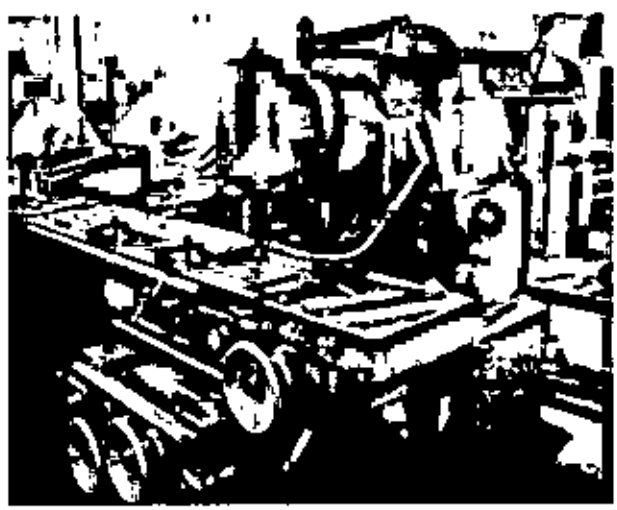


TURRET LATHE

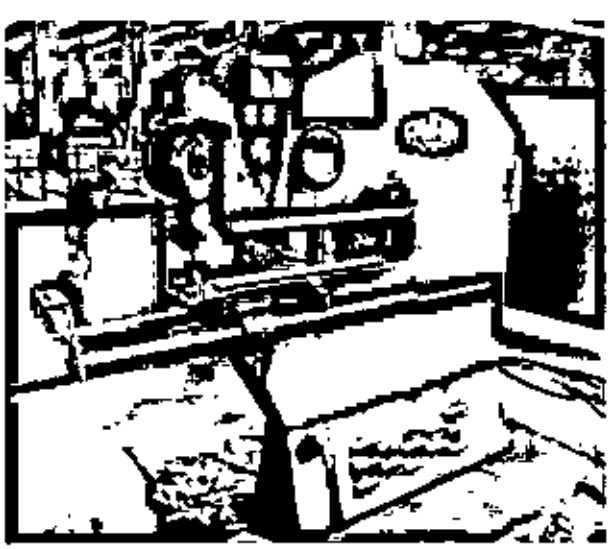
INDUCTION FURNACE



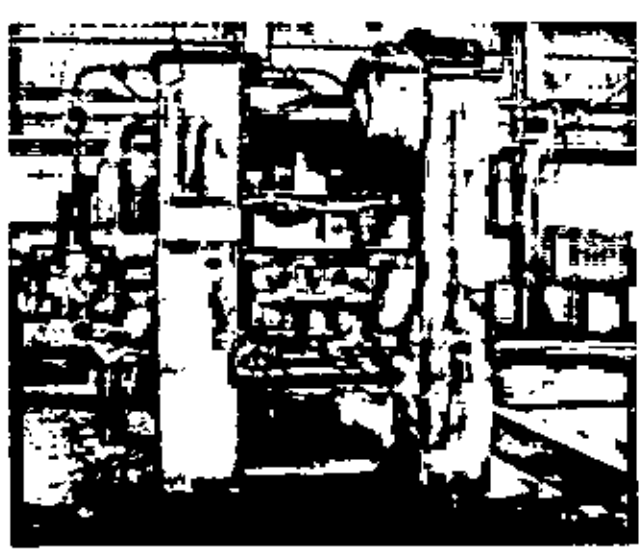
LATHE MACHINE



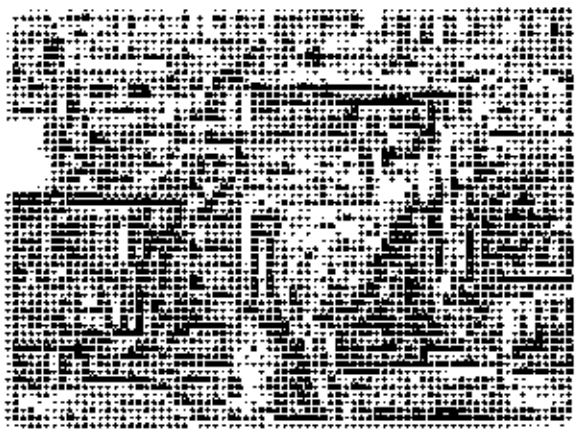
MILLINGMACHINE



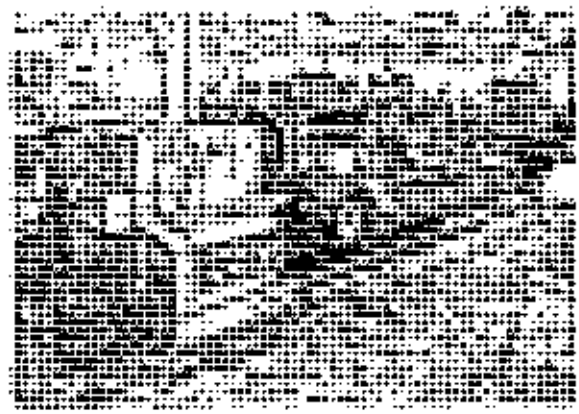
NIBBLING MACHINE



HOT SHEARING MACHINE

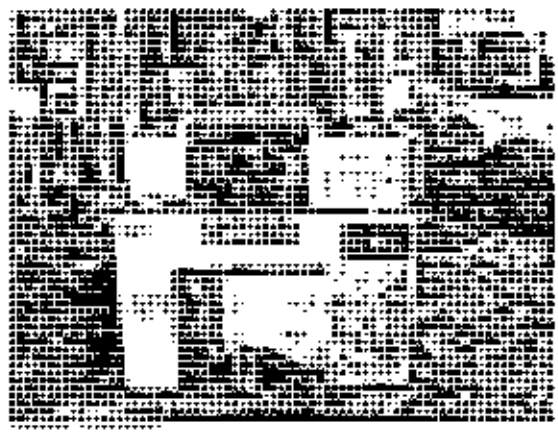


DROP FORGING HAMMER

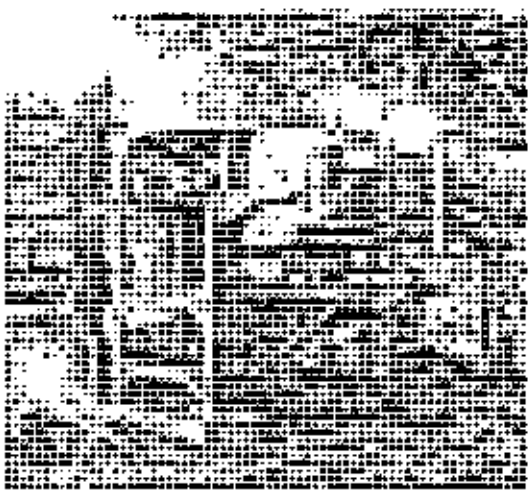


SINGLE PULLY PARALLEL LATHE

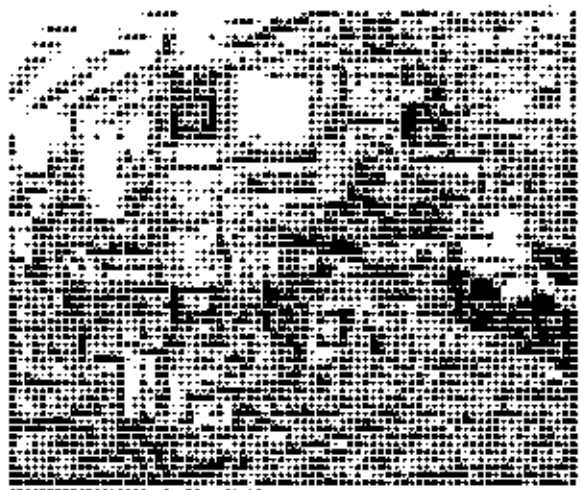
SAND BLASTING MACHINE



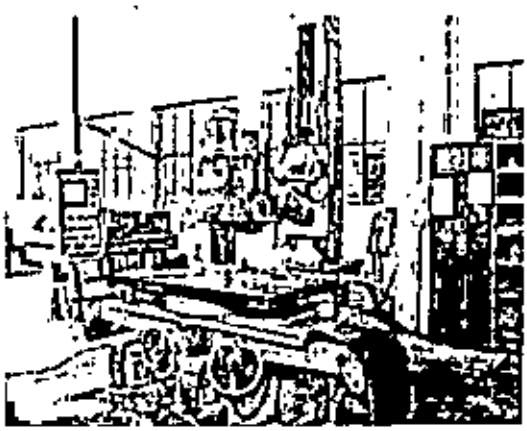
THREAD ROLLIN MACHINE



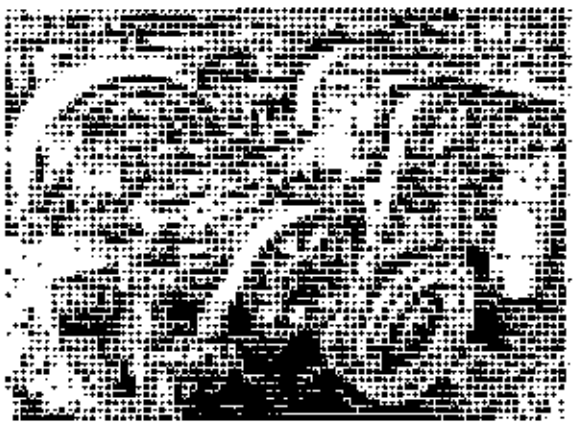
SAND MIXING MACHINE



RADIAL DRILL MACHINE



UNIVERSAL PATTERN MILLING



UPSET FORGE

Past Products of BMTF

During the operative period of BMTF, the factory used to produce a variety of products mainly within the following category

a. Agricultural Sector: Irrigation pumps, power tillers etc.

b. Transport Sector: 3 Wheeler Auto Tempo ShuJon including some spares.

c. Textile: Reeling machines, Spinning frame.

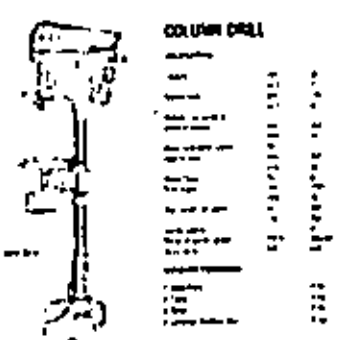
d. Machine Tools: Lathes, drill, grinding machines etc.

e. Jute Mill Spares

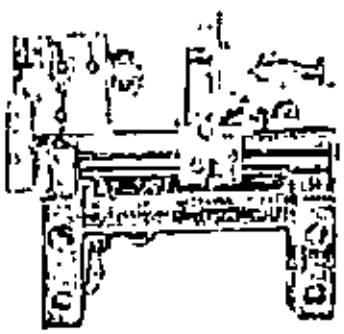
f. Paper and Fertilizer mill spares.

g. Railway Track Material

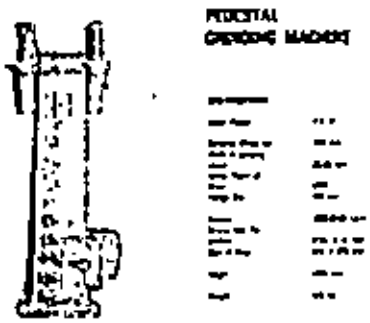
h. Electric Line hardware.



COLUMN DRILL



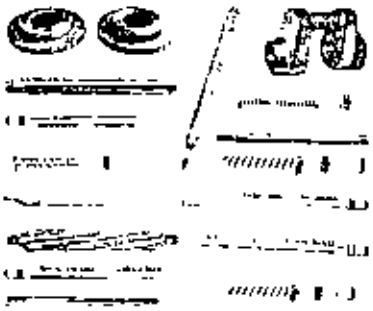
LATHE



GRINDING MACHINE

GEARS

GEARS

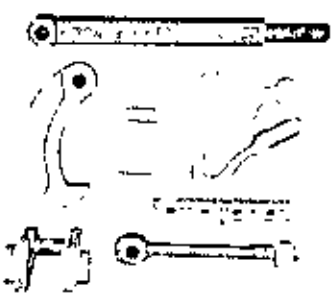


JUTE MILL SPARES

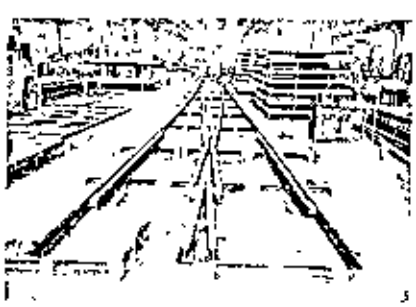
PUMP

CUTTING TOOLS

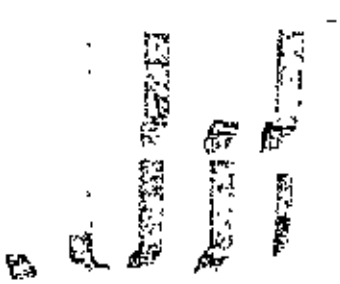
DRILLS



RAILWAY SPARES

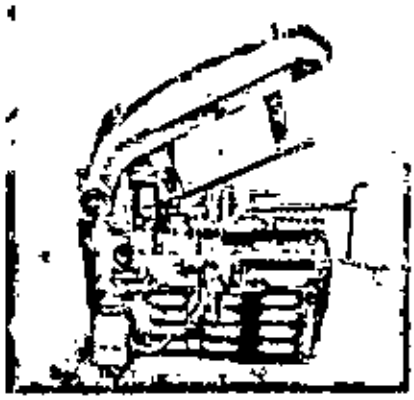


RAIWAY PRODUCTS



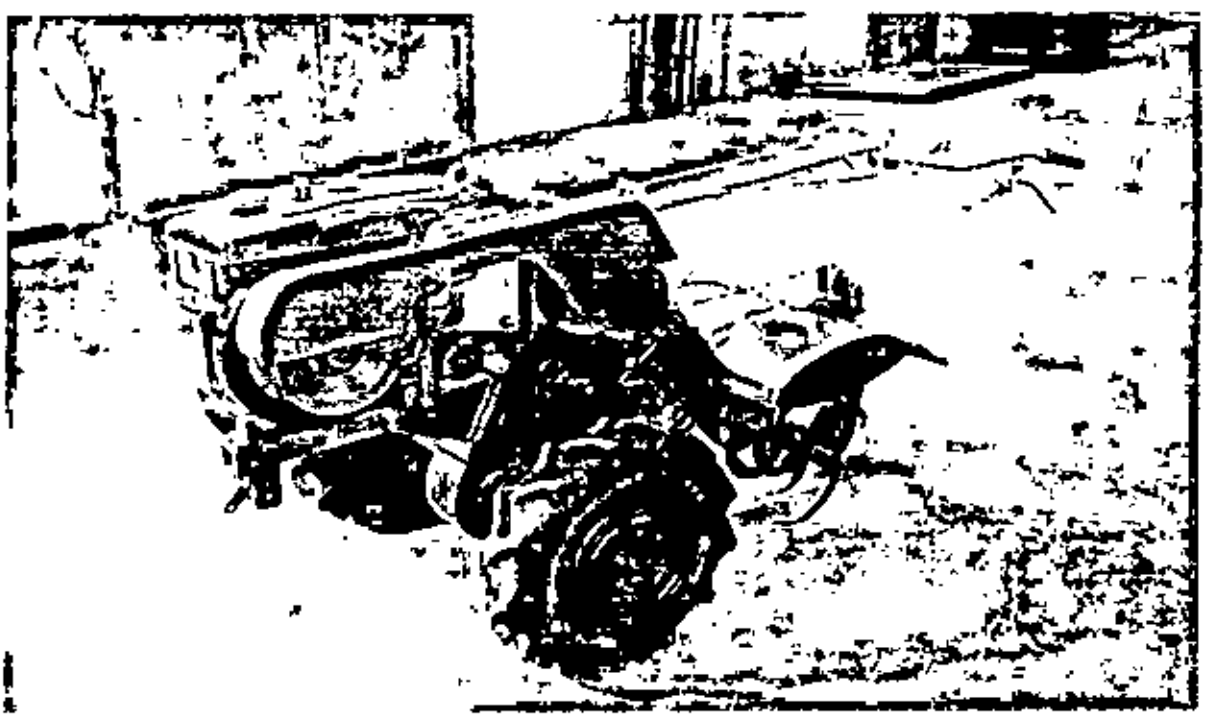
CUTTING TOOLS

AUTO TEMPO SUZAN



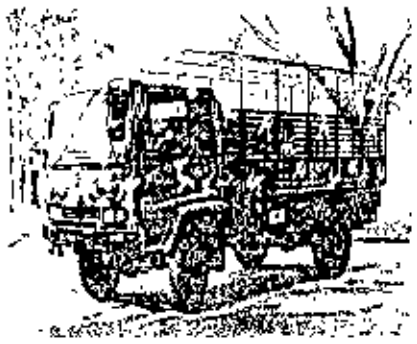
POWER SAW

PUMP (DEEP WELL TURBINE



POWER TILLER

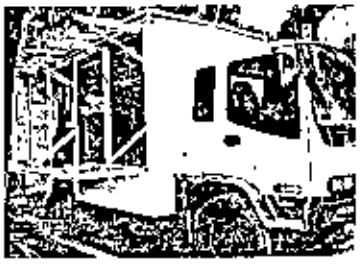
Most of these products are not being manufactured now, as there is no market for these products. However, BMTF is trying to revive some of these products specially lathe machines, twist drills and spiral bevel gear generation



ARUNIMA BOLIAN

AMBULANCE

FUEL TRUK



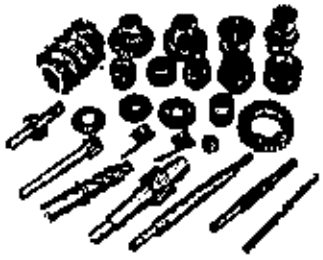
MOBILE WORKSHOP

JUTE MILL SPEARS

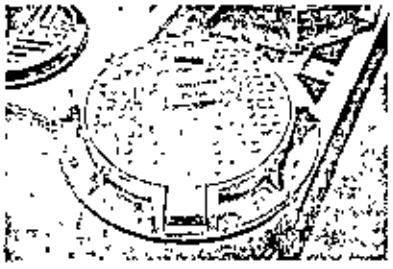
LATH

LUGGAGE TROLLY

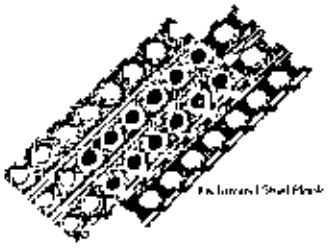
JEEP



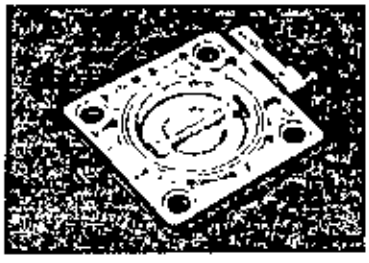
GEAR



MANHOLE COVER



PERFURATED SHEET

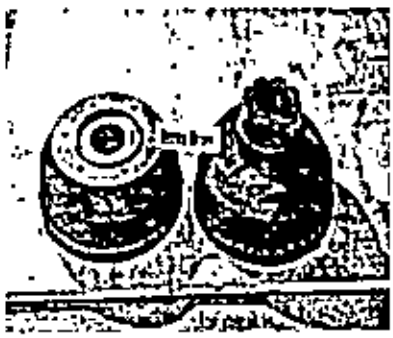


RADIATOR

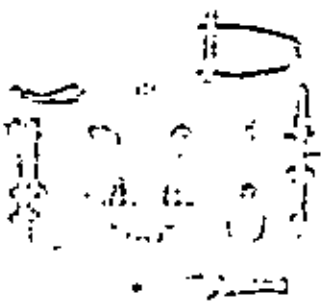
VALVE

PICK UP

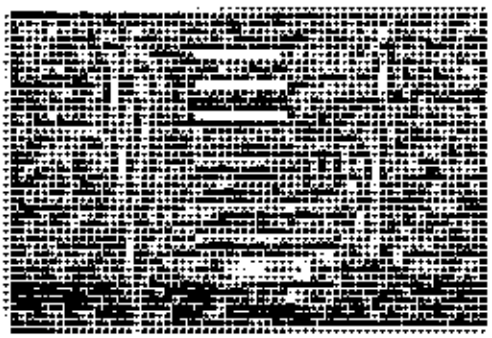
GEARS



BRAKE DRUM

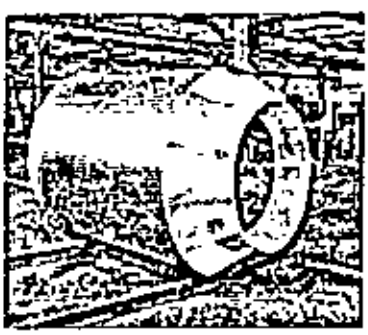


REB PRODUCTS

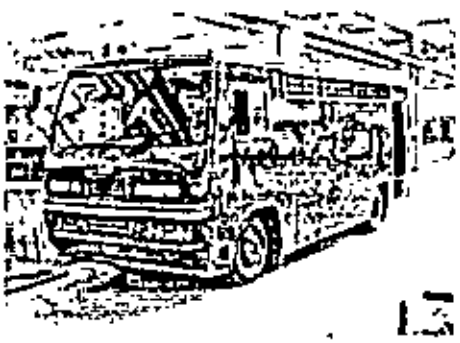


RAILWAY PRODUCT

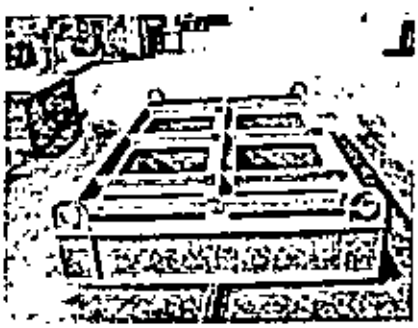
TAPS



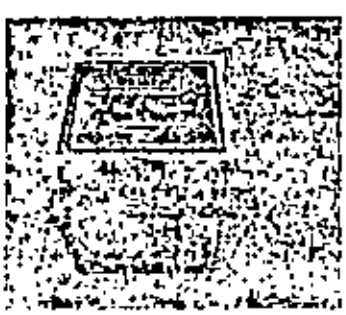
GAS VENT



PRISON VAN



LOAD BODY

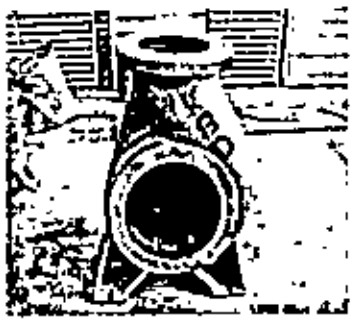


BALLOT BOX

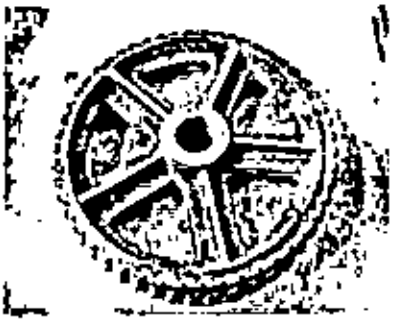
RAILER

CHESIS

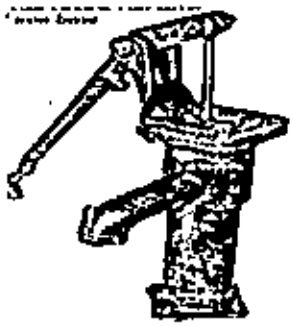
WATER T



VOLUTE CASE



WORM WHEEL



TUBE WELL

After taking over, the army management decided to go for production as soon as possible. Most of the machineries and production facilities were not operational and needed huge maintenance and repair works. There was no working capital and skilled manpower either. The team of officers with their hard work and sincerity could establish the line of assembly for ISUZU trucks as well as its body manufacturing. With the prudent decision of assigning assembly and manufacturing of ISUZU chassis, BMTF started take off. Gradually, 1 ton Pick up and ¼ Ton jeep was included in the list. It is to be mentioned that, all these production lines were absolutely new experience for BMTF but theses were all successful. Later management started venturing for public sector jobs and with lots of hard work and creativity; they could start production of REB line hardware. In this process, a number of old employees were hunted down from various places and employed as casual workers with the hope that they would be made permanent with the gradual take off of BMTF. Subsequently, few open bids were participated and won. The line started and now BMTF is fully capable to produce quality line hardware products for REB and PDB.

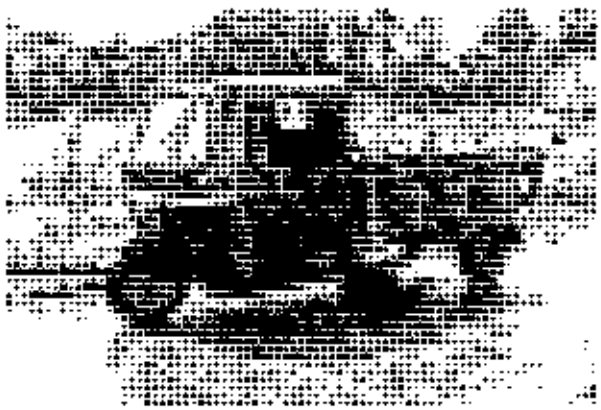
3.6 TEST AND TRIAL PRODUCTION.

BMTF has trying to develop some test and trial products as a brand item some of those are as follows:

a. Hand Tube well

They have developed and exported 500 pieces as a test case in collaboration with R Industries.

b. **Auto Van and Auto Tempo.**



This was an earlier product of BMTF. Trial production is going on in collaboration with Rafiq Auto Van Company. After trial, BMTF will approach to BRTA for approval of outside Dhaka city. This project has a very bright prospect. But some kind of persuasion may be required for BRTA approval because vested quarters may act against it.

BMTF is always looking for new markets and new products. Number of prospective items is on hand. Amongst these are Telecommunication Tower. Portable breeze, RMG accessories etc.

3.7 FUTURE PLAN

It is very difficult to evolve a suitable future plan for BMTF as it is directly related to the industrial and taxation policies of the country. At the same time the rate of industrialisation will also have definite impact in formulation of such policies. Keeping all these in view at the same time without involving into much risk following immediate future plans in terms of product development and marketing has been envisaged:

a. Identify machine tools as a brand item and market those.

b. Developing the Marketing Department by employing professionals.

c. Emphasis on assembling and bodybuilding of various types of vehicles in addition to the army vehicles.

d. Finding some joint venture / partner from abroad / local to enhance production.

e. To make the factory committed and profitable trading activities will also be undertaken.

f. Efforts for obtaining direct orders from various government sectors to be exploited.

g. Some products like telecommunication tower, power tillers, assembly of lathes in joint collaboration etc to be targeted.

CHAPTER- IV

FINANCIAL ANALYSIS OF BMTF

4.1 SIGNIFICANT FINANCIAL AND ACCOUNTING POLICIES OF BMTF

- Financial planning is initiated by the planning and Training Branch, This branch also gives a broad guideline for sales forecast. It also does the initial estimates the cost of a product to be bid under tender.
- The Cost , Budget, Account & Audit Branch does re- estimation of the costing which is finally approved through a meeting amongst the MD and GM Budget, Procurement & Marketing .

- Different financial budgets are done on yearly basis. which is based on the previous and current years figures & spec.
- Financial statements are prepared under historical cost convention based on generally accepted accounting principles.
- The financial budgets are subjected to frequent changes owing to:
  1. Impromptu participation in tenders
  2. Special orders from government agencies, which were not in the planning
  3. Valuation of stock and stores:
- Finished goods, intermediate products, works- in process and stocks and stores are valued at cost.
- Raw materials are valued at book value.

Depreciation policy

- Admin & residential building: 2.50%
- Factory building: 5.00%
- Other buildings/ constructions: 10.0%
- Temporary foundry shed: 33.00%

- Electrical /water supply installation: 15.00%
- Plant &machinery: 0.75-3.00 %(Irrespective if the use)
- Loose tools: 25 00%
- Office equipment: 15.00%
- Transports: 15.00%

- BMTF does not have any provision for gratuity for its employees.

  - There is no policy for appropriate adjustment or provision for bad debt against irrecoverable debtors and advances. As such debtors and advances balance are usually overstated.

  - BMTF does not borrow money to meet is expenses related to huge raw material that is required every year. It has provision with The Trust Bank ltd. (a military enterprise) to take short term loans up to Taka 220 million

4.2 CAPITAL STRUCTURE

The capital of BMTF has three parts: Equity, debt and grant. BMTF management does not consider the grant as a pure equity as no return is required to be earned from it. Information pertaining to the capital structure is given below:

Table5: Capital structure of BMTF

Capital Components	Amount in Taka	Percentage	Remarks
Equity	800,000,000	27.76%	Issued, subscribed and paid up
Debt	2,080,132,032	72.19%	Government equity ,which is conversion off interest free loan
Grant	1,346,528	00 05%	Provided by UNDP through the Government
Total	2,881,478,569	100%	

Sours: Brief on BMTF

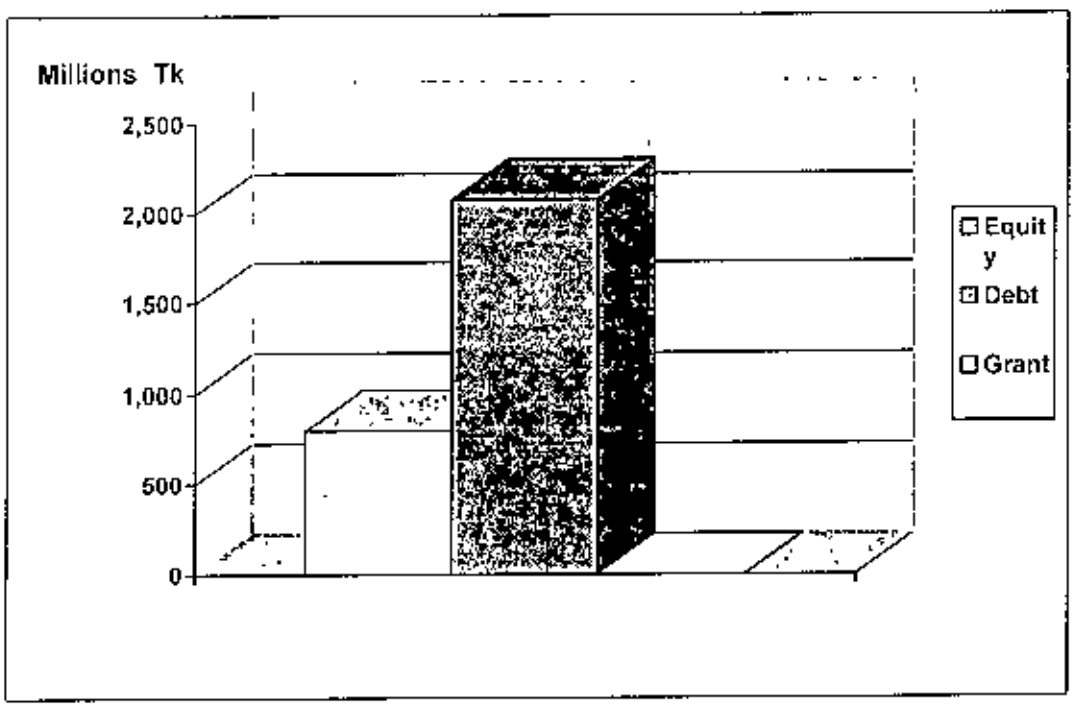


Fig -5

Capital structure of BMTF

4.3 REVENUE Growth

Growth of Revenue

The growth of BMTF under the present management for last 6 years is presented below.

Table 6: BMTF Revenue-2001 to 2006

Year	Total Revenue in Taka	Index	Yearly Percentage Growth in Revenue
1	2	3	2/3
2001	15,263,000	1.000	1st year in business
2002	97,657,000	6.398	539.8%
2003	1,68,374,000	11.03	72 41%
2004	2,13,124,828	13.963	26.58%
2005	204,022,569	13.367	(4.27%)
2006	202,193297	13.247	(0.89%)

Source: BMTF Audit Reports of 2001 to, 2006

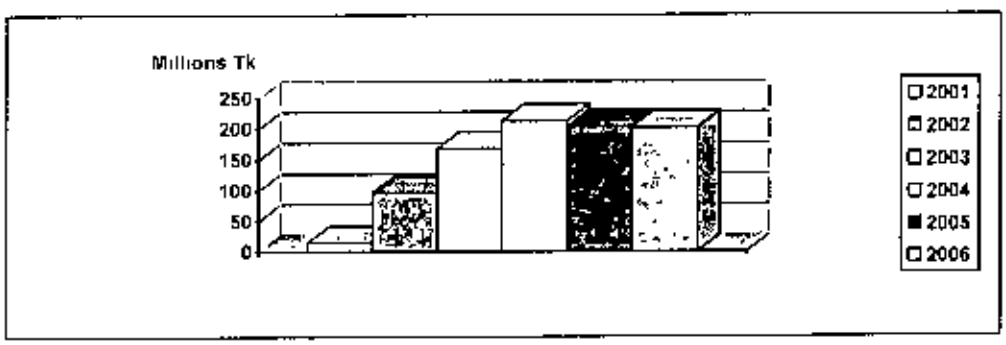


Fig -6

BMTF Revenue-2001 to 2006

Interpretation and Comments on Growth of Revenue:

- It is to be remembered that BMTF had its first operation in July 2000 on being opened after 6 years. As such the growth of revenue in terms of volume is extremely well, considering the management constraints.
- However, the yearly percentage growth in revenue apparently seems quite disheartening. But if we consider the indexed figures in Column 3 of above table, such apprehension would be relieved.
- Growth of revenue in the financial year 2003-2004 is 26%, which is quite encouraging in the context of steel industry in Bangladesh and its recent turmoil in price hike.
- However, it is to be seen what sustainable growth of revenue BMTF achieves in the coming years. A consistent yearly growth of 10-15% would be quite reasonable for the survival of BMTF in the concerned industry, provided the associated costs do not increase in a rate larger than of the growth in revenue

4.4 SALES PERFORMANCE

Sales in 6 Operating Years

Table 7: Sales form July 2000 to June 2006

Year Ending June	Sales in Million Taka	Index	Percentage Increase in Sales
1	2	3	4
2001	9.22	1.00	First year in business
2002	90.69	9 84	883.62%
2003	153.19	16.61	68.92%
2004	191.61	20.78	25.08%
2005	182.48	19.79	(4.760)
2006	180.94	19.62	(0.84)

Source: BMTF Audit Report 2001 to 2006

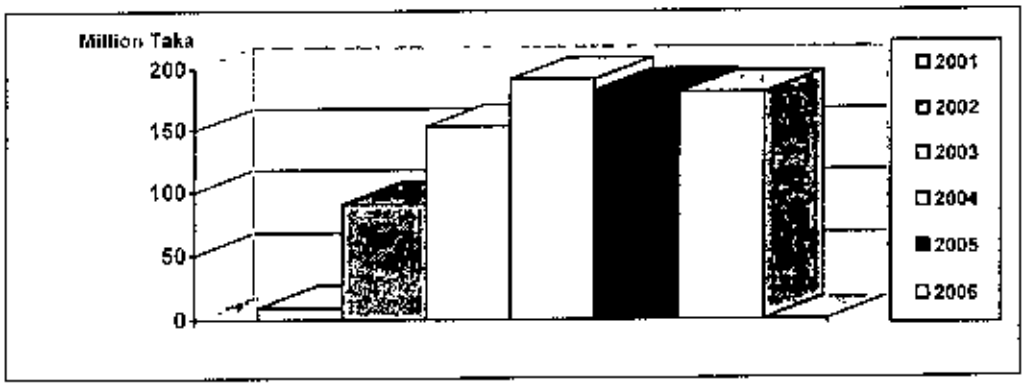


Fig - 7

BMTF Yearly Sales in Taka from 2001 to 2006

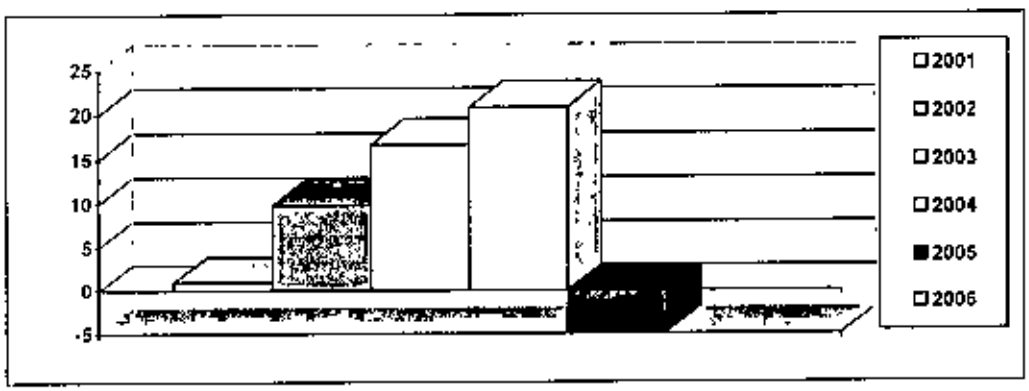


Fig - 8

BMTF Yearly Sales Index From 2001 to 2006

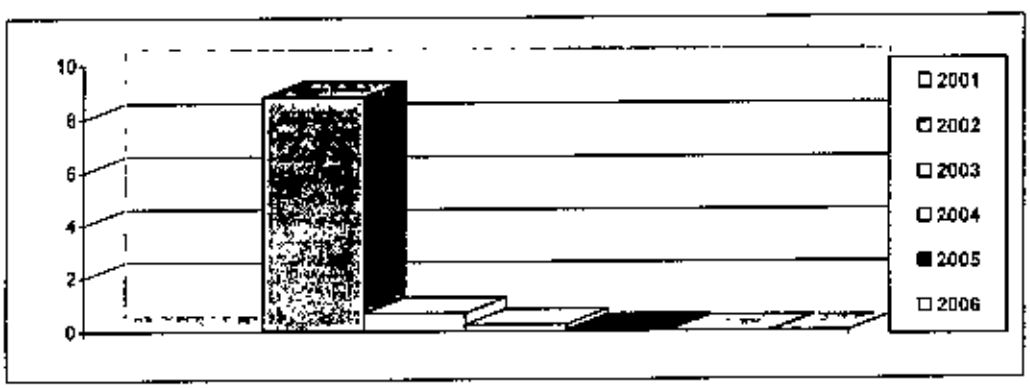


Fig - 9

BMTF Yearly Sales Increase in Percentage from 2001 to 2006

Interpretation and Comments:

- In the first year in business with new and inexperienced management, BMTF made a humble beginning, but gained a strong foothold to launch a boost in the 2nd year of operation.

- In the 2nd year sales increased ten-folds, and this is the highest increase in percentage in last 6 years

- The figures in 2003 and 2004 are heavy but there is a sharp decline in the yearly percentage of sales increase. The incremental sales between 2003 and 2004 are much less than between 2002 and 2003. These papers to be fairly reasonable as the BMTF, after being introduced in the steel industry, took time to take off, and have started to normalize and gradually become stable. However, BMTF has to maintain a yearly growth in sales approximately near to the industry average. According to the Management Report June 30, 2002, sales growth averages 8-10% in the steel industry in Bangladesh.

Table8: Sales volume of major buyers of BMTF up to 2007

Serial	Customer	Amount (tk in	Remarks
01	REB	2359.82.	
02.	PDB	637.22	
03.	BD ARMY	6966.33	
04.	DPBS	22.45	
05.	COD	3.45	
06.	BDR	21.31	
07.	CIV AVIATION AUTHORITY	146.45	
08.	BDR	99.00	
09.	PACIFIC MOTORS	120.25	
10.	IFAD AUTOS	2.00	
11.	DHAKA WASA	131.82	
12.	BADC	37.95	
13.	ELECTION COMMITIOMN	394.00	
14.	EARTH FOUNDATION	2826.60	
15.	OTHERS	68.49	

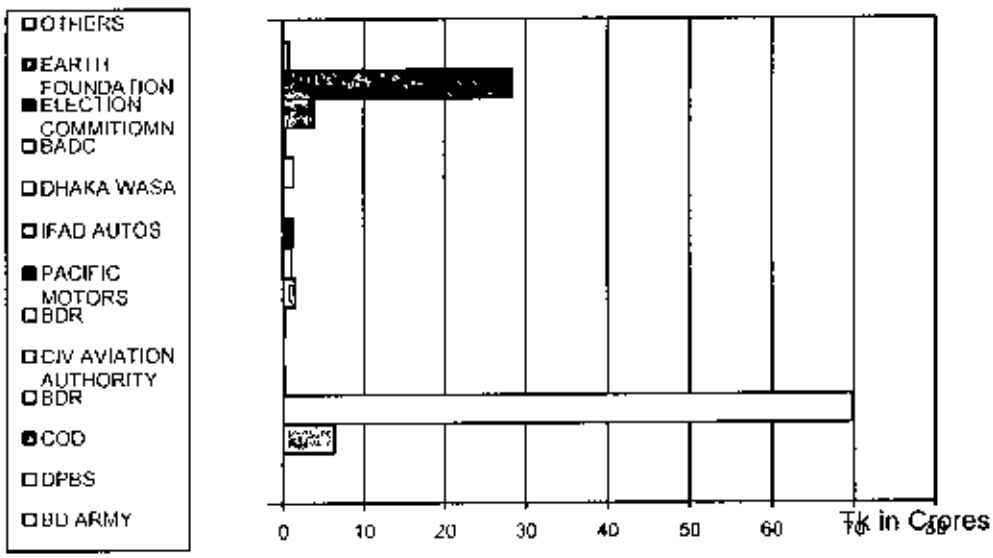


Fig - 10

Graphical sales volume of major buyers of BMTF

Comments

From the above mentioned table the following comments may be done

- Most of the buyer are government or corporate organization
- Army it self contributed as biggest buyer
- Some small organization are also coming to BMTF
- Necessary steps need to be taken to increase more buyer
- Railway authority did not yet placed any order though BMTF has huge capacity to produce Railway product

Breakeven Analysis

Breakeven analysis of the major products of BMTF would further reveal sales performance. Breakeven for the major products of BMTF are presented below.[9]

Table 9: Breakeven for 10 major products of BMTF

Product	Fixed Cost (Taka)	Variable Cost Per Unit (Taka)	Selling Price Per Unit (Taka)	Breakeven Sales Quantity (Unit)	Breakeven Sales Volume (Taka)
1	2	3	4	5=2/(4-3)	6=5*4
Truck	6,609,872	127,900	229,695	65	14,930,175
Line Hardware REB	3,618,810	760,254	1,401,873	6	8,411,238
Fuel Trailer	736,000	575,000	984,127	2	1,968,254
Earthing Rod	8,593, 920	135	238	83437	19,858,006
Transformer platform	706,875	8,700	15,458	105	1,623,090
Cast Products	1,112,195	45	82	30,060	2,464,920
Water Browser	3,413,600	502,000	901,540	9	8,113,860
Line Hardware PDB	2,779,818	287,563	553,243	11	6,085,673
Luggage Trolley	4,176,000	17,400	26,874	441	11,851,434
Reducer Socket	51,000	180	270	567	153,090

Data Source BMTF Audit Report 2001 to 2006

Sales Performance of the above Products is presented below along with comments:

Table10: Sales growth analysis of 10 major product of BMTF

Product 1: 3 Ton Truck

Year Ending	Breakeven Sales Volume (Taka)	Actual Sales Volume (Taka)	Difference in Percentage	Remarks
1	2	3	(3-2)/2	4
2001	14,930,175	28,100,000	+88.21%	With the highest volume, consistent demand, and a profit margin of 15%, this product is a cash cow for the company
2002		49,718,400	+233.00%	
2003		59,840,000	+300.80%	
2004		59,840,000	+300.80%	

Yearly Actual Sales Volume from 2001 to 2004

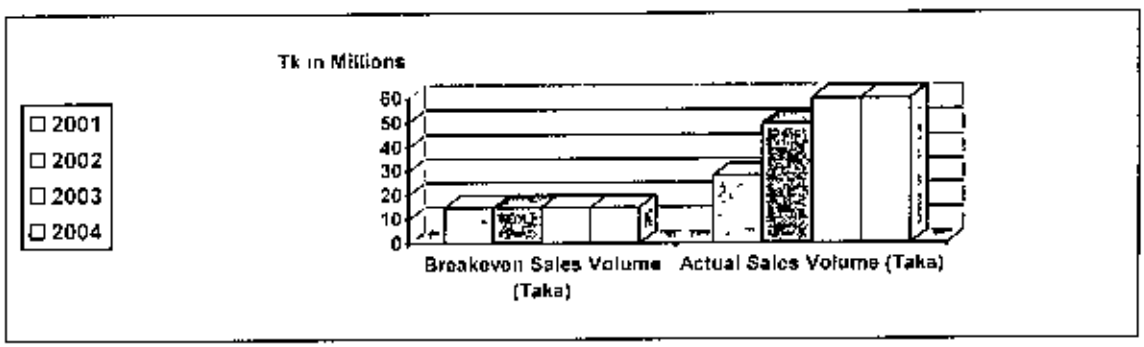


Fig – 11

Actual Sales volume

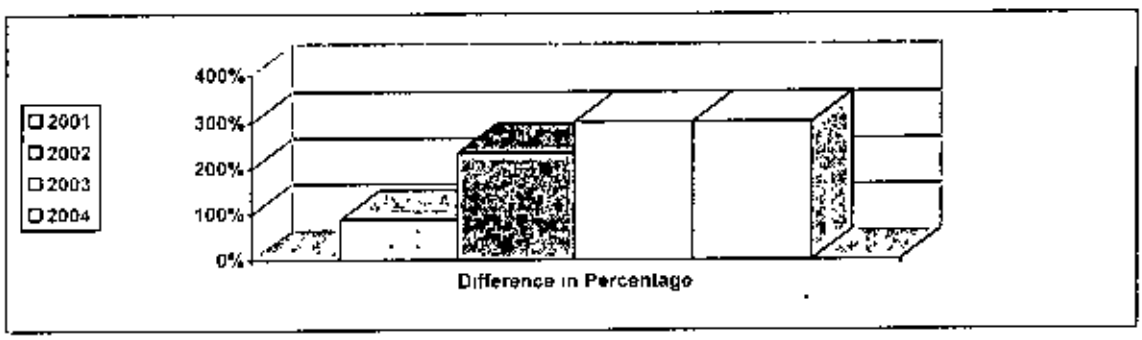


Fig – 12

Yearly Difference in Percentage from 2001 to 2004

Product 2: Line Hardware REB Version.

Year Ending	Breakeven Sales Volume (Taka)	Actual Sales Volume (Taka)	Difference in Percentage	Remarks
1	2	3	(3-2)/2	4
2001	84,11,238	21,070,225	+150 50%	With the second highest sales volume, and a profit margin of 15%, this product will be a cash cow if present demand sustains.
2002		14,940,630	+77.62%	
2003		84,971,231	+910.21%	
2004		56,439,014	+571.64%	

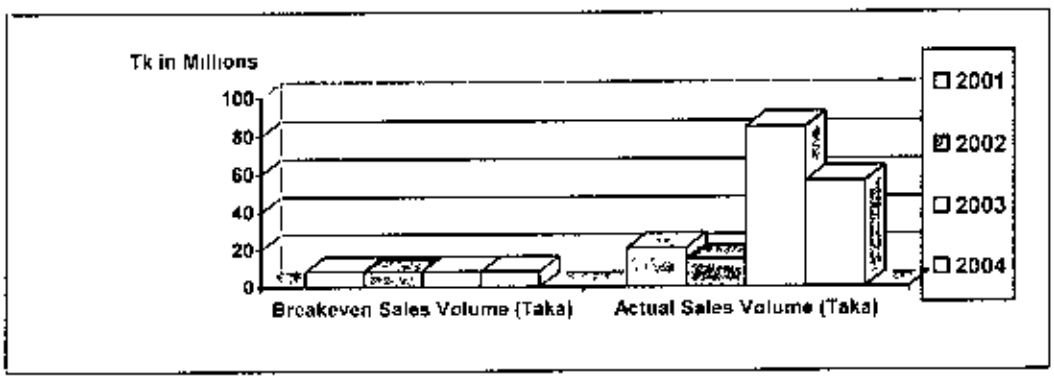


Fig – 13

Yearly Actual Sales Volume from 2001 to 2004

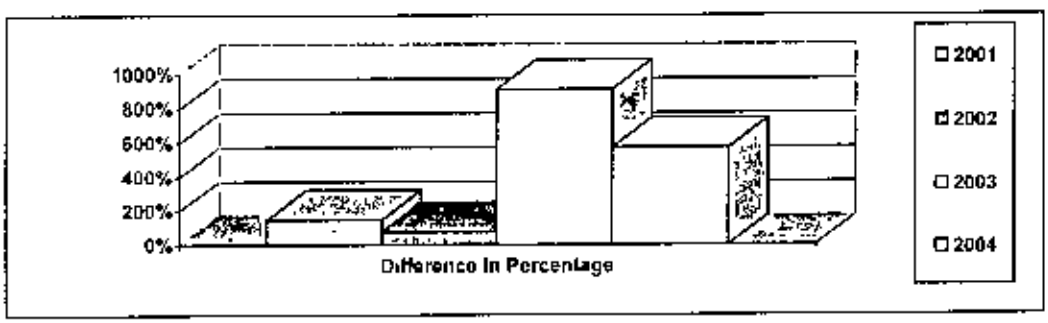


Fig - 14

Yearly Difference in Percentage from 2001 to 2004

Product 3: Fuel Trailer 2000 liter

Year Ending	Breakeven Sales Volume (Taka)	Actual Sales Volume (Taka)	Difference in Percentage	Remarks
1	2	3	(3-2)/2	4
2001	1,968,254	-	-	Successful introduction of the product. If demand persists, likely to be a star for the company.
2002		-	-	
2003		-	-	
2004		21,325,012	+983.44%	

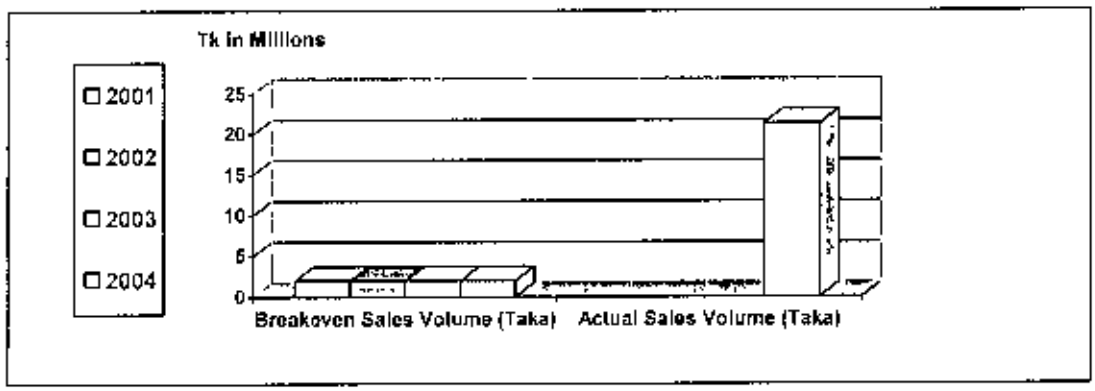


Fig - 15

Yearly Actual Sales Volume from 2001 to 2004

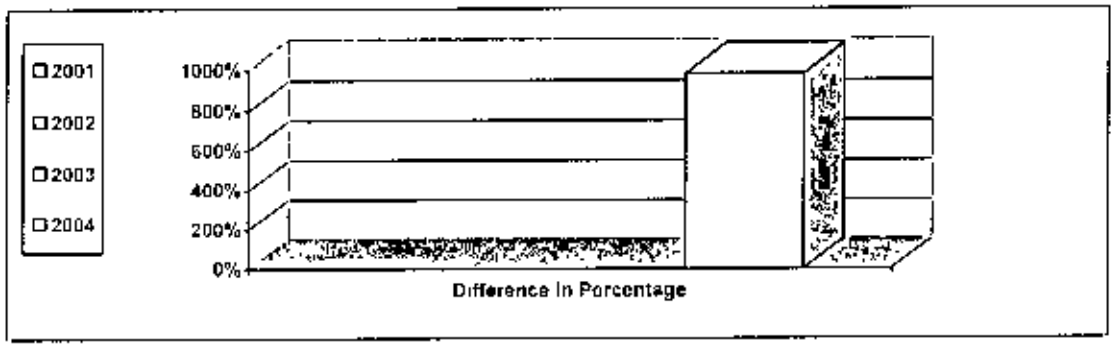


Fig - 16

Yearly Difference in Percentage from 2001 to 2004

Product 4: Earthling Rod

Year Ending	Breakeven Sales Volume (Taka)	Actual Sales Volume (Taka)	Difference in Percentage	Remarks
1	2	3	(3-2)/2	4
2001	19,858,004	13,620,000	(-)31.41%	A losing concern. However, the company has to produce as stated in the forth comment under 5.3.2 ante. Unless sales volume is increased, the product would be a dog for the company.
2002		19,470,000	(-)01.95%	
2003		-	-	
2004		9,540,147	(-)51.95%	

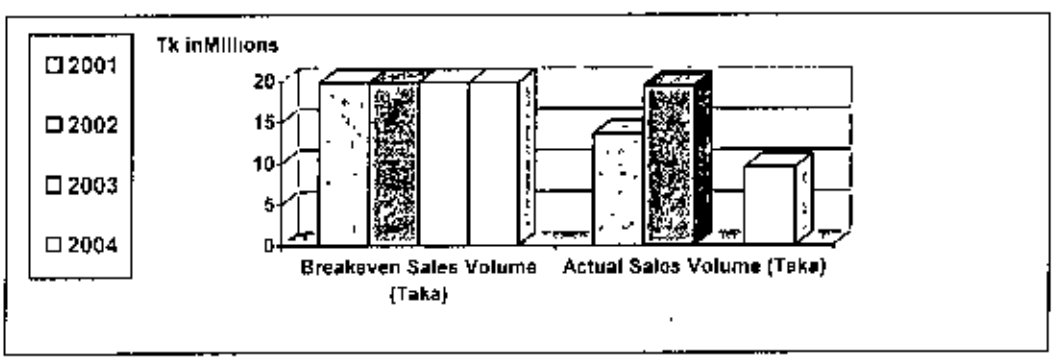


Fig - 17

Yearly Actual Sales Volume from 2001 to 2004

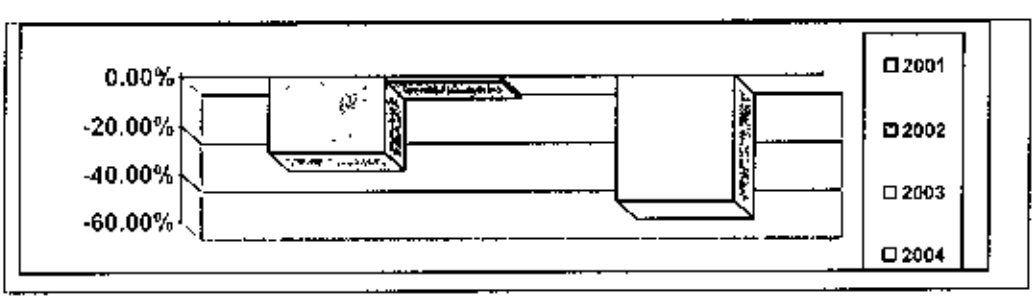


Fig – 18

Yearly Difference in Percentage from 2001 to 2004

Product 5: Transformer Platform

Year Ending	Breakeven Sales Volume (Taka)	Actual Sales Volume (Taka)	Difference in Percentage	Remarks
1	2	3	(3-2)/2	4
2001	1,623,090	-	-	Successful introduction of the product. If demand persists, likely to be a star for the company.
2002		-	-	
2003		-	-	
2004		9,540,187	+487.78%	

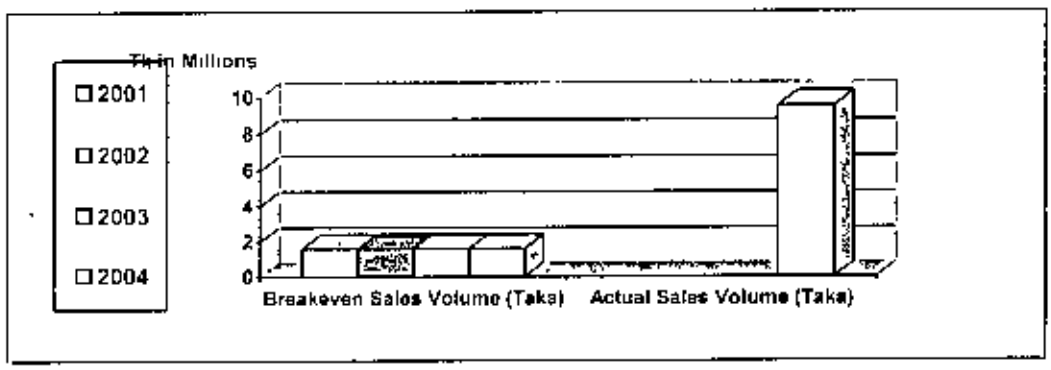


Fig - 19

Yearly Actual Sales Volume from 2001 to 2004

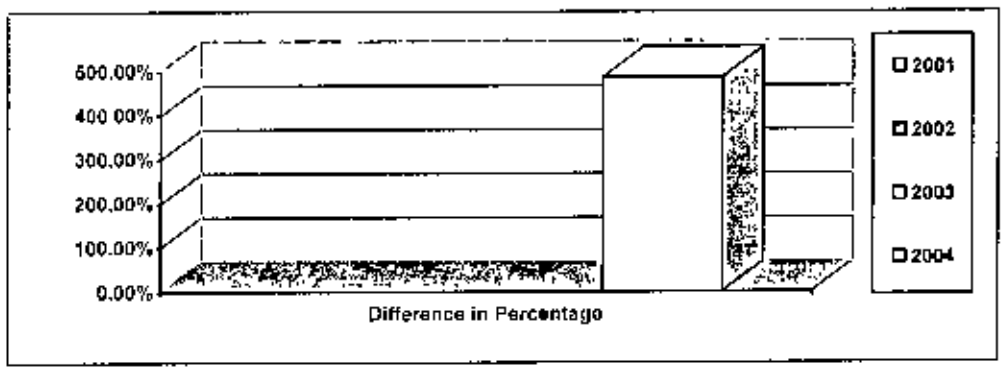


Fig - 20

Yearly Difference in Percentage from 2001 to 2004

Product 6: Cast Product

Year Ending	Breakeven Sales Volume (Taka)	Actual Sales Volume (Taka)	Difference in Percentage	Remarks
1	2	3	(3-2)/2	4
2001	2,464,920	-	-	A question mark for the company. Sustained demand near to the latest year figure would make it a stable product.
2002		3,425,154	+38.95%	
2003		2,267,591	-08.01%	
2004		5,700,000	+131.24%	

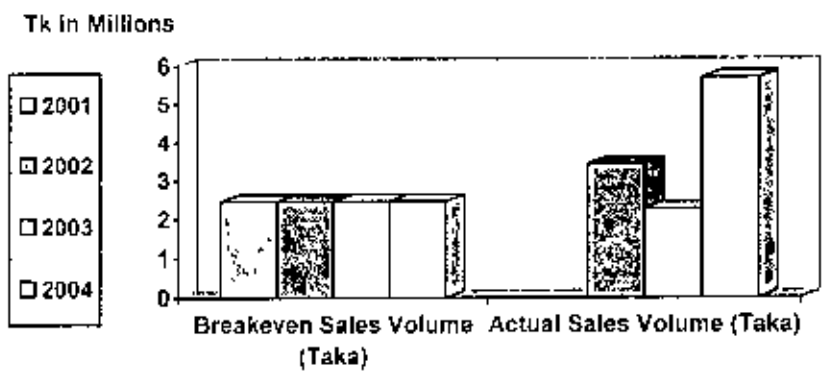


Fig - 21

Yearly Actual Sales Volume from 2001 to 2004

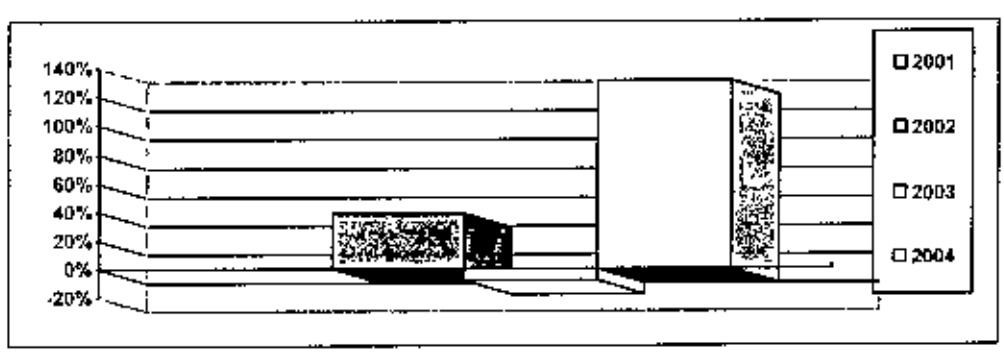


Fig - 22

Yearly Difference in Percentage from 2001 to 2004

Product 7: Water Bowser

Year Ending	Breakeven Sales Volume (Taka)	Actual Sales Volume (Taka)	Difference in Percentage	Remarks
1	2	3	(3-2)/2	4
2001	8,113,860	-	-	A question mark for the company. Management informed that last year (2004-2005) the sales volume was 3 times of the breakeven volume.
2002		-	-	
2003		-	-	
2004		4,680,000	-42.32%	

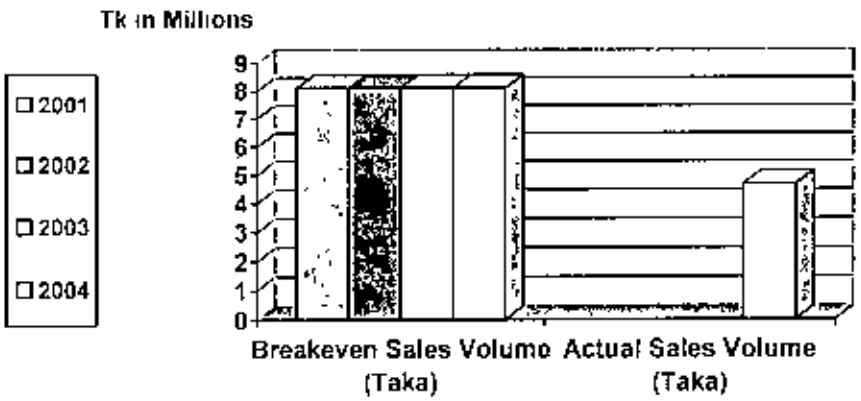


Fig - 23

Yearly Actual Sales Volume from 2001 to 2004

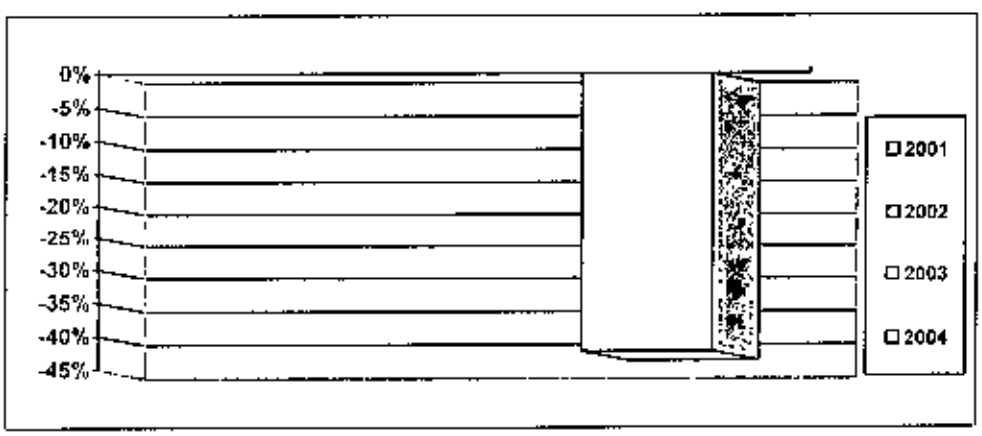


Fig - 24

Yearly Difference in Percentage from 2001 to 2004

Product 8: Line Hardware PDB Version.

Year Ending	Breakeven Sales Volume (Taka)	Actual Sales Volume (Taka)	Difference in Percentage	Remarks
1	2	3	(3-2)/2	4
2001	6,085,673	-	-	A question mark for the company. Management informed that last year (2004-2005) the sales volume was 1.8 times of the breakeven volume.
2002		-	-	
2003		-	-	
2004		2,245,307	-63.11%	

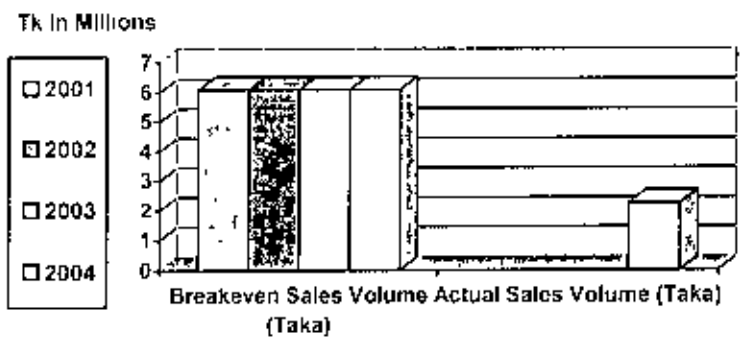


Fig -25

Yearly Actual Sales Volume from 2001 to 2004

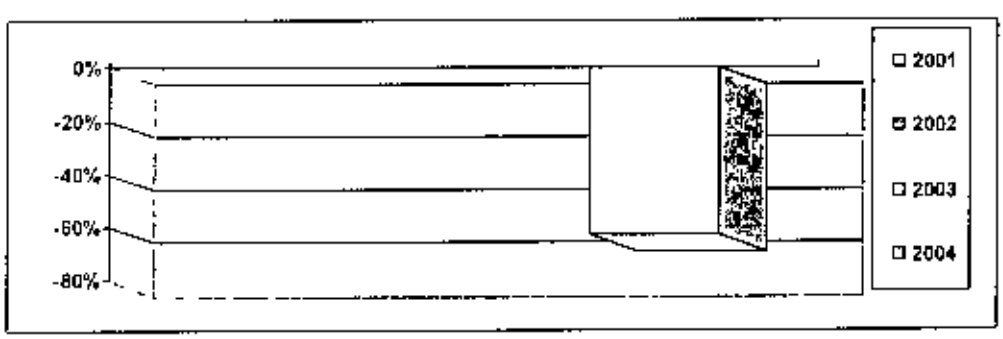


Fig -26

Yearly Difference in Percentage from 2001 to 2004

Product 9: Passenger Luggage Trolley.

Year Ending	Breakeven Sales Volume (Taka)	Actual Sales Volume (Taka)	Difference in Percentage	Remarks
1	2	3	(3-2)/2	4
2001	11,851,434	-	-	A question mark for the company. Management informed that last year (2004-2005) the sales volume was 3.4 times of the breakeven volume, generating huge profit. The management also informed that it knew about the impending loss in the first year but had the confidence in wining the huge tender the next year (2004-2005).
2002		-	-	
2003		-	-	
2004		1,945,000	-83.59%	

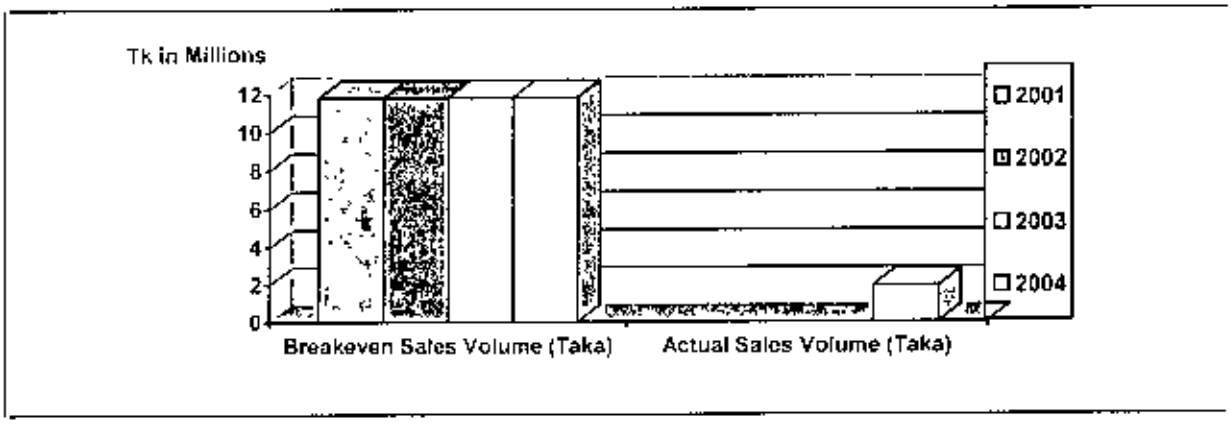


Fig - 27

Yearly Actual Sales Volume from 2001 to 2004

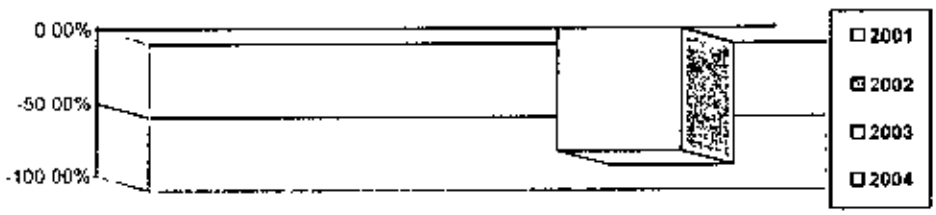


Fig - 28

Yearly Difference in Percentage from 2001 to 2004

Product 10: Reducer Socket.

Year Ending	Breakeven Sales Volume (Taka)	Actual Sales Volume (Taka)	Difference in Percentage	Remarks
1	2	3	(3-2)/2	4
2001	1,53,090	-	-	Appears to be a stable product.
2002		-	-	
2003		-	-	
2004		2,70,000	+76.37%	

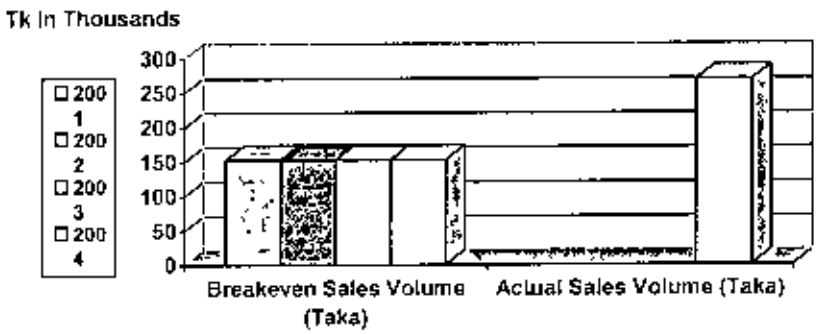


Fig – 29

Yearly Actual Sales Volume from 2001 to 2004

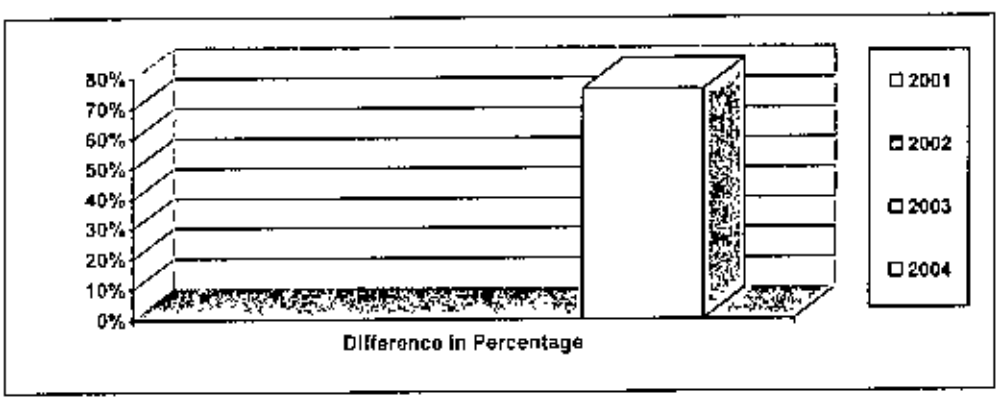


Fig- -30

Yearly Difference in Percentage from 2001 to 2004

4.5 Asset Growth

Growth of Assets

Table 11: Growth of Assets

Fixed Assets	June 2000 in Taka	June 2001 in Taka	June 2002 in Taka	June 2003 in Taka	June 2004 in Taka	June 2005 in Ta	June 2006 in Taka
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*
Land 248.41 Acre	6,106,965	6,106,965	6,106,965	6,106,965	6,106,965	6,106,964.54	6,106,964.54
Building & Constructions	1,53,667,393	6,33,06,735	6,23,28,828	6,05,31,213	5,87,36,170	52,021,103.15	55,381,784.23
Installations	9,93,29,023	1,37,18,147	1,62,21,587	1,50,29,016	1,40,37,048	13,029,361.30	12,103,942.75
Plant and Machinery	1934038671	1281993418	1271528640	1260197936	1248600633	1,239,040,934.43	1,227,525,480.81
Furniture & Fixture	68,50,137	13,64,694	16,71,925	16,10,239	15,09,160	1,527,621.67	1,435,964.37
Office & Equipment	53,09,068	10,02,064	9,52,278	18,20,492	18,57,901	1,804,971.62	1,610,921.16
Transport vehicles	91,02,187	5,39,497	4,49,288	45,431	37,835	31,508.46	3,845,289.95
Other assets	55,03,897	6,63,811	6,36,771	5,82,348	5,03,200	450,509.03	390,336.17
Cash in Bank deposits	22,15,031	38,49,18,465	6,29,66,518	9,65,97,140	15,65,34,940	199,15,091.96	254,920,671.60
Total	1,82,21,22,374	1,75,37,05,798	1,74,48,11,749	1,11,25,20,782	1,48,79,21,851	1,319,012,974.20	1,308,400,683.98

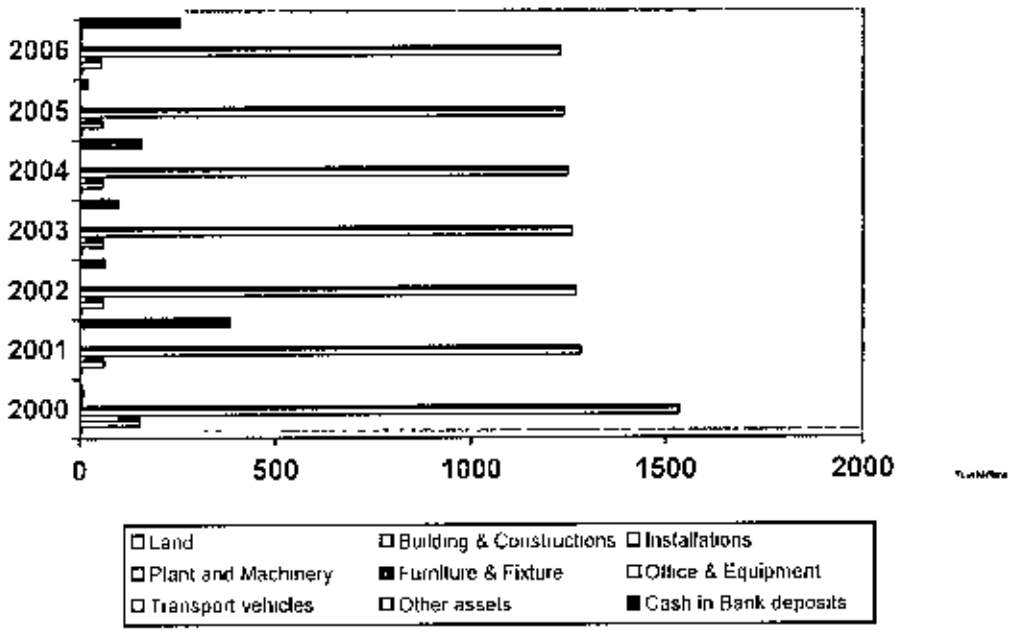


Fig 31

Growth of Assets

Interpretation and Comments:

- The assets have shown a decreasing trend mainly owing to the depreciation attached to each component of the assets.
- BMTF has not purchased any major machinery or equipment that is directly linked to the production lines.
- The cash deposits in banks mostly as FDR (only two short term deposits) have increased considerably in the past few years. This has added financial strength to the company for future use.
- Land asset (248.41 acre) has been priced at approximately Taka 25,000 per acre. This pricing is unusually low, done prior to our independence. The current government pricing that is set for paying compensation to acquirer private land in the area is approximately Taka 12,000,000 per acre, and this figure surely has a growing trend.

Product Growth

Growth figures of 10 major products of BMTF are presented below

Table 12: Growth figures of 10 major BMTF products

Products	Yearly Sales Volume in Taka			
	2000-2001	2001-2002	2002-2003	2003-2004
1	*2*	*3*	*4*	*5*
Truck	28,100,000	49,718,400	59,840,000	59,840,000
Line Hardware REB	21,070,225	14,940,630	84,971,231	56,493,014
Fuel Tailor	-	-	-	21,325,012
Earthling Rod	13,620,000	19,470,000	-	9,540,187
Transformer platform	-	-	-	9,540,187
Cast Products	-	3,425,154	2,267,591	5,700,000
Water Browser	-	-	-	4,680,000
Line Hardware PDB	-	-	-	2,245,307
Luggage Trolley	-	-	-	1,945,000
Reducer Socket	-	-	-	2,70,000

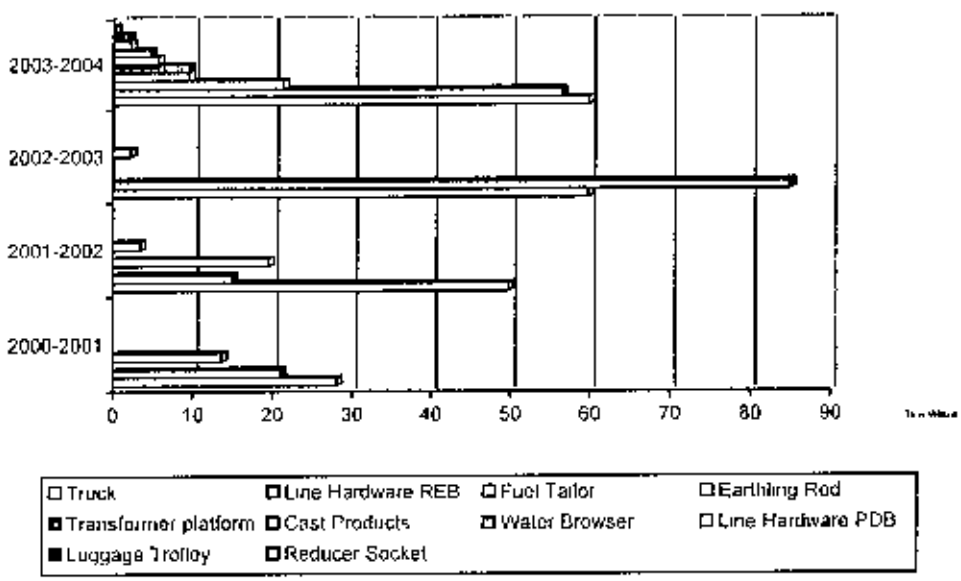


Fig - 32

Growth of 10 major products of BMTF

Interpretation and Comments:

. Form the above table it become clear that 6 out of 10 major products are newly introduced.

. Bangladesh Army is the only buyer of trucks known as Arunima Boliyan. Lately, a good number of buyers have been insisting BMTF to supply the trucks in very large quantity. But BMTF is unable to produce more than the quantities it is supplying to Bangladesh Army as the facilities would not permit. As such this product is not likely to grow in future, but demand will not reduce.

. Line Hardware (REB Version) growth is sinuously inconsistent. However, this product would fluctuate in near future also as it is depended largely on the development projects undertaken by the government. However, this product will continue to survive for at least 6 years, after the yearly demand would diminish but would never become zero.

. Management considers Earthing Rod as a product with high probability to enjoy rapid growth in future. There was no sale during 2002-2003 as the buyer (PDB) estimates 2 to 3 years requirement and advertises as such in a single year. There was no sale of this product in the fiscal year (2004-2005). This product goes with Line Hardware, and as such has to be produced irrespective of loss or profit.

. Cast Products is likely to grow further. Its demand both in terms of time and volume is likely to be perpetual.

Introduction of New Products

BMTF plans to introduce new products every year up to 2008. The plan is still under scrutiny. However, part of the plan has already seen the light of reality, a part is under process, and the rest is awaiting approval. The product introduction matrix would be quite revealing in this regard.

Table 13: Product planning

Product Name	Year of Introduction								Profit Margin (Estimated)
	2001	2002	2003	2004	2005	2006	2007	2008	
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*
3 Ton Truck	√								15%
Line Hardware	√								15%
Fuel Trailer				√					15%
Farthing Rod	√								12%
Transformer Platform	√								15%
Cast Product		√							15%
Water Bowser 5000 ltr				√					15%
Luggage Trolley				√					15%
Reducer Socket				√					10%
Deep Well Turbine Pump						√			20%
Card Modernization						√			20%
Centrifugal pump							√		15%
Railway Diamond Crossing							√		15%
Salt Iodization Plant								√	20%
Pickup		√							15%
Mobile Workshop		√							15%
Modified Ambulance			√						15%
Prison Van					√				15%
Water Trailer		√							15%
Store Bin Van		√							15%
Medals for Awards	√								15%
Assembling of Bus					√				15%

Comments:

- Out of thousands of products manufactured by BMTF, these are new; meaning products have been introduced by the new management.
- Introduction of these products would not require any new production line; meaning there would be no requirement of large capital investment.
- The plan to introduce the new product shows the endeavor of the management to make BMTF grow with product diversity.

4.6 ASSET UTILIZATION

Table 14: Fixed Asset

Particulars	Value On 30 June 2006 in Taka	Accumulated Depreciation in Taka	Written Down Value on 30 June 2006 in Taka
1	2	3	2-3
Land 248.41 Acre	6,106,965.00	-	6,106,965.00
Building & Constructions	1,54,630,135.00	99,248,350.42	55,381,784 23
Installations	103,241,259.00	91,137,316.48	12,103,942.75
Plant, Machinery & Equipment	1,535 597,212.00	310,071,582 64	1,227,525,525,480.81
Furniture & Fixture	7,416,401.73	5,980 437.36	1,435,901.37
Office & Equipment	7,679,709.02	6 068,787.86	1,610,921.16
Transport vehicles	13,293,302.40	9,448,012.45	3,845,289.95
Others assets	5,687,950 67	5,297,614.50	390,336.17
Total	**1,835,652,785.69**	**527,252,101.71**	**1,308,400,683.98**

Fixed assets of BMTF on June 30, 2006

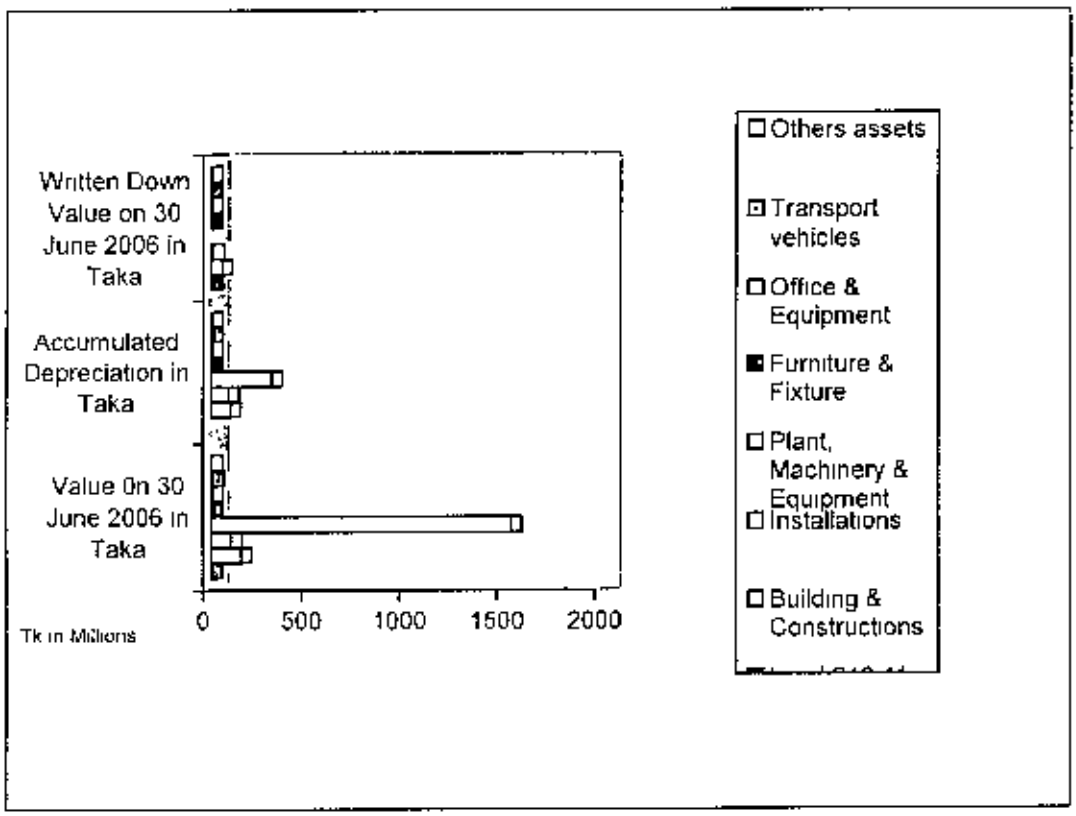


Fig - 33

Fixed assets of BMTF on June 30, 2006

Comments:

. Depreciation on Plant & Machinery has been charged @ 15% of normal rate of 5% that is at the rate 0.75% on written down Value (WDV) since inception. As a result there has been significantly under provision of depreciation charge on plant & Machinery is not being utilized to its full capacity, therefore depreciation has been at 15% of normal rate inespective of utilization of plant capacity at any rate. Consequently, operating has been overstated.

. Depreciation on plant & Machinery should be charged at the rate, because, depreciation charge depends not only upon capacity utilization but also upon other factors like.

- Normal wear and tear, affect of weather.

- Passage of time.
- Possibilities of obsolescence.
- Estimated life period of assets.

Current Assets as on 30th June 2006.

Table 15: Current assets of BMTF on June 30, 2004 to 2006

Particulars	Cost in Taka on June 30, 2004	Cost in Taka on June 30, 2005	Cost in Taka on June 30, 2006
Finished Goods, stocks & stores	1,80,038,693.72	192,193,456.79	183,065945.43
Debtors	72,362,383.76	57,729,408.99	93,028,083.81
Advances, deposits & prepayments	15,474,827.93	17,945,812.83	19,269,412.08
Cash & bank balances	1,56,534,940.85	199,155,091.96	254,920,671.60
Total	**4,24,411,846.26**	**467,023,770.57**	**550,284,113.92**

Source: BMTF Audit Report June, 2004 -2006

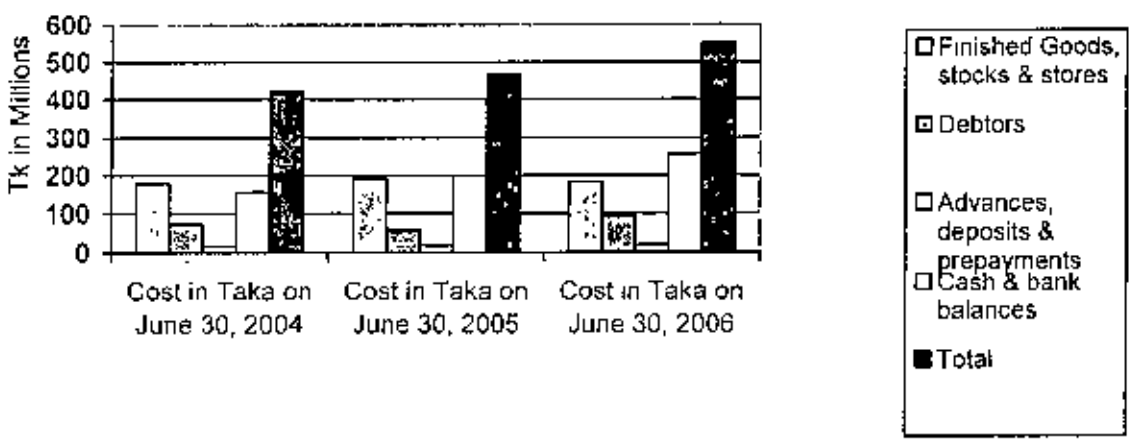


Fig 34

Source: BMTF Audit Report June, 2004 -2006

Interpretation and Comments

The figure of finished goods, stocks & stores is so high because there are raw materials and stores taken over form BSEC that are almost obsolete or very slow moving. Cost of these stores totals Taka 36,767,162 a fairly high amount to remain as

ideal in current asset category. The author could not locate these stores in any warehouse of BMTF. The management informed that these stores are spread over in small quantities here and there and no supporting document is available.

This high figure of BSEC stores is surely putting in negative pressure on asset related ratios, which would be revealed through subsequent analysis.

Intangible Assets as on 30th June 2006.

Table 16: Intangible assets of BMTF on June 30, 2006

Particulars	Cost in Taka 2004	Cost in Taka 2005	Cost in Taka 2006
Preliminary Expenses	1,08,070.00	1,08,070.00	1,08,070.00
Expenses on Management Control	1,68,785,319.13	1,68,785,319.13	1,68,785,319.13
Expenses on Technical Assistance	1,16,960,115.17	1,16,960,115.17	1,16,960,115.17
Deferred Revenue Expenses	1,12,584,230.54	1,12,584,230.54	1,12,584,230.54
Patent License	3,605,151.29	3,605,151.29	3,605,151.29
Total	**4,02,042,886.13**	**4,02,042,886.13**	**4,02,042,886.13**

Source: BMTF Audit Report June, 2006

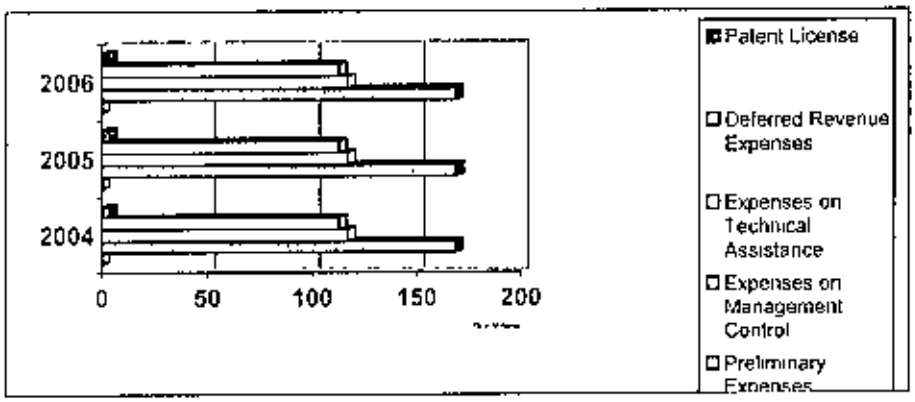


Fig – 35

Intangible Asset of BMTF

Interpretation and Comments:

The intangible assets represent deferred revenue expenditures which should have been amortized or adjusted and charged to Profit & loss Account every year. These items do not have any realizable value. But no adjustment or amortization has been made against these fictitious/intangible assets. Consequently operating profits have been overstated every year.

4.7 LIQUIDITY RATIOS

Current Ratio

Current Ratio is regarded as a crude measure of liquidity. Current Ratios of the years 2001 to 2006 are shown below:

Table 17: Current Ratio-2001 to 2006

Year Ending June	Current Asset in Taka	Current Liabilities in Taka	Current Ratio
1	*2*	*3*	*2/3*
2001	6,27,887,047.96	1,421,842,311.72	0.442
2002	3,13,145,542.67	8,55,897,238.28	0.366
2003	3,83,926,093.77	9,05,612,436.97	0.424
2004	4.24,411,846.26	101,601,124.89	3.779
2005	467,023770.57	93711236.73	4.984
2006	550,284,113 92	125,539,205.29	4.383

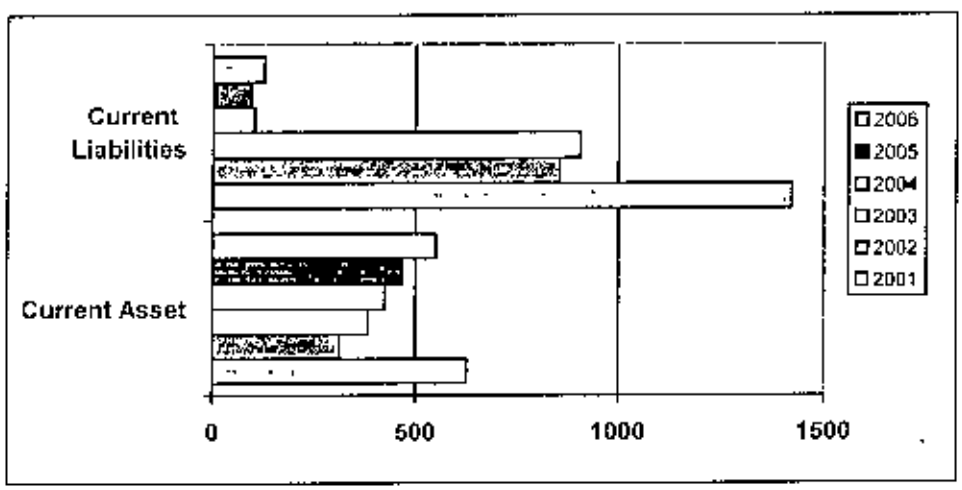


Fig- 36

Current Asset and Current Liabilities in graphical form

Interpretation and Comments:

Current Ratios of the last four years indicate that the firm has been fairly stable as far as dealing with current debt is concerned. But a current ratio less than 1:1 puts the company at a higher risk. The reasons for current ratio being so high is that there are raw materials and stores taken over from BSEC that are almost obsolete or very slow moving. Cost of these stores totals Taka 36,767,162 a fairly amount to remain as idle in current asset category.'

Quick or Acid Test Ratio

The quick or acid test ratios for the years under consideration are given below.

Table 18: Quick or Acid test ratios

Year Ending June	Current Asset in Taka	Stock/Inventory in Taka	Current Liabilities in Taka	Current Ratio
1	*2*	*3*	*4*	*(2-3)/4*
2001	6,27.887,047	174,120,000	1,421,842,311	**0.32:1**
2002	3,13,145,542	1,87,883,000	855,897,238	**0.15:1**
2003	3,83,926,093	1,97,543,643	9,05,612,436	**0.21:1**
2004	4.24,411,846	1,80,038,693	1,016,01,125	**2.41:1**
2005	467,023.770	192,193,457	93,711,237	**2.93:1**
2006	550,284,114	183.065,946	125,539,205	**2.93:1**

Quick Ratio-2001 to 2006

Data Source: BMTF Audit Report 2001-2006

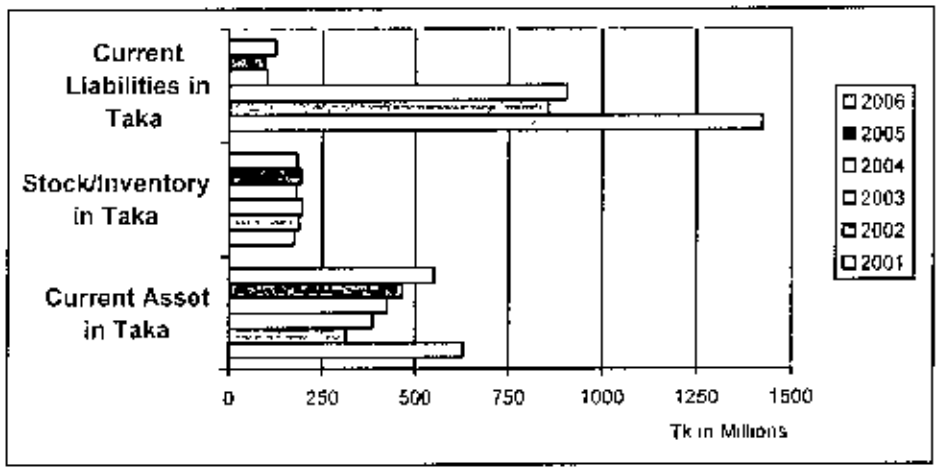


Fig - 37

Quick Ratio-2001 to 2006

Interpretation and Comments:

Though initially sinuous in nature, the recent quick ratio proves BMTF's increasing ability to meet its immediate debts and expenditure.

The latest quick ratio also eliminates any apprehension against current ratio. This also further clarifies the affect of huge idle inventory (taken over form BSEC) on the liquidity of BMTF.

Payable Turnover

Table 19: Payable Turnover

Year Ending June	Cost of Goods Sold in Taka	Accounts Payable in Taka	Payable Turnover
1	*2*	*3*	*2/3*
2001	12,612,957	41,247,479	0.31 times
2002	70,933,725	49,372,874	1.44 times
2003	1,30,861,960	69,956,697	1.87 times
2004	1,36,452,377	70,110,732	1.95 times
2005	125,692,756	88,805,177	1.41 times
2006	116,838,898	121,317,114	0.96 times

Payable turnover

Data Source: BMTF Audit Report 2001-2006

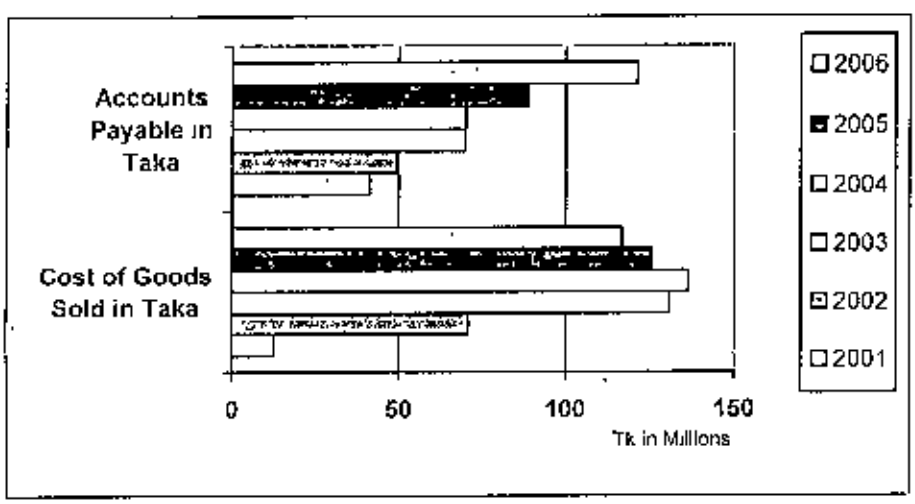


Fig - 38

Payable turnover

Interpretation and Comments:

Though growth of the payable turnover figure is encouraging, but still it remains far below the comfortable level

BMTF might not be meet credit terms of concerned suppliers that have financial benefits. As such, it would be unable to exploit opportunities for financial benefits by meeting the interest free terms of credits.

4.8 ACTIVITY OR UTILIZATION RATIOS

Total Asset Turnover

Table 20: Total asset turnover

Year Ending June	Net Sales plus Miscellaneous Income in Taka	Total Asset less Intangible Asset in Taka	Total Asset Turnover
1	2	3	2/3
2001	15,263,000	1,981,226,981	**0.007** times
2002	97,657,000	1,671,311,278	**0.058** times
2003	168,374,000	1,726,239,972	**0.098** times
2004	213,124,828	1,755,670,593	**0.121** times
2005	204,022,568	1,786,036745	**0.114** times
2006	204,193,297	1,858,684,789	**0.109** times

Data Source: BMTF Audit reports 2001-2006

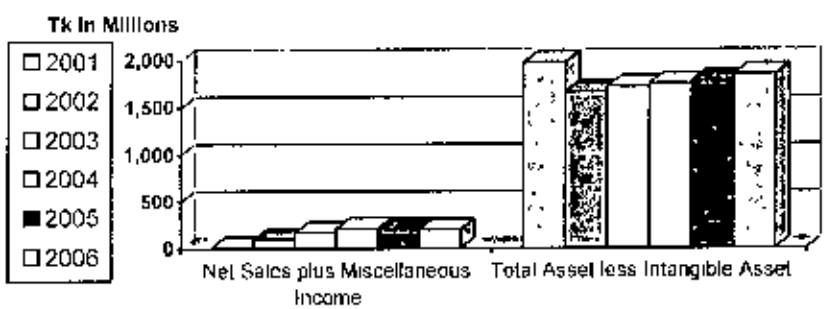


Fig – 39

Total asset turnover

Interpretation and Comments:

- Despite gradual increase in the total asset turnover of BMTF, the turnover figure of 0.109 times appears to be bitterly low. This also indicates that a huge portion of BMTF assets are not being used or cannot be used to the full capacity.

Fixed Asset Turnover

Table 21: Fixed asset turnover

Year Ending June	Net Sales plus Miscellaneous Income in Taka	Fixed Asset in Taka	Total Asset Turnover
1	2	3	2/3
2001	15,263,000	1,368,787,300	**0.011** times
2002	97,657,000	1,359,896,284	**0.072** times
2003	168,374,000	1,345,923,642	**0.125** times
2004	213,124,828	1,331,388,911	**0.160** times
2005	204,022,568	1,319,012,974	**0.155** times
2006	202,193,297	1,308,400,684	**0.1 times 55**

Data Source: BMTF Audit Reports 2001-2006

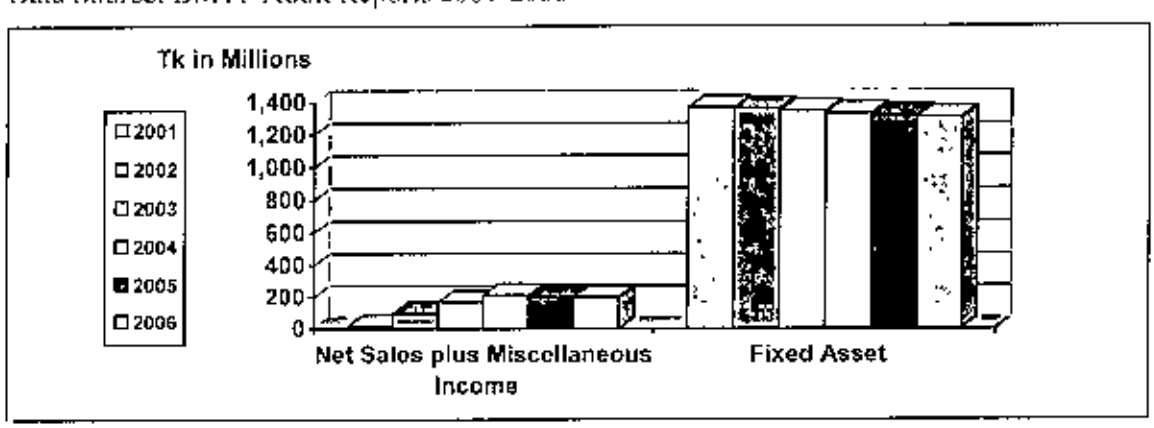


Fig – 40

Fixed asset turnover

Interpretation and Comments:

The increasing figures of fixed asset turnover for last 6 years indicate that BMTF is trying to alter its capital intensity relative to sales. But still the figure is far below ideal level and thus puts pressure on the fixed operating expenses.

Receivable Turnover

Table 22: Receivable turnover

Year Ending June	Net Sales plus Miscellaneous Income in Taka	Accounts Receivable in Taka	Receivable Turnover
1	2	3	2/3
2001	15,263,000	32,374,103	**0.47** times
2002	97,657,000	62,179,708	**1.57** times
2003	168,374,000	89,724,846	**1.88** times
2004	213,124,828	87,838,210	**2.43** times
2005	204,022,568	75,675,222	**2.69** times
2006	204,193,297	112,297,496	**1.82** times

Data Source: BMTF Audit Reports 2001-2006

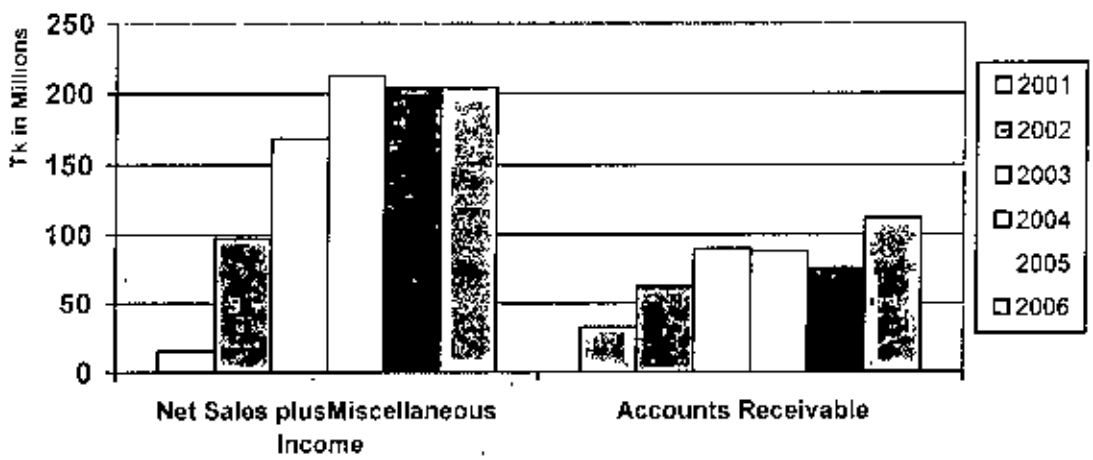


Fig-41

Receivable Turnover

Interpretation and Comments:

- Receivables are collected in approximately 5 months considering the latest figure of 1.82 times.

- This figure is not encouraging because a huge amount of cash is blocked in the hands of the buyers.

- Most of the buyers of BMTF are government organizations, as such the procedure of claiming and receiving bills is quite time consuming and lengthy.

Inventory Turnover

Table 23: Inventory turnover

Year Ending June	Cost of Goods Sold in Taka	Average Inventory in Taka	Inventory Turnover
1	2	3	2/3
2001	12,612,957	174,120,038	0.072 times
2002	70,933,725	187,882,645	0.378 times
2003	130,861,960	197,543,643	0.662 times
2004	136,452,377	180,038,693	0.758 times
2005	125,692,756	192,193,457	0.653 times
2006	116,838,898	183,065,946	0638 times

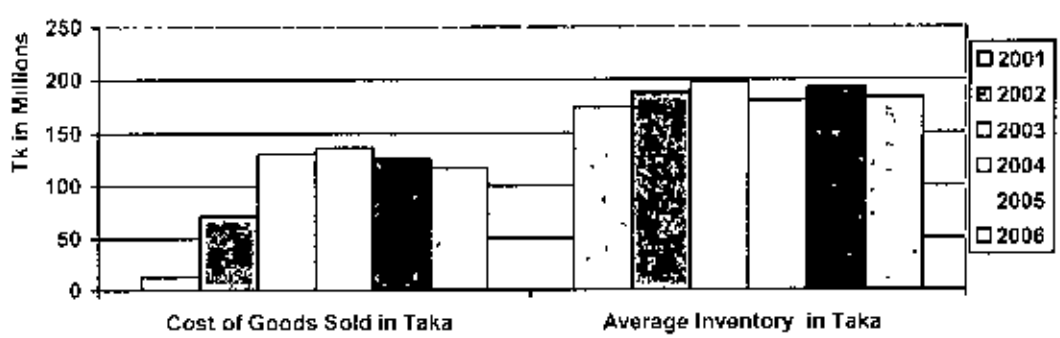


Fig- - 42

Inventory turnover

Interpretation and Comments:

Inventory turnover figure indicate presence of excessive inventory resulting from stores taken over from BSEC costing a large amount

4.9 FINANCIAL LEVERAGE RATIOS

Debt to Asset Ratio

Table 24: Debt to asset ratio

Year Ending June	Long Term Debt in Taka	Capital Employed in Taka	Debt to Asset Ratio
1	2	3	2/3
2001	131,144.797	975,285,080	13.45%
2002	88.589,797	1,217,597,599	07.75%
2003	84,985,123	1,226,150,054	06.93%
2004	66,302,248	2,056,242,519	03.22%
2005	41.632243	2,094,368,394	1.99%
2006	00	2,135,188,479	00%

Data Source: BMTF Audit Reports 2001-2006

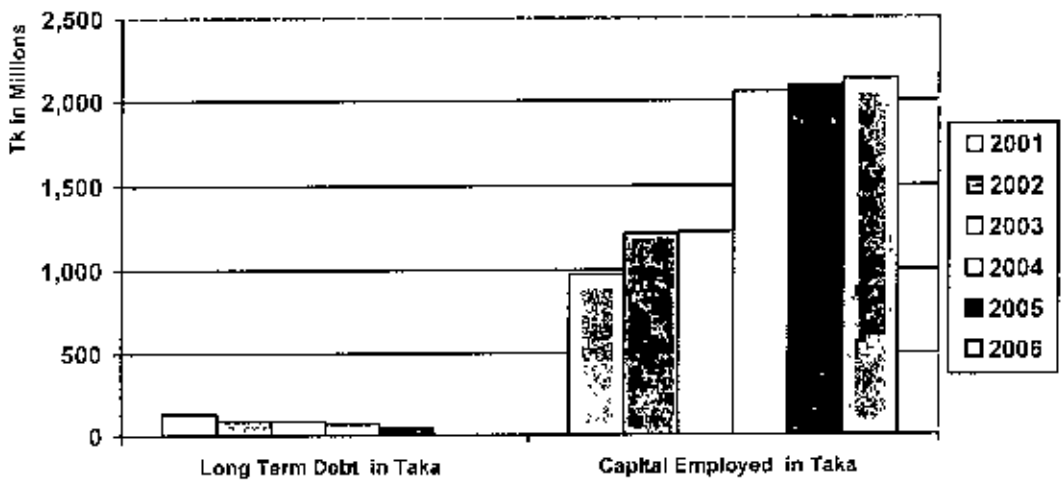


Fig – 43

Debt to asset Ratio

Interpretation and Comments:

The decreasing trend in the debt-to-asset ratio is the resultant of the long term government loan being converted to equity. BMTF now heavily relies upon equity financing. This keeps open opportunities for BMTF to borrow funds to meet unprompta requirement. This perhaps suits the nature of business BMTF is in. Impromptu tenders are frequent.

Equity multiplier

Table 25: Equity multiplier

Year Ending June	Total Asset in Taka	Common Equity in Taka	Equity Multiplier
1	2	3	2/3
2001	2,398,717,234	844,140,283	2.84 times
2002	2,075,084,713	1,129,007,802	1.84 times
2003	2,131,892,622	1,141,164,931	1.86 times
2004	2,157,843,643	1,989,940,270	1.08 times
2005	2,188,079,631	2,052,736,151	1.06 times
2006	2,260,727,684	2,135,188,479	1.06

Data Source: BMTF Audit Reports 2001-2006

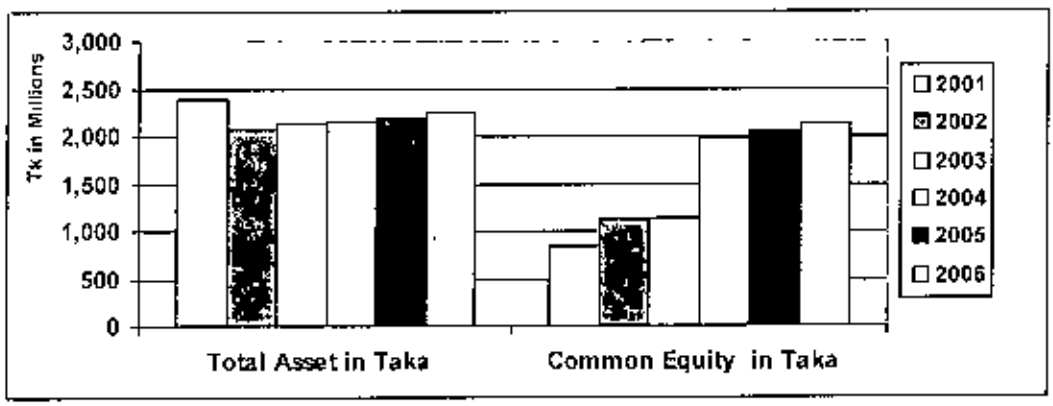


Fig- -44

Total Asset and Common Equity in Graphical Form

Interpretation and Comments:

The equity multiplier confirms the findings of debt-to-asset ratio.

Current State of Asset Utilization

According to the management, the utilization of assets stands as of now as under:

Table 26: Current state of assent utilization

Assent Description	Usage Rate	Remarks
1	2	3
Land	55.78%	138.58 acre in use out of 248.41 acre
Buildings & Constructions	55.00%	
Plant, Machinery & Equipment	15.00%	
Factory Warehouse	60.00%	
Cash available for long term deposits	100.00%	

Data Source: BMTF Audit Reports 2001-2006

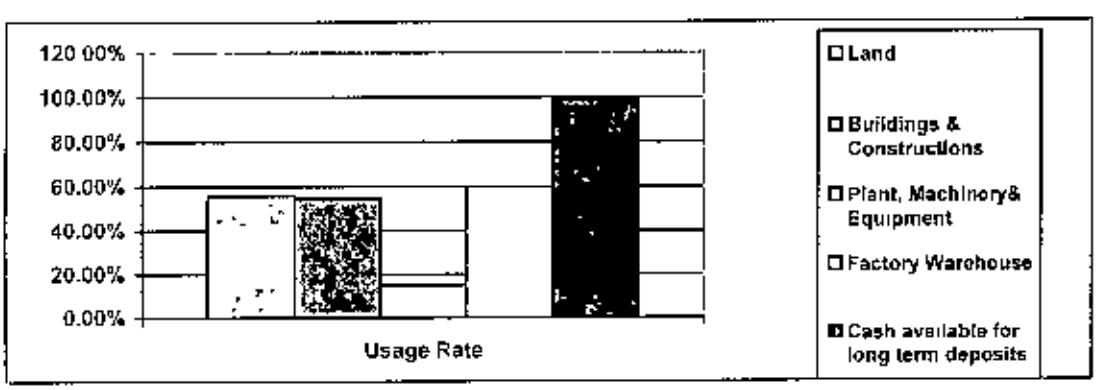


Fig 45

Asset Utilization

Interpretation and Comments:

- 84.83 acre of land is leased at an annual average rate of Taka 4,050 as cultivable land.
- 25 acre of land is occupied by Rapid Action Battalion (RAB) and being utilized as RAB Forces Training School. No rent is paid to BMTF.
- 45% of building and construction remains unused, not maintained, and as such deteriorating
- 85% of Plant and machinery capacity remains idle among 20% has become obsolete. That keeps 68% of the plant & machinery as idle.
- 40% of total warehouse capacity are kept either empty or as junk stores.
- About 14% of the long term deposits in the bands (Taka 21, 914,891.00) are with government owned banks. Average return on this amount is about 6.25% Average return from the rest 86% is approximately 8.50% .

4.10 PROFIT GROWTH

The growth or profit for the last 6 years of operation of BMTF is presented below:

Table 27: Growth of BMTF profit

Year Ending	Net profit/ (Loss)	Yearly	Yearly Percentage
1	2	3	2/3
2001	(20,652,127)	-	1st year in business
2002	4,291,293	-	First profit after recovery
2003	16,874,483	12,583,190	293%
2004	59,794,879	42,920,396	254%
2005	60,913,785	1,118,906	102%
2006	63,680,800	2,767,015	105%

Data Source: BMTF Audit Reports 2001-2006

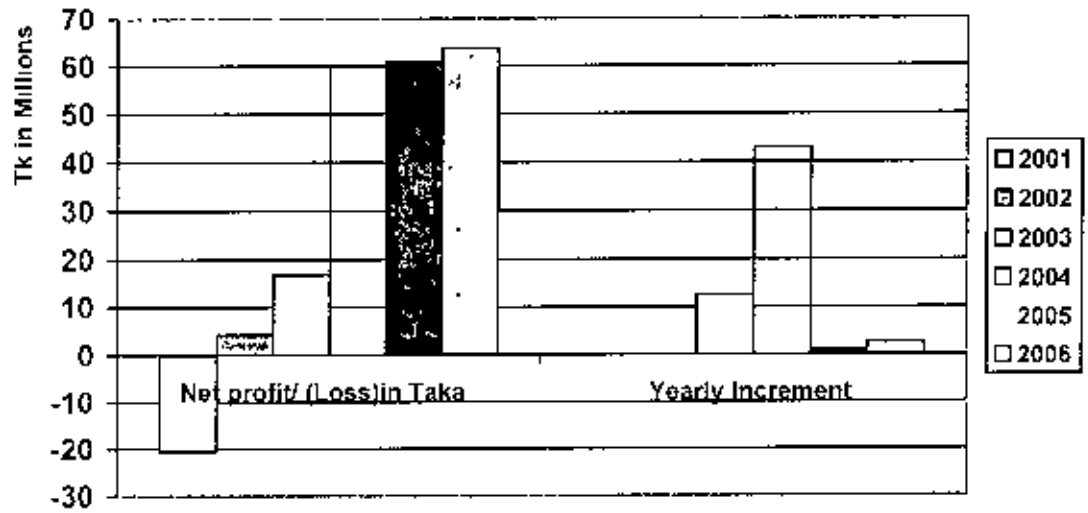


Fig – 46

Growth of Profit

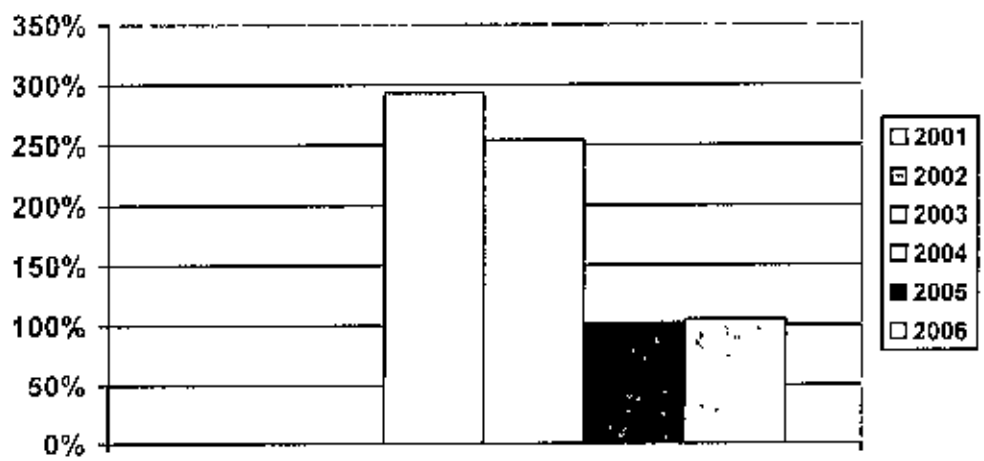


Fig - 47

Percentage of Growth

Comments:

- In the first year of business, the company incurred loss because:

- It was the first year of operation after the factory remained closed for 6 years.

- The management was new, inexperienced, and composed of military officers with no practical expertise in business.

- The market didn't know the existence of BMTF until the beginning of the next calendar year. As such, sales volume was low.

- Initial labours were semi or unskilled, so production was low.
- Refurbishment of production lines and facilities required quite a heavy expenditure.

- The Company recovered very quickly from the perceived setback of first year and earned commendable profit in the second year of operation. • The growth of profit is encouraging.

Profitability Ratios

Operating Profit Margin

Table 28: Operating profit margins

Year Ending June	Earning before Taxes (Taka)	Total Revenue (Taka)	Operating Profit Margin
1	2	3	2/3
2001	(20,652,127)	15,293,000	-
2002	4,291,293	97,657,000	4.39%
2003	16,874,483	168,374,000	10.02%
2004	59,794,879	213,124,828	28.05%
2005	60,913,785	204,022,567	29.86%
2006	63,680,800	202,193,297	31.49%

Data Source: BMTF Audit Reports 2001-2006

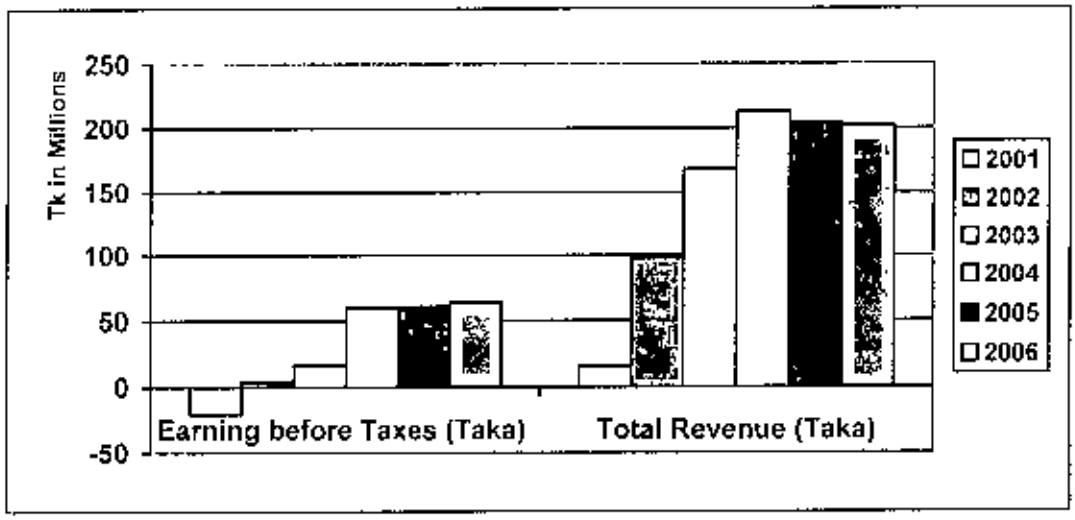


Fig – 48

Operating Profit Margins

Interpretation and Comments:

The operating profit margin figures indicate that BMTF has grown a strong ability to control operating expenses relative to sales, and is quite effective in using operating leverage

Net Profit Margin

Table 29: Net profit margin

Year Ending June	Net Income (Taka)	Total Revenue (Taka)	Net Profit Margin
1	2	3	2/3
2001	(20,652,127)	15,293,000	-
2002	2,682,058	97,657,000	2.75%
2003	11,538,337	168,374,000	6.85%
2004	44,124,562	213,124,828	20.70%
2005	38,071,115	204,022,569	18.66%
2006	43,468,356	202,193,297	21.50%

Data Source: BMTF Audit Reports 2001-2006

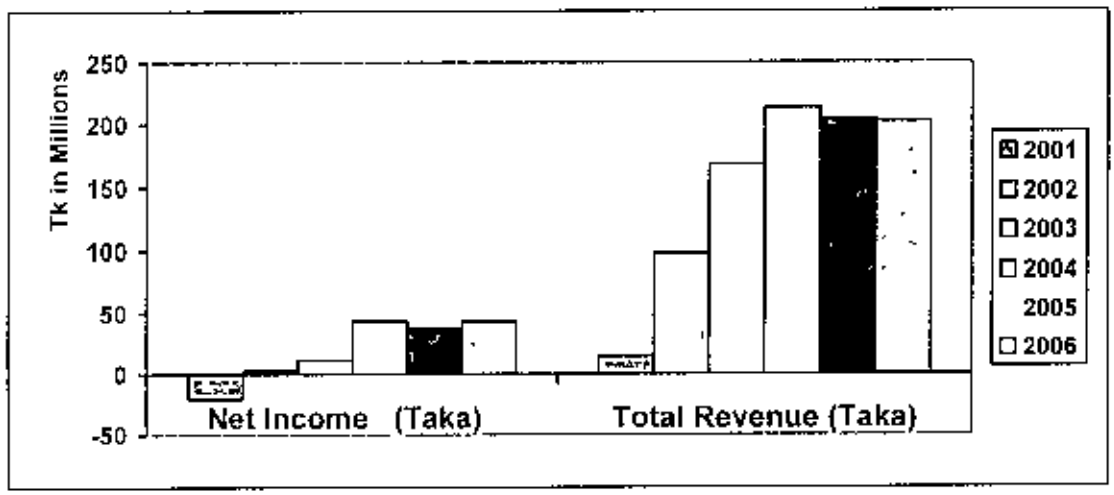


Fig- -49

Net Profit Margin

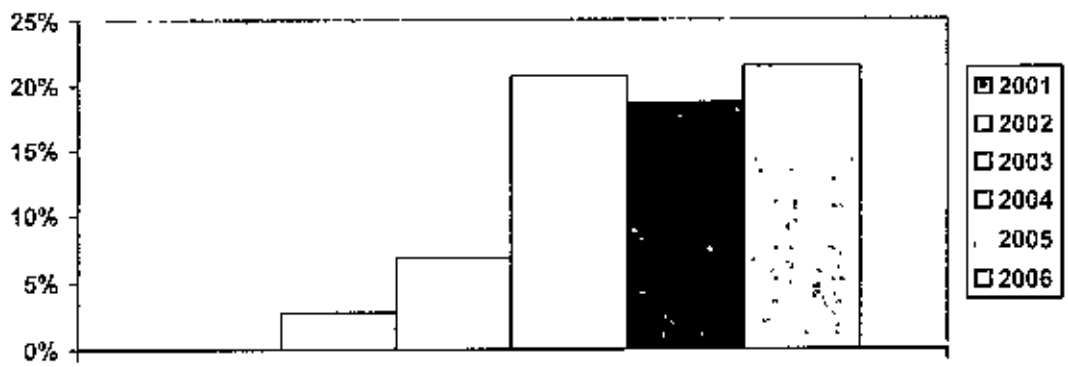


Fig- 50

Percentage of Net Profit Margin

Interpretation and Comments

- The net profit margins show BMTF s increasing ability to earn a handsome return after meeting tax obligation, the tax rate being as high as 37.50%
- Salaries of military personnel are not charged as cost of BMTF.

Rates of Return

Table 30: Operating Profit Return

Table 24: Operating profit return Year Ending June	Earning before Taxes (Taka)	Total Asset (Taka)	Operating Profit Return
1	2	3	2/3
2001	(20,652,127)	2,398,717,234	(-)0.86%
2002	4,291,293	2,075,084,713	0.21%
2003	16,874,483	2,131,892,622	0.79%
2004	59,794,879	2,157,843,643	2.77%
2005	60,913,785	2,188,079,631	2.78%
2006	63,608,800	2,260,727,684	2 82%

Data Source: BMTF Audit Reports 2001-2006

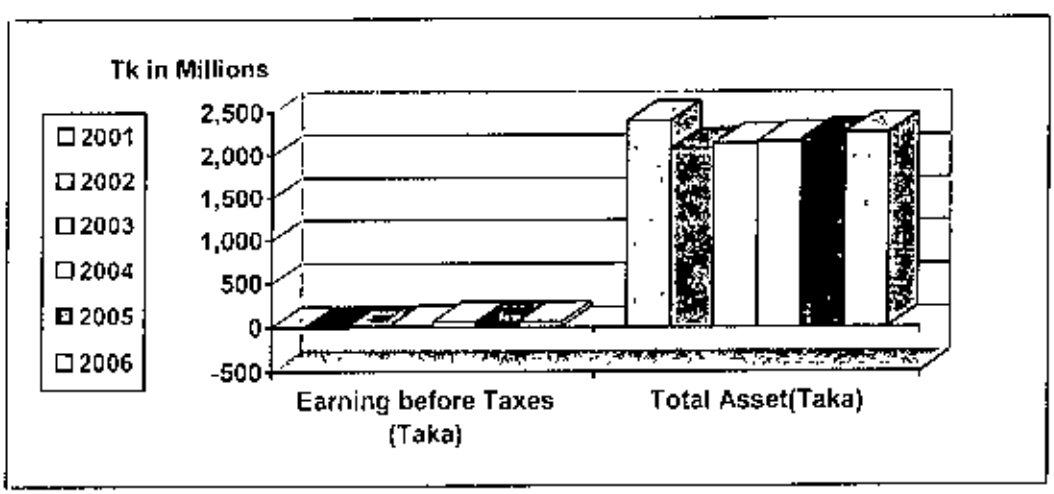


Fig – 51

Operating Profit Return

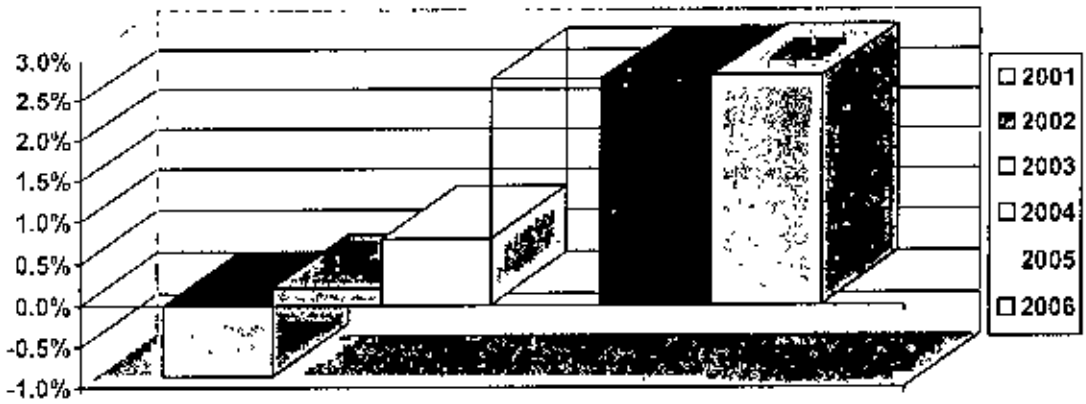


Fig – 52

Percentage Operating Profit Return

Comments:

- Operating profit return is growing rapidly, but is far below the accepted average. The industry average is approximately 10 %.

Return on Assets

Table 31: Return on assets

Year Ending	Net Income	Total Asset	Return
1	2	3	2/3
2001	(20,652,127)	2,398,717,234	(-)0.86%
2002	2,682,058	2,075,084,713	0.13%
2003	11,538,337	2,131,892,622	0.54%
2004	44,124,562	2,157,843,643	2.04%
2005	38,071,115	2,188,079,631	1.74%
2006	43,468,356	2,260,727,684	1.92%

Data Source: BMTF Audit Reports 2001-2006

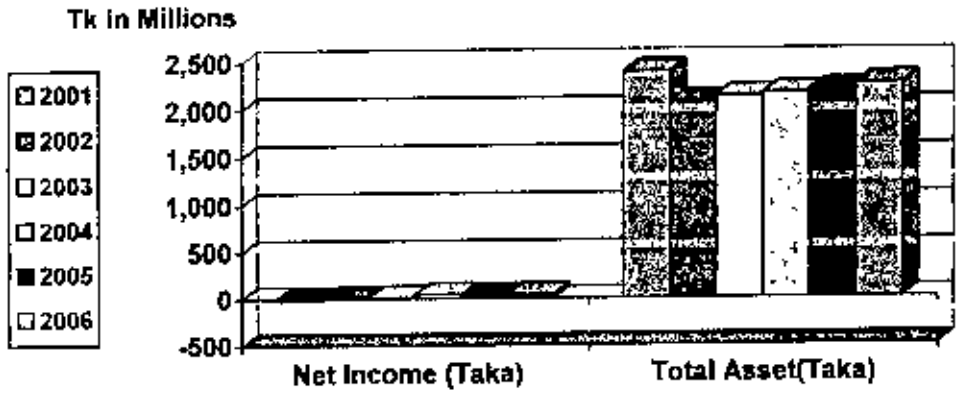


Fig – 53

Return on Assets

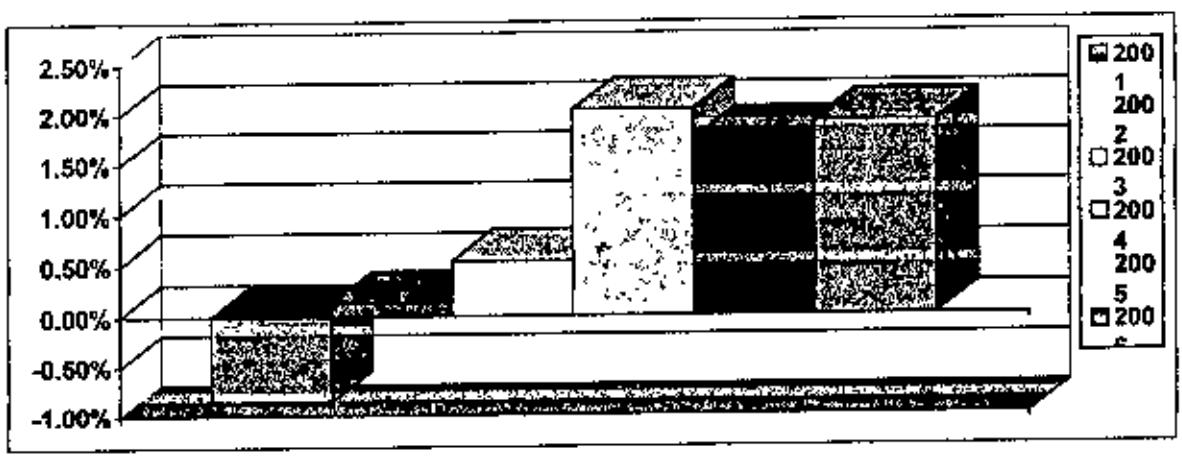


Fig – 54

Percentage Return on Asset

Comments:

- Return on asset is also improving commendably, but still is less than 40% of the industry average is about 6.0%

Table 32: Return on Equity

Year Ending June	Net Income (Taka)	Common Equity (Taka)	Return on Equity
1	2	3	2/3
2001	(20,652.127)	844,140.283	(-)2.44%
2002	2,682.058	1,129,007,802	0.24%
2003	11,538.337	1,141,164,931	1.01%
2004	44,124,562	1,989,940.270	2.22%
2005	38,071.115	2,052,736.151	1.85%
2006	43,468,356	2,135,188,479	2.03%

Data Source: BMTF Audit Reports 2001-2006

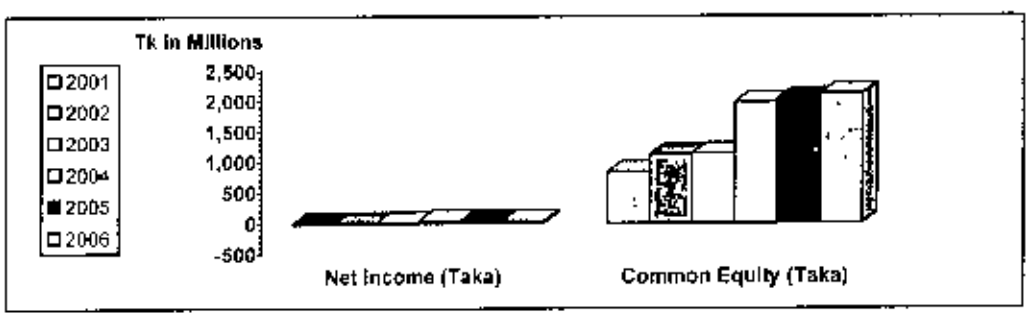


Fig – 55

Return on Equity in Taka

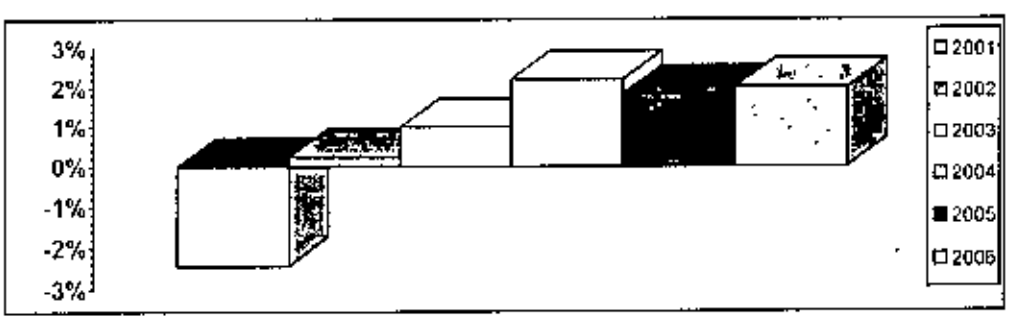


Fig – 56

Percentage Return on Equity

Comments

- Return on equity has enjoyed considerable growth in recent years. However, it still is far below the expected level. The industry average is about 12%

4.11 RISK ANALYSIS FOR BMTF

Following considerations have been given while carrying out risk analysis of 5 products:

- Cost of capital: 12%
- Company income tax: 37.50%
- State of economy.

Likely State	Probability of Occurring	Factors Considered for Arriving at the Probability of Occurring
Recession	.3	▫ Law and order situation. ▪ Political instability. ▫ Parliamentary election 2008 and its likely aftermath. ▫ Price hike of raw iron/steel.
Status-quo	.4	
Moderate Growth	.2	
Rapid Growth	.1	

Net Present Value (NPV), Internal Rate of Return (IRR) and Pay Back Period:

Table 33: NPV, IRR & Pay Back Period

			NPV (Million Taka)	IRR	Pay Back Period
Initial Cash Outlay	Year 2000	Million Taka (243.31)	13.09	12.97%	6 Years
Yearly Risk Adjusted Cash Inflow	2001	(16.52)			
	2002	29.18			
	2003	33.57			
	2004	59.88			
	2005	71.29			
	2006	74.85			
	2007	63.62			
	2008	65.80			
	2009	73.48			
	2010	80.83			

Data Source: BMTF Audit Reports 2001-2006

Interpretations and Comments:

- Cash inflow up to year 2006 is actual, the rest are estimation based on the revenue forecast and approximate future budgets of BMTF.

- The main problem in the computation of NPV and IRR was determining the initial cash outlay. The management insists that the initial cash outflow was only due

to the refurbishment of the plant or existing production line. Since new management took over the company from BSEC with all the assets, as such no incremental cash outflow was required to go for production except the cost of refurbishment or renovation of the machinery that remained shut down for 6 years. However, the management agreed to include the current asset, less stock and stores, as initial cost of the project. The management is convinced that the cost of the machinery and equipment should be considered as sunk because it is irrecoverable.

- The NPV figure of Taka 13.09 million is not encouraging as per the authors opinion as the plant and machineries' actual cost have not been considered by the management for risk calculation.

- The cost of capital 12% appears to be fairly low considering the interest rate behavior in the economy of Bangladesh. However, if BMTF is truly able to borrow at 10% from The Trust Bank Limited for the entire period under consideration, then this percentage remains to be pragmatic.

to the refurbishment of the plant or existing production line. Since new management took over the company from BSEC with all the assets, as such no incremental cash outflow was required to go for production except the cost of refurbishment or renovation of the machinery that remained shut down for 6 years. However, the management agreed to include the current asset, less stock and stores, as initial cost of the project. The management is convinced that the cost of the machinery and equipment should be considered as sunk because it is irrecoverable.

- The NPV figure of Taka 13.09 million is not encouraging as per the authors opinion as the plant and machineries' actual cost have not been considered by the management for risk calculation.

- The cost of capital 12% appears to be fairly low considering the interest rate behavior in the economy of Bangladesh. However, if BMTF is truly able to borrow at 10% from The Trust Bank Limited for the entire period under consideration, then this percentage remains to be pragmatic.

CHAPTER 5

SWOT ANALYSIS OF BMTF

5.1 Strength.

Efficient Management to Achieve Higher Profit from BMTF

Human resource management is the key element of an industry to make it viable. It is well known to all that army personnel, means defense forces are well disciplined in all fields of their works. Though, army is not a business-oriented organization even that they do it with sincerity, honesty and dedication as they practice it through training. All these factors they applied in the field of BMTF works with utmost dedication and devotion to maximize factory profit by using limited resources and manpower endorsed.

In the battlefield, army prepare a checklist to ensure that whatever they should do, they do it in time and in correct sequence, order and places. Correct orders or phases are also important elements to make it a success. In the business sector, it has been followed in correct orders and in time.

The main job of the management team is to formulate business strategy, policy, plan, and promotion, establish relationship, execute plan, coordinate, monitor, find out faults and rectify those with remedial measures. It was reported that all these steps are being followed by management body of BMTF due to their inherent practices in the day-to-day life in the professional areas.

Technical Efficiency and Increased Production

In all industries, developed technology is one of the key elements of success to earn higher profit. World is moving very fast, especially in the field of technological development. It is the technology, which can give maximum out put with minimum efforts. Comparison can be made between electronic typewriter and personal computer. Though, people with higher efficiency, working in electronic typewriter, cannot in any way work more than a person working with the desktop computer. However people with more skill having working facilities can achieve higher output. BMTF, under army management and with that of technological development have shown an excellent performance which was not being in BMTF in pre-army period. Following are the achievement of BMTF during army management period.

- Assembling of 3 Ton truck from Completely Knock Down (CKD) to Completely Build up Unit (CBU). It was not done earlier. As a case of product diversification, army management finds out this product diversification and implemented it in the field. Employees have been trained and motivated in this field and now working very hard to maintain quality and delivery schedule. Need not to mention here that this is another new lifeline for BMTF created by present management to survive.
- Assembling of 1 Ton pickup from CKD to CBU.
- Modification of 3 Ton Truck into a mobile workshop for use of defense personnel in the battlefield.
- Modification of 3 Ton truck into a store bin body for use of defense personnel in the battlefield to carry all fast moving spare parts of military transport.
- Modification of 1 Ton truck into Ambulance to carry patient.
- Manufacturing of Language trolley for civil aviation to use in Zia International Air port, Bangladesh.

- Manufacturing of MCI by utilizing new technology to speed up as well as to maintain high quality for Bangladesh Railway.
- Casting methods of aluminum products have been changed to maintain high quality products as well as speed.

The above items have been explained to mention technological improvement taken place in BMTF after undertaking in army management. On the other hand, it would not be exaggerated to mention that the setting of existing machineries and equipments have been rearrange to facilitate the production, so that, a single item need not to rotate all different shops to complete that item. As a result, it saves time, labour hour and production cost. It has been observed that equipment and machineries required related to PDB and REB job, accumulated in forge shop. So, one supervisor can control, monitor and supervise all items going to the shop without losing any time and efforts thus reducing cost as well.

Managerial Efficiency and Higher Profit

It is the management of an organization who controls the human resources development: maintain coordination between technical personnel, field worker, financial personnel and other public relation organization. Main responsibility lies with the CEO of an organization who plays a vital role in all activities.

In BMTF, Managing Director exercised his power up to floor level through Deputy Managing Director and five General Manager. According to the channel of command and in build relation have been established among Managing Director, Deputy Managing Director and all General Manager, which is a very basic and primary requirement to run smoothly, a factory like BMTF.

During the time of previous management there were a lack of coordination, monitoring and understanding. Management, staffs and workers relation were unhealthy.

Economic Efficiency

Huge amount of raw materials was stored in the godown as idle, at the time of previous management. It incurs huge financial cost. Approximate costs of those stores were Tk 600.00 lacs where as BMTF took loan from different commercial bank with higher interest rate. Interest rate increases continuously like an unruly horse. It was another cause to loose continuously.

Currently, present management team maintaining a reasonable inventory stock basing on present requirement to reduce financial overhead. Raw materials are purchased well in advance, basing on the basis where BMTF has become lowest in the tender. For this advance planning, now, BMTF can deliver goods to the user end in schedule time avoiding unnecessary L.D. which created unpleasant environment in the past.

Products of BMTF to Capture Higher Market Share

BMTF was designed to produce spare parts of cement, fertilizer, garments, jute industries and, PDB, REB line hardware, cutting and drilling, agriculture and BDR products to support other industries. These might be a unique market for BMTF.

Production Capability

BMTF owned 942 numbers of different kinds of machineries which can produce required products basing on design and samples as demanded by customers. As it is mentioned earlier, BMTF is not for, to earn profit but to support other industries to run smoothly to utilize wealth and to save foreign currency. With the available trained and skilled manpower, BMTF was capable (capacity of BMTF attached as appendix 'D') to undertake various jobs of different organization

BMTF Linkage Products and Organization

BMTF is capable of producing goods for REB, PDB, BDR, fertilizer, cement and garments factory, army and other different industries in the local market. It is technically, commercially and financially viable to have a joint agreement with the following organizations. It would not be a problem for BMTF, with proper persuasion

and blessing from government if all organization cooperate and extends their hands to five works to BMTF with negotiable price.

Table 34: List of linkage products and organizations

Sl. No.	Organizations	Products
01	BMTF - Bangladesh Railway	i) Points and Crossing ii) Crossing Body iii) Trap Switch iv) Dog Spike v) Anti Creep V-Anchors vi) Elastic Spikes vii) Screw couplings viii) Swing hanger ix) Coupling Draw Bar
02	BMTF – PDB	Earthing Rod, Pole fittings, Line Hardware.
03	BMTF – REB	Line Hardware materials
04	BMTF - Bangladesh Army	i) Assembly of 3 Ton Isuzu GS Truck ii) Assembly of 1 Ton Toyota Pickup iii) Assembly of 1/4 Ton Jeep Toyota Brand iv) 250 Gallon Water Trailer v) Service Meddle vi) Fabrication of Special Vehicle a. Mobile Workshop b Store Bin Lorry c. Ambulance d. Fuel Tanker e Water Tanker
05	BMTF - Fertilizer Company	Supply of spare parts
06	BMTF – Garments	Supply of spare parts
07	BMTF - Telephone Shilpa Sangtha	Supply of Line Hardware

08	BMTF - Cement Factory	Supply of spare parts & Grinding Ball
09	BMTF – BISF	Supply of Insulator Pin 11/33 KV

Integrated Strengths

BMTF has to serve its customer with quality product and in time delivery. For that reason, strict policy has to be followed by all respect. This policy, quality control and strategy help BMTF to build competitive advantage in favour of BMTF. Some integrated Strengths of BMTF are as follows:

- Trained and skilled technical manpower to produce quality products.
- Assembling various type of vehicles.
- Pattern making by wood, mild steel product, aluminum and sand molding.
- Small and Medium scale engineering tools and equipment.
- Die making and stamping.
- Heat treatment for bath forged and machined component by utilizing gas or electric furnace.
- Surface treatment facilities (Copper, nickel, chrome plating nitrating, galvanizing etc.)
- Iron Casting (Light)
  - -Small cast Iron casting.
  - -Non-ferrous casting.
  - -Pressure-die casting.
- Iron casting (Heavy)- Heavy cast Iron casting.
- Gear cutting including shaping, robbing, grinding and testing.
- Precision machining like copy turning, copy milling, Surface grinding.
- Jig-Fixture and gauge- Jig boring.
- BMTF has integral chemical and physical testing laboratory where all types of testing are being carried out of it's product to maintain high quality to satisfy customer and earn customer confidence.

- Quality control of out going product being carried out by quality technical person. Some times, testing carried out in presence of representative of user to assure quality. In the laboratory, facilities are available are:

  -Mechanical Testing.
  -Chemical Analysis.
  -Micro-Structure
  -Pump Test-Bench
  -Hydro-Dynamometer for testing of small engine.
  -Use of international standard precision quality control instruments in the production process.

- Pre-delivery and quality assurance carried out by technical personnel of BMTF.
- The salary and other administrative expenditure of defense personnel are born by Bangladesh Army thus production cost of goods is lower than competitors. But from financial year 2003-2004, the expenditure born by Bangladesh Army will be kept in separate head to find out actual profit.
- BMTF has technical know-how, different testing laboratory, available facilities, instruments and field oriented qualified personnel to train unskilled manpower on the following fields:

  -Management.
  -Training on Computer.
  -Training on vehicle assembly.
  -Training on welding, machining, cutting, bending, sharing.
  -Training on painting and surface treatment.
  -Training on molding, forging and die making

- Government of Bangladesh has soft corner for BMTF to make it a viable Industry under management of Bangladesh Army. On other hand, Armed forces has extra ego not to be defeated any sector once responsibility invested on them.

- BMTF at present, financially strong enough to handle any project up to Tk 50 crore. More than that the Trust Bank ltd always ready to support BMTF.

- Currently a strong, sound and efficient management team working at BMTF having clear vision, mission, corporate goal and business strategy.

5.2 WEAKNESS

Lack of experience

Bangladesh Army has provided the basic structure for management. They are from the Corps of Electrical and Mechanical Engineering, Corps of Engineers and Ordnance etc. These persons are not experienced on business matter. Operational management is a critical functional area within every enterprise. This area must be emphasized in order to maximizing value.

Lack of technical experts

Officers, posted from The Army, do have engineering background. However, product design and process selection, quality management, forecasting, capacity planning, job design and work management, waiting-line management, etc require a little more than from merely being engineering background. Technical experts at lower level of management and at the work force level are also imperative for maintaining competitiveness, smooth production and minimizing costs. Existing rules, regulations, instructions from Bangladesh Steel and Engineering Corporation (BSEC) are partially suitable but needs to be amended by experts. A firm namely Bangladesh Institute of Marketing and Research (BIMR) was detailed for the purpose. The firm could not complete the assigned task due lack of knowledge and experience.

The skill level of technical experts at lower level of management and at the work force level is not satisfactory. Few old efficient technicians are working on temporary

basis and during their absence the production suffers. There is need to prepare substitutes of old technicians

Lack of financial experts

The modern-day financial manager is instrumental to a company's success. The broad domain of financial manager today includes (1) investment in assets and new products and (2) determining the best mix of financing and dividends in relation to a company's overall valuation. In BMTF, engineers dominate the present setup. As per existing policy BMTF maintains company account as per BSEC rule and regulations, which is very complicated, voluminous and lengthy. Maintaining industrial account is a complex, tedious and professional job. DGM (accounts) is an army officer who is an MBA But his limitation is the lack of experience of working in such industrial enterprise. So, a professional financial expert should be replaced to turn BMTF into a prospective organization.

Lack of marketing experts

Marketing is one of the most dynamic fields within the management arena. Marketing was a grey area for BMTF before closure and it is also not being looked after well This aspect needs careful consideration and employment of qualified persons in the marketing department. The officers posted to this marketing and sells section are from infantry/armoured corps who are not even MBA qualified. The other staffs are not professionals from this field. No effective marketing efforts for finding potential markets have been made. Even some employed marketing agents are not effective. M/s. JONY CORPORATION LIMITED was given the responsibility on 18 March 2003 to promote BMTF but they miserably failed. Later one M/s. Tradepac Venture appointed as marketing and promotional agent for BMTF on 22 April 2004, but could not show any progress.

Posting criterion

Posting to BMTF should be based on individual's qualification and experience. It has been observed that many of the postings were ordered on compassionate ground. It is also noticed that a few of the posting have been ordered to meet individual's requirement of a posting close to Dhaka before retirement. In certain cases it was observed that officers posted to BMTF were sent to attend various military related professional courses. Absence of an officer from the marketing and production related field affects its performance.

On the other hand the officers posted here are mostly engineers from the EME corps, but they take time to be oriented with the production engineering matter. Again by the time they become experienced they are posted out and the system suffers. BMTF at this stage of rebirth would require qualified and dedicated professionals and technical officers for long time.

Duration of MD

In any organization for better management and efficiency, key personnel needs to stay in that organization quite a reasonable duration to achieve targeted output, formulate strategic policy, mission, vision, corporate goal and implement all the desire activities. Even highly qualified personnel needs some time to orient him with the institutional environment. With the passage of time, the person acquired some knowledge on machineries, product diversification, procurement system, marketing of products and proper utilization of corporate wealth. Once he/she acquired required working knowledge on business, then he/she was posted out which was considered as great loss for the institution. It has been observed that within 13 years eight MD were posted out without giving advantage concentration to their duties. During present time, within 4 years, 04 MD's were posted out which hampered efficiency.

Planned and Installed Capacity

BMTF is a facility-oriented factory. It is not designed as product oriented. Accordingly, huge numbers of different types of imbalanced machineries were

installed which could never attain its estimated capacity. From the very beginning, attainable capacity was very low from its estimated/planned capacity as per project performance. It is another reason of being a loosing concern organization. Existing machine efficiency was lower then its planned one, thus production cost was high due to excessive overhead and lower output. However, installed/planned and attainable capacities are shown below

Table 35: Planned/Installed and attainable capacity

Product	Unit	Planned Production capacity	Installed capacity (Actual)	% of planned capacity
Casting	M.T	12,000	6,390	53%
Forging	M.T.	2,500	1,062	43%
Machining	Machine Hrs	945,000	476,282	50%
Assembling	Labor Hrs	130,000	40,000	31%

From the study it was found that there were about 68 machineries like Bench Drill Machine (ADAM), Column Drill Machine (ACHIRA), Gear Grinding Machine (MAAG), Abrasive Barrel (KOVO FINISH), Riveting Mechanical Press, Double Disc Sanding Machine (FROMIA) never been used and there is no possibility either to be used in the distant future. The book values of those machineries were 1320.40 lac (Hamed 1987). It is therefore suggested that these machineries may be considered for immediate disposal to reduce the burden of overhead and production cost.

Lengthy Procurement System

BMTF follows the purchase manual of BSEC and PPR 2003. According to these regulations the purchase becomes complicated and lengthy. Valuable time (2-3 months) is lost in tendering and processing for the raw materials to be imported for actual production. BMTF normally gets 3-5 months to complete a contracted job. So the factory looses 2-3 months before starting production.

.Old Machineries

BMTF is having the machineries installed in 70s and 80s. These machines and equipment have become old, worn out and outdated. The precision jobs and bulk production with these machines are not possible. Their functions are unreliable and unpredictable. The machine failures cause delay in completion of jobs within schedule.

No Line Products

BMTF does not have line products to meet definite demands of customers. But it can produce any hard ware product if design, drawing or samples are available. As such BMTF has to seek for jobs throughout the year against tenders. It seldom gets direct work orders from government/ non-government sectors. Again due to poor marketing activities the yearly job schedule and preparation of estimated budget become difficult

Absence of HRM/MIS

The activities of HRM are not fully functional or practiced. The only TTC is closed now and authority would not be able to replace and recruit new technicians. On the other hand BMTF has not yet organized or designed MIS. BMTF does not even possess the know how to upgrade the MIS. So the poor information system is greatly contributing to poor performance. The MIS is yet to be effectively collected, stored, retrieved, updated and use data and information from the shops to BMTF head office level. Raw materials as well as product level data recording and updating is found to be absent.

Lack of Professionals in Quality Control

BMTF lacks in proper professional in quality control. The proper quality control of raw materials would give exact quality product. BMTF also lacks in proper testing instruments and facilities. Most of the testing and quality control facilities are not functional.

Absence of Proper Organizational Setup

The organization of BMTF have not yet been prepared and approved. As such the employment of temporary workers could not be regularized and the recruitment of officers and professional could not be made. Resulting Employees fear due to lack of job security

State Owned Organization

BMTF is a state owned enterprise. Like other state owned enterprise BMTF has number of weakness, which place it in a disadvantageous position. BMTF is abides by and follows government rules and regulations in respect of purchase, expenditure policy, strategic view, development of human resources management, salary and other remunerations. The mentionable weaknesses are:

- Slow procurement procedure according to public procurement
- Regulation 20003 and purchase manual of BSEC.

- Overhead expenditure is relatively higher.
- Slow and sometimes overshooting the delivery time.
- Poor arrangement after sales service.
- Adding depreciation cost for all available machineries in BMTF in the quoted price though all machines are not used for a specified job.
- Thus resulting higher production cost.
- Poor promotional management.
- Poor market survey to find out demand for any product.
- Less initiative to developed new product.
- Output depends on contractual amount

5.3 OPPORTUNITIES

It is something which offers competitive advantage and incorporates avenues of growth. also from exploiting internal activities as well. Opportunities for growth and profit can be found from external factor and trends. Business growth i.e. sales and profits can be increase through backward, forward and horizontal integration within its industry. BMTF currently provides some opportunities for growth which are illustrated below.

- **Asset utilization.** BMTF has got enough covered and open space. facilities, resources available to increase growth.

- **Company growth.** Company is making a profit from last four years and increasing its growth rate. It's positive indication to survive in the competitive market.

- **Consumer trust.** BMTF is presently run by army management. Most of the people of Bangladesh have got faith on army management and its quality products. So, mass peoples are automatically allured to BMTF.

- **Human resource.** About 20% of employees are from BMTF local area. Thus they can serve BMTF with less remuneration and more affection to the company with dedication.

- **Suitable environment.** Presently BMTF is run by army management where strict discipline being maintained. It gives maximum working time for production. It is free from political and labour unrest which provides smooth working environment with higher efficiency.

- **Bureaucracy.** The government bureaucracy plays a vital role in production management in any state owned enterprise. As it is run by army management, it almost free from bureaucracy. On the other hand, army some times takes

more time to take decisions and implement the policy. Still, it is better to run by army management to speed up production.

- **Maintenance.** At present the plant, equipment and machineries maintenance are better than the previous management. All machineries being maintained periodically to keep its efficiency up to standard level. It was lacking in past. Different shades and structures being maintained to increases durability.

- **Reduced Overhead Cost** Personal working from defense forces being paid out of defense budget thus reducing production cost of goods.

- Workforce skill and Semi-Skilled Civilian workers being employed as temporary daily labors basing on task.
- Facilities excess shades used as sources of income by renting to different organization to minimize cost.

- **Potential Stake holders.** Since BMTF can manufacture specialized items for Bangladesh Railway, PDB, REB, Bangladesh Army, Cement and jute Factories which are mostly state owned organizations. Unfortunately due to the existing corruption those organizations are reluctant to place demand to BMTF since the officials do not get their undue advantage. Now prevailing situation created an opportunity to explore the above mention customer which can make BMTF a viable organization within a shortest possible time.

5.4 THREATS

It is a factor of competitors which posses threat to BMTF. BMTF should take adequate measure to guard against it. These factors may be internal and external like, technological, political, socio-cultural, customers, competitors, distributors and suppliers. The likely threats are:

- Entry of foreign competitors with low cost.
- Incorporation of better/new product by rivals.

- Cheaper technology adopted by rivals thus reducing production cost.
- VAT and IT incorporated by Government with respect to foreign goods imported by agent in the lower cost.
- Political unrest of the country thus hampering production in comparison to foreign country.
- Sudden rise of raw materials cost thus incur huge loss in comparison to foreign country.
- Competitors involved in unfair deals with management team of the user group.
- Smooth and speedy procurement system of the private sectors without VAT and IT.

- Unfair activities by private sector regarding payment of gas and electric bill.
- Private sectors not following labor rules strictly.

CHAPTER 6

WORKING ENVIRONMENT IN BMTF

6.1 General Information

Very general type questions like job satisfaction, development of skill manpower, contribution to nation, livelihood, and socioeconomic condition had been asked to stakeholder to know environment of BMTF. All stakeholders with interest and few showed some logic about reply.

Table 36: General Information about BMTF

% of stakeholders reported

Sample Stakeholders	Sincere about time and duty	Satisfied with job in BMTF			Suitable working environment	acquiring adequate knowledge and skill through job in BMTF			Contribution for the Progress of BMTF			Improving living standard		
		Yes	Moderate	No		Yes	Little bit	No	high	little amount	moderate	Yes	little bit	No
Wage labour	90	75	25	-	100	100	-	-	60	40	-	77	33	-
Supervisor	67	78	22	-	100	44	44	-	67	33	-	33	66	11
High official	86	14	57	-	86	57	43	-	29	43	28	-	-	-

Time and duty

It was reported that 67-90% stakeholders expressed their views that most of them are punctual, sincere, dedicated and maintained time.

Job satisfaction

More than seventy five percent stakeholders (wage laboures and supervisors) opined that they are satisfied with their present job in BMTF. On the other hand 14% high officials are satisfied. 57% are moderately satisfied and rests 29% are not satisfied with their present job.

Suitable working environment

From 86%-100% stakeholders reported there was a suitable working environment to work in BMTF under new management with honesty and sincerity.

Acquiring adequate knowledge and skill

From the Table 35 it was found that 100% wage labours were benefited to gain knowledge, skill and self-confidence through work. About 44% supervisor level stakeholders reported that they were benefited, but 44% earning little knowledge. On the other hand, 57% high official are benefited and 43% little bit benefited.

Contribution to progress of BMTF

Table 35 shows that 52% stakeholders were involving in progress of BMTF 39% had less involvement and 28% high officials were moderately involved.

Improving living standard

Seventy seven percent wage labourers. 33% supervisors have improved their living standard by working in BMTF. About 50% wage labours and supervisors reported that they had improved their living standard moderately with the involvement in BMTF.

6.2 Key Information

Technical and management type questions had been asked to stakeholder. They took it seriously to developed BMTF through their suggestions. Logic and arguments were put forward by them to implement it for betterment of BMTF. Employees were happy and felt elevated that their suggestions were taken into consideration.

Table37: Key Information about BMTF Ltd.

% of stakeholders reported

Sample Stakeholders	Management of BMTF			Potentiality of BMTF			Improved quality of BMTF products			Decreased delivery time of BMTF products.			customer dealing with present management		How to improve production efficiency	
	Army	private sector	public sector	High	less	risky to run	Yes	little improve	deteriorated	Yes	little reduced	delivery time increased	comfortable	afraid	permanent job	increased salary with permanent job
Wage labour	100	-	-	100	-	-	85	15	-	80	20	-	60	40	-	100
Supervisor	100	-	-	100	-	-	22	78	-	11	78	-	89	11	-	100
High official	57	43	-	86	14	-	29	71	-	29	71	-	57	43	29	71

1. Why to run by army?
Good management, Faithful, Hard worker, Non-political and sincere etc.

2 Migrations.
About 60-75% worker are migrate from other district

Management of BMTF

Table 36 shows that 100% wage labourer and supervisor and 57% high official opined that BMTF should be run by army management and 43% supported that BMTF should be run by private sector. Their logic against the army management is that, they are non-political, sincere, hard worker and most of them are obedient about their duty and timing.

Potentiality of BMTF

Potentiality of BMTF was a very interesting question. On going public or private sector industry/factory are not comparable with BMTF. Table 36 shows that BMTF is a high potential profitable organization which was reported by 86%-100% stakeholders. With the more recruiting of technical personnel to work in BMTF, the production capacity and quality could be increased by 2-3 times. At present the quality of BMTF product increased and it was reported by 85% of wage labourer whereas 71%-78% of supervisor and high official opined that the quality of BMTF product improved a little.

Delivery time of BMTF products

Eighty percent (80%) wage labourer aired their views that at present, BMTF delivers products in time under the management of Army, while 71%-78% supervisor and high officials reported that delivery time has little bit reduced (Table 36).

Dealing with Army Management

From 57%-89% stakeholders expressed their views that they felt comfortable with the dealings and management of army but on an average 33% were afraid of them.

Improved production efficiency

All the wage labours and supervisors claimed to increase salary under permanent job structure (Table 36). Above 71% high officials wanted to get permanent job with increased salary and 29% wanted to get permanent job only.

CHAPTER 7

SOCIOECONOMIC CONTRIBUTIONS OF BMTF

7.1 SAVINGS OF FOREIGN CURRENCY

BMTF is participating in local and international tender of DGDP, REB, PDB and civil aviation. Payments of international tenders are made in US Dollar which is a hard earned foreign currency. Earlier most of these items were brought from China and India. After reopening of BMTF under army management, many items are being produced in BMTF by using local raw materials and few are still imported. To produced product against international tender, BMTF is also saving foreign currency. In other wards it is called deemed export.

Previously, Bangladesh Army used to import all vehicles in condition CBU thus paying all in foreign currency which led to loose costly hard earned foreign currency. After the restart of BMTF, from now and onward, all vehicles like ¼ Ton jeep, 1 ton pickup and 3 ton truck are being imported in CKD condition from Japan. Assembling, painting and manufacturing of rear load body for 3 ton truck vehicles being done by BMTF at factory premises. Only for this, added initiative by BMTF, Government of Bangladesh is saving lot of foreign currency against all this imported vehicles.

There were few items in the energy sector, which could not be made by local manufacturer. Government was duty bound to import goods for PDB and REB to maintain uninterrupted energy supply. Now BMTF produces all line hardware of PDB and REB with the help of local employees. Employees are being trained to undertake difficult jobs and they are earning more. It is not only saving foreign currency, but by this process, they got training and confidence through their jobs. This is also an asset of the nation in the form of human resources development.

7.2 GOVERNMENT REVENUE FROM ENERGY SUPPLY, VAT AND TAX

In any kind of trading by any organization as per rules and regulations, Government is benefited in multiple ways. When BMTF buy raw materials and services to produce goods, traders pay VAT and Tax as per existing rules and regulation to the Government. On the other hand, when BMTF sells its product to the end user (DGDP, PDB and REB), VAT and IT are also paid by BMTF which is also benefit to the Government to earn revenue. As BMTF is a manufacture unit, it has to pay 15% VAT for its own product which is quite a hand some amount.

Even BMTF runs at break event point Government of Bangladesh earns revenue from gas and electricity consumption and gets depreciation value of machineries and equipment which is an indirect benefit to the nation.

7.3 TRANSFER OF TECHNOLOGY

For a developing country it is the main point for development to know the technology of the product and developed its human resource on that product. So, that the nation does not have to depend on foreign experts.

Staffs and workers regularly acquire technical knowledge on different products, which are being produced by BMTF. There are many items where BMTF has made innovative ideas to give required level output with minimum cost and also maintain quality works. It is being possible due to continuous hard work with consistency and devotion to the job. All these are possible as workers have got scope to work for the nation.

Knowledge acquired by key personnel and field workers of BMTF might be considered as an asset of BMTF as well as national. BMTF was designed to support industry sector by producing spare parts of different industries as a mother industry. Concept has been completely changed by new management team. Priority has been given to survive first in the competitive market by introducing product diversification to meet the present requirement. Example can be set as assembling of different

vehicles which were never done by BMTF at time of previous management. Joint collaboration agreement may be done to carryout all assembling works of other brands of vehicle which would save more foreign currency and developed technology and skill manpower.

7.4 EMPLOYMENT OPPORTUNITY

Economic growth and human resources development are closely related. The cardinal goal of human activities is essentially human resources development. Skill manpower development in wider sense amounts to providing opportunities to the people for realization of potentials of a long, healthy and prosperous life. Healthy, skilled and educated workforces play an important role in improving standard of living, reducing poverty and ensuring sustainable economic growth. Skilled manpower development is therefore, an important segment of the overall development agenda of the Government of Bangladesh where BMTF also plays a important role by improving human resources development through jobs.

Education, training, health and social welfare activities are the prime instrument for human resources development. Expenditure in social sectors generates productive assets, both financial and physical, for the poor that aid them to come out of the vicious cycle of the poverty. Moreover, the social sectors have the potentiality to generate higher value addition to the economy through creation of increased opportunities for production, income and employment by restarting of BMTF. New and old workers have got opportunity to earn bread and butter, and maintain better livelihoods of their family.

7.5 IMPROVED SOCIOECONOMIC CONDITION OF THE FACTORY WORKER.

Bangladesh is one of the poor countries in the third world. Illiteracy, unemployment and poverty alleviation is the major problem of the country. Workers were unemployed at the time of lay off BMTF i.e. 1992 to 2000. It is not difficult to imagine the condition of workers, at that time. How much difficult time they had to

pass without food, shelter and clothing. Different shops around the BMTF were almost closed down. There were less business activities to survive for the poorest people. Basic requirement like food, clothing and shelter could not be ensured.

After hand over the factory to Bangladesh Army to manage it in a sustainable level the scenario has been changed dramatically. Old employees of BMTF join to the factory under army management. On the other hand, newcomers and also experienced personnel join BMTF with hope of better future under new management. It is the tradition of army management to do all out effort to manage the things with positive hope and aspiration. Average 437 staffs and workers work in BMTF and they get their salary and wages in time to meet their family and social requirement. Now, they get food, shelter and clothing. Their socioeconomic condition has been changed to a considerable amount which is a direct impact on national economy. These employees are no more burdens to the nations. They are asset to the nation and contribute to development works and services through BMTF resulting saving foreign currency.

CHAPTER 8

CONCLUSION AND RECOMMENDATIONS

8.1 CONCLUSION

BMTF is a state of owned business organization. The theme was conceived to establish BMTF in the year 1967. Its area of land is approximately 247 acre. The total cost of project was 1351 million. It came into operation in the year 1980 as a mother industry to support other local industries.

Due to chronic losing concern decision was taken by GoB to hand over to private sector in the year 1998. As Bangladesh army showed their interest, GoB handed over BMTF to army on 04 July 2000 to make it viable business organization

BMTF was not design to earn profit rather it was established to support other local industries by supplying spare parts and services. It is capable to produce of fertilizer, cement, jute and garment factories, and manufacturing of cutting and drilling tools. Presently BMTF is also capable of assembling of different kinds of Toyota and Isuzu vehicles for army as well as civilian use.

BMTF should be understood to its right perspective. It should not be compared with other private factories where they enjoy more freedom of action. At the same time it should not also be treated as an army organization, which does not give much flexibility in terms of commercial activities. Limitation of BMTF in terms of its technical ability, knowledge on commerce and finance of the army officers serving here, and existing rules and procedures should be taken into consideration while evaluating BMTF.

A factory, which was closed down after 14 years of operation due to continuous losses, remained closed for another six years and lost most of its potentials for the lack of maintenance work could be turned into a profitable organization because of the hard work, sincere effort and dedication of the persons working here. Expectations are very high but limitations are there. Though the progress and development is noticeable, yet .Opinion of the experts may be sought for appropriate utilisation of BMTF. Nevertheless, cooperation from all concern will remain a key factor for enhancing its business potentiality.

BMTF contributes into national economy by producing skill manpower, developed technology, saving of foreign currency and earning government revenue through VAT and IT, and depreciation value.

BMTF is no more burdens to the nation; rather it is an asset and highly potential business organization to contribute to national economy under army management.

9.2 RECOMMENDATIONS

BMTF was handed over to army management on 04 July 2000 from BSEC. Now it has been operated under MOD, where the management responsibilities lie with Bangladesh army. Though, army is not a business organization, even that the present management of BMTF pulling well. The new management has changed the financial wheel of BMTF into a positive direction. Now, it has found to be a profitable industry from chronic loosing concern organization. After studying of BMTF the following recommendation should be taken into account for benefit of the factory.

1. **Workforce.** In the previous management, sanction of manpower was 2490, but existing manpower was 1537 in the year 1992. They made a recommendation in the 1992 to reduce manpower up to 755 to make it a viable project. Present army management is running factory by 380 defense personnel who all are paid from defense budget. Lower level of defense personnel and civilian paid out of defense budget has to be minimum to reduce cost. Temporary Work Force is about 437, the main working force for BMTF. Among them, around 45% are old BMTF employees and 55% newly recruited from other organizations. To boost up morale and gain confidence of employees followings are recommended:

- Temporary work is an asset for BMTF and to be employed as permanent work force having a provision of discharge within three months notice in advance.

- Pay structure of the employees should be made to give increment annually. This will bring morale of the employees and owning of the employees.

- Incentive bonus on profit should be introduced for employees, including military and civil personnel who all are paid from defense budget.

- Provision of training should be made to acquire technical knowledge and skill on product diversification.

- Work force should always be kept minimum to reduce unnecessary discharge fair of employees.

- Required number of highly qualified technical, marketing and administrative personnel should be appointed to improve quality

product and sales. It might reduce the gap in absence of defense personnel while they are being posted out frequently.

- Human right and labour rules for employees have to be followed.

2. **BMTF Product.** BMTF is capable to work with PDB, REB, BDR, different fertilizer, chemical and garment industries, and assembling of different types of vehicles and special vehicle modification works as required by customers. So they should be concentrating on those products for their initial survival.

3 **Innovativeness.** In every business there should be innovative idea to satisfy customers and go for new product with more features and benefits. Research and Development cell should be activated and assigned to improve quality and product diversification to sustain in the competitive markets. Proper persons should be selected to train from abroad on latest appropriate technology to suit BMTF's requirement.

4. **Replacement of Machines and Equipment.** BMTF should make a thorough study about the disposal of the 68% idle plant & machinery. A pragmatic plan to utilize some assets to be made and the rest should be disposed off through auction. BMTF should take bold steps to sell off obsolete, worn out and junk assets and invest in modern machinery's. Auction of these assets worth Taka 620 million as per written down value (WDV) should be done over a period of 10 years. However, before selling off, the WDV should be adjusted by applying normal rate of depreciation starting from the year in which those were purchased.

5 **Job Monitoring.** All jobs have to be monitored strictly. Daily progress reports on materials consumption works in progress, finished goods, labour cost and actual output should be informed to management body to calculate material consumption, profit, loss and annual turnover.

6. **Joint-Venture Agreement.** BMTF should try to go for join-venture agreement with reputed and interested local/foreign companies to make proper utilization of all its resources, facilities and space for producing goods for the local and international market. Deadline of year 2010 for a least one such venture seem reasonable

7. **New Investment:** In view of the fact that the utilization of existing machinery is far from satisfactory, new investment in any form either for diversification of products or for additional new products should be differ till the company is able to improve the utilization factor up to minimum of 80%. Specifically the investment, which is being considered for the manufacture of Rings and Spindles, should be kept in abeyance at this stage.

8. **Asset Utilization**

i. i). Management should take policy for amortization of the fictitious intangible assets within 5 years beginning in current fiscal since these assets have no realizable value.

ii. ii). RAB Forces Training School does not rent for using 25 acre land of BMTF. Though both BMTF and RAB are government organizations, but BMTF is a limited company made to do business to earn profit. As such, efforts should be made to collect rent from RAB.

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APPENDIX

Appendix 'A' Questionnaires for Wage Labours

Assessing the Development of BMTF-Present Status and Potentiality

Bangladesh Machine Tools Factory Ltd

(An Enterprise of Bangladesh Army)

Joydebpur, Gazipur-1700, Bangladesh.

Questionnaire

Set No. 01 (Wage Laborer)

Name of Respondent:		Age:
Education:	Village:	Upazila:
District:	Duration of work at BMTF.	Present Position:
	Section/shop:	

1. Are you away from your village for the purpose of your present job?
2. Do you work for wages? Yes/ No
3. If yes, what kind of work you are doing now?..... .....
4. How many hours you work in a day ....
5. How you are paid? a. daily b. weekly c. monthly.....
6. Did you work for wages previously, say 3-4 years Yes/ No ago?
7. If yes, what kind of work it was? ....
8. What was the salary and system of payment? ... .
9. Why did you leave your previous job?
10. Did you leave previous job all by yourself/or in a group? .....
11. Did you work anywhere after the closure of BMTF in 1994?
12. Are you satisfied with your present job? a. Yes b. No c. Little bit; if not, then why?

13. Do you think that by doing your job, you are acquiring knowledge, skill, efficieney and potentiality that might help you in future carrier?

a. Yes b. Little bit c. No

14. Are you satisfied with your present salary structure?

a. Yes b. Little bit c. No ; if not, then why? ....

15. Do you maintain your family with the salary only or you have any other income? .. ..

16 Marital Status: Single/Married

17 Are you the head of your family? ....

18. How many persons are dependent on your income? .....

19. Do you have any earning member in your family? ....

Thanking You.

13. Do you think that by doing your job, you are acquiring knowledge, skill, efficiency and potentiality that might help you in future carrier?

a. Yes b. Little bit c. No

14. Are you satisfied with your present salary structure?

a. Yes b. Little bit c. No ; if not, then why? .....

15. Do you maintain your family with the salary only or you have any other income? .....

16. Marital Status. Single/Married

17. Are you the head of your family? .....

18. How many persons are dependent on your income? .....

19. Do you have any earning member in your family? .....

Thanking You.

Appendix 'B' Questionnaires for Supervisor

Assessing the Development of BMTF-Present Status and Potentiality

Bangladesh Machine Tools Factory Ltd

(An Enterprise of Bangladesh Army)

Joydebpur, Gazipur-1700, Bangladesh.

Questionnaire

Set No. 02 (Supervisor)

Name of Respondent: Age:

Education: Village: Upazila:

District: Position/Responsible: which shop/section:

1 How many workers are presently working under your supervision?

.. ..

2. Are they sincere, loyal and dedicated about their time and duties ?.

3. Are you satisfied with your job in BMTF?

a. Yes b. No c. Moderate, If No, Why? ....

4. Are you acquiring adequate skill and knowledge through your job in BMTF?

a Yes b. Little bit c. No

5. Did your living standard improved by working at BMTF?

a. Yes b. No. c. Little bit

6. In your opinion what contribution you are making for the progress of BMTF as well as country?

a. High b. Moderate c. Little amount

7. In your opinion the management of BMTF:

a Should be run by army.

b Should be handed over to private sector

c. Should be handed over to public sector again.

8. What is your logic for the above comments? ....

9. What is your opinion abut the potentiality of BMTF?

a. Highly potential b. Less potential c. Risky to run due to loss.

10. Do you think the quality of BMTF's products is better than that of previous?

a. Yes. b. Little improved. c. Deteriorated

11 Do you think that the delivery time of BMTF's product from the factory has reduced in comparison to previous management?

a. Yes b Little reduced c. Not reduced d. Due to security reason delivery time has increased

12. If it takes more time to delivery, what is the main reason? ....

13. Do you think that buyers/Users of BMTF products are more satisfied with the present management than the previous?

a. More comfortable b. Afraid to deal with the army

14. How the working environment, efficiency and moral of the workers can be improved?

a) By providing permanent employment

b) By increasing salary and wages.

c) By mixing up and close coordination among all employees

15. Do you get any benefit for over time duty?

a. Yes. b Sometimes. c. Not at all.

16. If yes, what is the system of overtime payment? ... .Tk/day/hour

Thanking You.

Appendix 'C' Questionnaires for executive

Assessing the Development of BMTF-Present Status and Potentiality

Bangladesh Machine Tools Factory Ltd

(An Enterprise of Bangladesh Army)

Joydebpur, Gazipur-1700, Bangladesh.

Questionnaire

Set No. 03 (Executives/High officials)

Name of Respondent. Age:

Designation. Position/Responsible:

Main unit: Duration/Stay at BMTF:

1 How many workers are presently working at BMTF? .....

2 What was the strength during its closure i.e. in 1994? .....

3. Are the present employees sincere about their time and duty.? ....

4. Are you satisfied with your job in BMTF? .....

Yes/No./Moderate, If No. Why? ....

5. Are you acquiring adequate knowledge and skill through your job in BMTF?

a. yes b. no c. little bit

6. In your opinion what contribution you are making for the progress of BMTF as well as country?

a. High b. Moderate c. Little amount

7. In your opinion the management of BMTF:

a. Should be run by army.

b. Should be handed over to private sector.

c. Should be handed over to public sector again.

8. What is your logic for the above comments? ....

9 What is your opinion about the potentiality of BMTF?

a. Highly potential b. Less potential c. Risky to run due to loss.

10. What is your opinion about the overall working environment of BMTF?

11. Do you think the quality of BMTF's products is better than that of in comparison to previous?

b. Yes. b. Little improved c. Deteriorated

12. Do you think that the delivery time of BMTF's product from the factory has reduced in comparison to previous management?

b. Yes b. Little reduced c. Not reduced d. Due to security reason delivery time has increased

13. If it takes more time to delivery, what is the main reason? .....

14 Do you think that Buyers/Users of BMTF products are more satisfied with the present management than the previous?

b More comfortable b. Afraid to deal with the army.

15. How the working environment, efficiency and moral of the workers can be improved?

a. By providing permanent employment b. By increasing salary and wages. c. By mixing up and close coordination among all employees.

Thanking You.

Appendix 'D' Capabilities of BMTF

B M T F

AT A GLANCE

AVAILABLE PRODUCTION FACILITIES

Patten Making:	➢ Wood ➢ Metallic
Iron Casting (Light):	➢ Small Cast Iron Casting ➢ Non-ferrous casting ➢ Pressure Die casting
Iron Casting (Heavy):	➢ Heavy cast Iron casting
Forging:	➢ Drop Forging ➢ Press forging ➢ Forged Die Making ➢ Forged Heat Treatment
Precision Machining:	➢ Copy Turning ➢ Copy Milling ➢ Automatic chucking Lathe ➢ N.C Drilling ➢ Broaching ➢ Cylindrical grinding ➢ Surface Grinding ➢ Honing ➢ Heavy Planning ➢ Dynamic Balancing
Gear Cutting:	➢ Gear Shaping ➢ Gear Hobbling ➢ Gear Grinding ➢ Gear Testing ➢ Hypoid Gear Generation
Heat Treatment:	➢ Carbonizing ➢ Hardening ➢ Tempering ➢ Annealing ➢ Nitriding

Surface Treatment:

- Copper Plating
- Decorative-chrome Plating
- Hard-chromium Plating
- Nickel plating
- Phosphate
- Blackening
- Electro-Zinc Plating

Tool Making:

- Automatic Drill Making
- Tap Making
- Tool Sharpening (Milling Cutter, Lathe Tools etc)
- Turning Tools Making
- Other Cutters

Jig-Fixture & Gauge:

- Different Tooling
- Jig Boring

Die Making

TRAINING FACILITIES

Trainable Facilities:

- Training Building : 14,000 Sq. ft

Training Shop : 40,000 Sq. ft

Training Subjects:

- Inspection
- Engineering
- Skill Up-grading Training of Workers and employees

Micro computer

QUALITY CONTROL

Available Facilities:

- Chemical Analysis Laboratory
- Mechanical Testing
- Micro-structure
- Florescent Crack Detention
- Pump Test-Bench

Hydro-Dynamometer for Testing of Small Engines

In process-Quality:

- Use of International Standard

Precision Quality Control Instruments in the production process

Pre-delivery Inspection and Quality assurance

RESEARCH AND DEVELOPMENT (R&D)

- Design and Development of New Products
- Improvement of Existing products

Pilot Marketing

PRINCIPAL PRODUCTS

AGRICULTURAL EQUIPMENTS

Designation	*Specification*
1. Mitsubishi-BMTF Diesel Engine (NM-75)	➢ 7.5 HP, 4 Stroke, Water Cooled
2. Mitsubishi0BMTF Diesel Engine (NM-90)	➢ 9.5 HP, 4 Stroke, Water Cooled, RPM 2200
3. 3/4-Cusec Centrifugal Pump	➢ Head 30 ft, 4"x4" Pipe, RPM 1500
4. 3/4-Cusec Centrifugal Pump	➢ Head 30 ft, 4"x4" Pipe, RPM 2200
5. 1-Cusec Centrifugal Pump	➢ Head 30 ft, 4"x4" Pipe, RPM 2200
6. 2-Cusec Centrifugal Pump	➢ Head 30 ft, RPM2200 & 1500
7. Deep Well Turbine Pump	➢ 2-Cusec, Head 50'/70'/100'/, 8" Pipe
8. Deep Well Turbine Pump Gear Box (with Spicer Shaft)	➢ 30 HP, 3:2 and 1:1
9 Power Tiller	➢ 12 Hp, $^1/_8$-$^3/_{16}$ Hector/hr Rotovator with sitting, arrangement

TEXTILE MACHINERY

Designation		*Specification*
1	Reeling Machines	➢ 80 Reels. Swept Periphery 1.37m. Length of Cord per hank 15.36m. RPM 200
2.	Ring Spinning Frame	➢ Spindle Gauge 70mm Lift-203mm No of spindle-432 Spindle Speed- upto 12,000 RPM
3.	Driving Modernization of Ring Spinning Frame	➢ Conversion of Tin Roller to Aluminum Pulley Drive System

MACHINE TOOLS

Designation		*Specification*
1	Lathe Machine BMTF Lathe (ML 20-3)	Swing Dia-508mm Bed Length-2650mm Speed no.6 Screw Cutting Facilities
2	BMTF-Celtic Lathe (C-14)	Swing Dia-355mm Bed Length=2360mm Speed No.8 Screw Cutting Facilities
3.	Drilling Machine a. Bench Drill C-13E	Drilling size upto 13mm (1/2") (Rack & Pinion Type)
	b. Column drill C-26	Drilling size upto 26mm (1")
4.	Power Hacksaw A-21	Capacity 200x170mm Blade size-356mm

JUTE MILL SPARE PARTS

	Designation	Specification
1.	Faller Bar (J.M)	➢ For 1st. 2nd, 3rd and Finisher Drawing Machine
2.	Faller Bar (F.L.T.M)	➢ -Do-
3.	Faller Bar (F.L.C.B)	➢ -Do-
4.	Faller Screw (J.M)	➢ For 2nd Drawing (New/Old) and 3rd Drawing Machine
5	Faller Screw (F.L.C.M)	➢ For 2nd and 3rd Drawing Machine
6.	Wharve Assemble	➢ For JM & F.L.C.B Machine
7.	Delivery Pressing Roller Boss	➢ For all types of Machine
8.	Drawing Roller (Front Roller)	➢ For all types of Drawing Frame
9.	Drawing Roller (Bottom Roller)	➢ For all types of Jute Spinning Frame
10.	Crank Throw	➢ For F.L.T.M Broad Loom Machine
11.	Spiral Roller	➢ For Jute Softer Machine (Top, Bottom Left & Right)
12.	Lifter Bracket	➢ For all types of Jute Spinning Machine

SPARE PARTS OF CHEMICAL INDUSTRIES

	Designation	*Specification*
1.	Plunger Re-conditioning	➢ Hard-Chrome plating
2.	ping Knives	➢ As per Drawing/sample
3.	Insulator Pin	➢ 11 KV & 33 KV
4	Ball Eye	➢ For 6"/10" Insulator Cap

5.	Cotter Pin	➢ For 6"/10" Insulator Cap
6.	Pin Ball	➢ -Do-
7.	Grinding Media Ball	➢ As per sample from Cement Factory

RAILWAY TRACK AND CARRIAGE PARTS

Designation		*Specification*
1.	Points and Crossing	
2.	Dog Spikes	➢ B.G & M.G
3.	V-Anchor	➢ 60 lbs & 90 llbs
4	Screw Coupling	
5.	Tim Crow	
6.	Elastic Fasteners	➢ Double and single

FAN INDUSTRY

Designation		*Specification*
1.	Armature and Shaft	➢ For Metalex, G.E.C & Techno-process
2.	Fan Covers 56"/48"	➢ For Metalex & GEC & Jamuna
3	Rotor Die	➢ For 48" * 56" Fan
4.	Stator Die	➢ -Do-
5.	Blanking Die	➢ -D0-
6.	Blade Bending Die	
7.	Electric Iron Base Die	➢ For Legion Associates

FOREST INDUSTRIES DEVELOPMENT CORPORATION

1.	Disc Chipping Knives	➢ As per drawing/sample
2.	Peeling Knife	➢ -Do-
3	Veneering Knife	➢ -Do-

VARIOUS CAST PARTS

1.	Slab Ingot Mold	➢ 900 kgs
2.	Slab Ingot Mold	➢ 1200 kgs
3.	Square Ingot Mold	➢ 1000 kgs
4.	Funnel	
5.	Bottom Pouring Plate	➢ For Slab and square Mold
6.	Fly Wheel	➢ Deutz Engine
7.	Bearing Housing	➢ Deutz Engine
8.	S.A.E Housing	➢ Deutz Engine
9.	Ring Plate	➢ Deutz Engine
10.	V-Belt Pulley	➢ Deutz Engine
11.	Clutch Carrier	➢ Deutz Engine
12.	Chilled Roll	➢ Re-Rolling Mills

HAND TOOLS

	Designation	*Specification*
1.	Ball-Peen Hammer	➢ 1 Lb
2	Double-Ended Spanner	➢ 7mm to 32 mm 6 Nos / Set
3.	Cold Chisel	➢ 8" Flate

FORGED PARTS

1.	Pedal Crank	➢ For Bi-Cycle
2.	Service Tee	➢ For Titas
3.	Sling Hook	➢ For C.S.M
4.	Tilting Hook	➢ For C.S.M
5.	Stripper Device Hook	➢ For C.S.M
6.	Forging Die	➢ Different types

AUTOMOBILE

1.	Three wheeler Auto Tempo SUJAN Passenger Carrier	➢ 12 HP. 673 C.C Diesel Engine Passenger Carrying capacity-11 Speed-60 km/Hr Fuel Consumption 100 km/gal
2.	Three wheeler Auto Tempo SUJAN Delivery Van	➢ 12 HP, 673 C.C Diesel Engine Speed 60 km/Hr Fuel Consumption -100 km/gal Steel Body Carrying Capacity-900 kg
3.	Three wheeler Auto Tempo SUJAN Mini Truck	➢ -Do-

GEARS

Designation	*Specification*
1. Spur Gear	➢ Helical Gear
2. Rack & Pinion	➢ Hypoid Bevel Gear
3. Spline Gear	➢ Worm Wheel
4. Sproket	

FUTURE PROGRAMME

1. 80' / 90' / 150' Head Deep-Well Turbine Pump	➢ New Ring Spinning Frame
2. Card Modernization	➢ Drafting Zone Modernization (RSF)
3. ½ Cusec Centrifugal Pump	➢ House Hold Pump
4. Rly Diamond Crossing	➢ Fusion Pot
5. Salt Iodation Plant