CHAPTER IV

ORIGIN AND GROWTH OF BEML

4.1 Origin of BEML

Bharat Earth Movers Limited (BEML), a public sector undertaking, incorporated on 11th May 1964, is India's largest and Asia's second largest manufacturer of mining, construction and earthmoving equipments with remarkable presence in numerous sectors such as coal, mining, steel, cement and irrigation. It manufactures and sells a wide range of Mining & Construction equipments, Defense Products and Rail products including metro coaches. BEML has hi-tech manufacturing facilities with sophisticated CNC machines, arc-welding robots & FMS in nine manufacturing units located at Bangalore, Kolar Gold Fields (KGF), Mysore and Palakkad (Kerala) including a subsidiary steel Foundry Vignyan Industries Ltd, in Tarikere, Chikmagalur District. A brief background information about the study in BEML is given in this chapter.

Figure 4.1 BEML LOGO
4.2 Significance of BEML

Being a public sector undertaking under the ministry of Defence, BEML commands 70% market share in domestic earthmover industry. Nearly 40% of its equity has been divested to financial institutions and public. The Nationwide Network of sales offices of BEML gives the buyers, ready access to its wide range of products and services. Its service centers and spares depots provide total equipment care and rehabilitation service. The company’s personnel and site engineers ensure higher availability of machines through prompt after sales services and maintains the decorum of a quality organization.

BEML has been able to retain its leadership position even after opening of the economy due to its proactive initiatives taken from its inception. Thus, hitherto an ordinary Central Public Sector Undertaking (CPSU) with almost stagnant growth has been turned, by the effort & leadership of the CMD, into an extra ordinary, vibrant, learning & performing organization, despite being a PSU and almost made BEML as an MNC with local Companies abroad in three countries. The company possesses a strong objective to stay in a dominant position in the manufacturing and supply of Earthmoving, Mining, Construction, Railway and Defense Equipments and serves the customers to its best both at the domestic and international level.
BEML is one of the premier public sector undertaking which falls under the administrative control of defense ministry, to cater mainly to the equipment needs of Indian Defense, having its corporate headquarters and central marketing division in Bangalore. Later on, yielding to the demands of public, joint and private sector, BEML started its commercial production of its products. For the past four decades and above, it has come to the forefront of heavy engineering industry and has established an undisputed, strong leadership in the earthmoving industry.

4.3 Organisation Structure

The organization structure of the company was based on functional lines like Production, Marketing, R&D, Finance and HR with a Director heading each functional area. But with the changed business environment and opening of the economy, the customer requirements have undergone a radical change and the function based organization structure had various short comings in meeting the customer expectations due to cross functional decisions involved.
It recognized the need to be more dynamic, responsive and market oriented and to achieve this, the whole organization was restructured on ‘Business Lines’. Accordingly, the three major Business Groups viz. Mining & Construction, Defense and Rail & Metro, with one Director for each heading the Business Group who has control overall functions under the Business Group was brought into operation. In addition to this, on the Marketing organization, with a view to improve Customer care and improve
service income, a centralized office at Nagpur with four Zonal Offices at Hyderabad, Kolkata, Singrauli and Bilaspur were set up which has significantly improved customer satisfaction. Additional distribution channels were also opened through an extensive dealer network for addressing specific segment of the market.

4.4 Business Diversification

Diversification of business and formation of JVs are essential for Company’s overall growth. Hence, several emerging business opportunities were identified and accordingly initiated diversification plans into the following new and allied businesses:

4.4.a Metro Rail Division

The Company under the leadership of the chairman made an entry into manufacture of Metro cars. Identifying this business potential when the concept of Metro Transportation System was still nascent in India, the company took pro-active steps to acquire the technology for state-of-the-art Metro coaches from M/s. Hyundai Rotem, South Korea and established necessary manufacturing infrastructure at its Bangalore manufacturing Complex. This initiative was responsible for BEML winning the prestigious orders from Delhi Metro Corporation followed by the subsequent orders from DMRC and Bangalore Metro Rail Corporation. BEML has also rolled out
India’s first Standard Gauge Metro car and has orders worth Rs. 2300 crore on hand for supply during the next 2 years.

BEML has also got development orders for Intermediate cars for DMRC RS4 project. This intermediate cars is to enhance the present 4 car formation of metro car to 6 car formation which will increase the passenger carrying capacity. These intermediate metro cars were indigenously developed by BEML’s in house R&D team and successfully commissioned at DMRC. BEML is now established as the Major supplier of Metro coaches in India and this line of Business has helped BEML increase the contribution of Rail Business Group in the company’s turn over from about 5% to 28% and today has the potential to go to even 40% in the next couple of years. Besides the above, the company has also taken pro-active steps to develop Affordable Metro, Stainless steel EMUs, Aluminum and Stainless steel wagons, for high speed corridor, upcoming Metro projects and for other Tier-II &III cities.

4.4.b Technology Division

With India becoming an engineering outsourcing hub, and recognizing the business potential in IT enabled services which is witnessing a major growth today, the nominee has setup Technology Division to provide e-engineering solutions to clients across the globe. Technology Division which is certified by CEMILAC & ISO 9001:2008 draws its strength from the rich domain knowledge of BEML’s R&D team in various realms of
technology with extensive use of CAD, CAM, and CAE offering end-to-end solutions and services across the whole product development cycle including design, modeling, analysis, simulation, prototyping, testing and documentation. Technology Division which has started operations in April 2006 and are presently operating under four separate business verticals viz. Auto, Aerospace, Defense and Rail & Metro and is adding revenues to the Company.

4.4.c. Aero Space Manufacturing Division

The company has foreseen the opportunities in Aerospace applications and various defense offset policies, thus this division was launched for manufacture and supply of Ground handling equipment, toolings and components for Aerospace application. Recently Company has signed a MoU with Government of Karnataka to set up a Green Field Project in Aero SEZ near Bangalore International Airport with a investment of ` 316 crore over next five years. By this MoU, Govt. of Karnataka has allocated 25 acres of land to BEML in the notified Special Economic Zone near Bangalore International Airport, Devanahalli, Bangalore Rural District and BEML is in the process of establishing its unit for design and manufacture of aircraft components/ Sub-assemblies and MRO activities related to Aerospace Applications.
4.4.d Trading Division

The Division was launched with a view to maximize business through sale of non-company products and engineering spares, and bulk commodities, etc to domestic as well as export markets. The division leverages from the company’s extensive marketing network and brand image both within the Country and abroad and has brought in sizeable revenues and profits to the company since the past few years.

The Trading Division operates as a "Single window for all buying and selling activity". It deals with non-company products and commodities for both captive in-house requirements and also for customers within the country and abroad. Trading Division of BEML has been awarded the status of Two Star Export House. The Division currently deals in Iron Ore, Coal, Steel Billets, etc. It has plans to handle all India distribution of industrial intermediaries from global suppliers. Exports / Imports of high value projects / products may find BEML's trading services convenient and valuable. Trading Division is one window wherein all the import and export needs of customers are catered to.

4.5 Business Transformation and Expansion

The organisation, recognizing the need to modernize and expand the production infrastructure as a primary requirement for expanding
business, infused sizable Capex for the first time in several years. Also, in order to meet the future business needs, augmented the manufacturing infra at KGF by acquiring 1109 acres of land along with two workshops from the adjoining PSU Bharat Gold Mines Ltd (BGML) as a strategic expansion move. These facilities have since been established as Rail Coach Unit-II for Coaches and Wagons with minimal capital expenditure.

4.5.1 Green Field Venture

As another strategic move, the company extended the manufacturing facilities beyond Karnataka and inaugurated BEML’s Green Field Project – ‘Palakkad Manufacturing Complex’ at Palakkad, Kerala, thereby expanding Rail & Metro and Defence business capacity to increase the company’s income. As part of Company’s capacity augmentation programme, the green field project at Palakkad, Kerala was set up with a planned outlay of `250 crore. The new complex at Palakkad, Kerala has established & has started production since May 2010. In fact, the over 2 lakh square feet facility in this project was set up in a record time of just 5 ½ months from the date of laying the first brick on 3rd December 2009, the fastest execution of project of this size in India. The complex manufactures products for Defence Business and Rail & Metro Business such as High Mobility Tatra Trucks, Pontoon Bridges, Sarvatra Bridge and Railcoach aggregates / parts.
4.5.2 Brown Field Venture

With growing environmental concerns, Mining companies, especially CIL, are planning to switch from open cast to underground mining. BEML is already producing some of the underground mining equipments. To cater to the growing need of high technology underground products, BEML has acquired assets of West Bengal-based sick PSU, Mining and Allied Machinery Corporation (MAMC) which was engaged in manufacturing of underground mining equipment, through a JV formed with government-owned Coal India Ltd and Damodar Valley Corporation, by investing ` 100 crore. BEML owns 48% in the acquired venture while Coal India and Damodar Valley hold 26% each. This buy out of MAMC assets and formation of JV Company MAMC Industries Limited will help BEML to extend its product range in this sector further with assured business from CIL and DVC for next 10 years. This provides BEML an opportunity to supply the entire gamut of equipments required for both surface and underground mining, with suitable technology tie-up with global leaders, as required. Incidentally it may be noted that BEML will be the first Company in Asia to manufacture both surface mining and underground mining products as a one stop shop. The company is expecting to generate ` 500 crore business per year through MAMC alone in the next five years.
4.6 Production Units

The Company has nine fully integrated manufacturing units located at Bangalore, KolarGold Fields (KGF), Mysore and Palakkad including a subsidiary steel Foundry in Tarikere, Chikmagalur District.

Bangalore Complex

The Bangalore Complex manufactures various types of railway products such as Rail coaches, AC EMUs, OHE Cars, etc., for Indian Railways. The Company has manufactured state-of-the-art stainless steel Metro Coaches and supplied to DMRC against the first order. The Complex also manufactures Defense products such as High Mobility Tatra Trucks and variants used for various applications such as tank transportation, transportation and launching of guided missiles, radar mounting, field artillery tractor and crash fire tender, pontoon bridges, tank transportation trailers, ejector & air cleaner assemblies, mil-rail coaches and military wagons.

KGF Complex

Earth Moving Equipment Division and Heavy Fabrication Unit located in KGF produce a wide range of equipment such as Bulldozers, Hydraulic Excavators, Wheel Loaders, Dozers, Pipe Layers, Tyre Handlers, Hydraulic Cranes, Walking Dragline, Electric Rope Shovel, Engineering
Mine Ploughs, Heavy Recovery Vehicles, Armoured Recovery Vehicles, etc. Hydraulics and Power line Division manufactures Transmissions, Axles, hydraulic aggregates and allied assemblies for all the manufacturing units of BEML. Rail Unit-II manufactures Rail Coaches and wagons.

**Mysore Complex**

The Truck Division at Mysore produces off-highway Rear Dump Trucks, Motor Graders, Water Sprinklers and Tatra Trucks. The Engine Division produces a wide range of Diesel Engines powering BEML's product range. The Aerospace Manufacturing Division established at Mysore manufactures Air Craft Towing Tractor, Crash Fire Tender, Weapon Loading Trolley (Bheema), etc., for Defence and civilian applications, in addition to precision manufactured items such as gears for aircraft industry. BEML's Engine Division and Aerospace Manufacturing Division have been accredited AS9100B certification.

**Palakkad Complex**

The Palakkad Complex manufactures products for Defence Business and Metro & Rail Business such as High Mobility Tatra Trucks, Sarvatra Bridge and Rail coach aggregates/parts.
Technology Division

BEML's Technology Division has received CEMILAC Certification for Design, Development of CAD & CAE Applications to Aircraft Engine & Airframe Components for Airborne Applications.

Subsidiary Unit

Vignyan Industries Limited (VIL), Tarikere, was taken over by BEML in 1984 as a subsidiary unit. VIL supplies quality steel and alloy castings to various manufacturing units of BEML. To meet the increased demand for steel castings, the Company has modernized the plant and augmented the capacity by installing new foundry equipment.

4.6.1 Products of BEML

Mining & Construction Products

- High capacity dump truck BH100
- Excavators BE 1250, BE 700, BE 300 VE, BE 200
- Pipe layer BP100
- Motor Grader-BG605X
- Water Sprinkler - WS70
- Front End Loader – BL200-1
- Load Haul Dumper (LHD) BL15H
- Backhoe loader BL9H
- BH35-2 Dumper (New Version)
- Side Discharge Loader BL10C
- Transmissions for BH35-2 and BH50M dumpers

**Figure 4.3 Mining & Construction Products**

**Defense Products**

- Boat with BEML Engine and Gear Box
- Motor Tug Launch (MTL)
- Tatra 4x4 truck with Euro – II aggregates
- Aircraft Towing Tractor – BA18T, BA28T
- Air Craft Towing Tractor (ATT) with Auxiliary Power Unit (APU)
- Snow Cutter

Figure 4.4 Defense Products

**Rail & Metro Products**

- Standard Gauge Metro Car
- Intermediate Car for DMRC
- Catenary Maintenance Vehicle for DMRC
- Stainless Steel AC EMU
- Track Utility Vehicle
- Affordable Metro Coaches
- Aluminum Wagon 80 Ton
- Stainless Steel Wagon – 100 Ton

**Figure 4.5 Rail & Metro Products**

The company has earmarked 4% of its Sales turnover for R&D project management for the year 2010-11, to bringing about significant improvements in overall quality, cost effectiveness, aesthetic appeal and productivity in existing models.
4.7 Best management practices

4.7.1 Capacity Augmentation & Modernization

The chairman’s big dream to make BEML large Business Conglomerate with plans of expansions and diversification was appropriately & supported with matching CAPEX, ability to identify and en-cash emerging opportunities, dynamism to foresee and bring in breakthrough technology within a time frame, enlarging product basket & diversification, entering into TOT, ability to improve labour productivity & discipline and adopt appropriate business models. Building up of manufacturing capability was given utmost priority. Capital was allocated and augmentation of capacity, up-gradation and modernization of plant and machinery in all the production units were taken up. Rs.400 crore has been committed for CAPEX in 2008-09. Company envisaged a CAPEX of Rs. 1000 crore over a period of 3 years, to fund the Palakkad Phase –II Project, Aerospace Greenfield Project, 18 MW Wind Mill Project and acquisition of MAMC amongst other projects.

4.7.2 Productivity Improvement

The CMD, with his strong conviction that “Productivity drives Profitability” has brought in various innovative measures to improve productivity. For the first time a company wide revisions / rationalization of work norms (in terms of Standard Man-hours for each job) was done and implemented through a tripartite scientific study to improve labour
productivity. As a result of this, 15% increase in capacity has been achieved in manufacturing and 25% in assembly areas. Also, incentives based on productivity and output were introduced which have yielded the desired results. Training of employees, re-skilling and multi-skilling, job rotation and redeployment to reduce indirect manpower were some of the initiatives taken in HR area. Executive development programmes realigned with business plans and strategies, motivation through incentives, empowering, job rotation and additional tasking are some of the practices that were adopted by the nominee. Providing the right ambience, encouragement, empowerment and opportunities for learning and growth are always stressed. Placement of personnel in line with the individual’s aptitude, talent and potential, recognizing performance which is acknowledged by the Management in various ways such as incentives linked with performance, promotions, awards, for motivating employees and executives to excel in one’s area. Preference is given to performance as compared to seniority that elates the performing employees. Empowering coupled with responsibility provides edge to the employee to execute his task. Incidentally every assignment/activity is taken up with a project approach that links time and money with the project. The nominee stressed on performance as primary and key in the organisation.

Voluntary Retirement schemes with attractive terms were introduced for unskilled and non-technical personnel/others and the
Company could bring down employee strength from 14357 to about 12052. As a result of these measures, turnover per employee has increased from Rs.10.29 lakh to more than Rs. 29.52 lakh in 8 years. This has been the key driver for the company’s bottom line. So far as BEML is concerned, the improvement in value addition per employee grew from Rs.3.85 lakh in 2001-02 to Rs.11 lakh in 2009-10 is a testimony to this.

4.7.3 Business Vision & Future Plans

The chairman has set an ambitious target of achieving Rs.5000 crore sales by the year 2013-14 and has adopted various strategic initiatives as explained above like Expansion, diversification, restructuring, acquisition of technology, joint ventures, HR initiatives etc. Plans are afoot to achieve Rs.5000 crore in 2011-12 going by leads of all businesses. Thus the company has recast the vision and strategies with next milestone of Rs.10,000 crore turnover by 2016-17 and is putting in place the road map for achieving the same through its Corporate Plan – II

4.7.4 People Philosophy

The chairman, being an HRD professional himself, strongly believes that human resource is the most valuable asset of the organization and retaining and nurturing talent is of paramount importance for the success and growth of the company. Providing the right ambience, encouragement
and opportunities for learning and growth are always stressed. Placement of personnel in line with the individual’s aptitude, talent and potential is stressed now to motivate them. Good work done by individuals and teams are recognized and acknowledged by the Management in various ways such as promotions, deputations to management development programmes, for motivating employees and executives to excel in one’s area.

4.7.5 Corporate Social Responsibility

BEML has been highly conscious of the concerns of the social sector and being a PSU of repute, has been delivering its corporate social sector responsibility in no small measures. All obligations such as reservation in appointments for SC/ST, physically handicapped, employment of women, appointments on compassionate grounds etc are being adhered to. Besides the above, the company spends 2–3 % of its income every year on at least five areas as a contribution to society. This is in addition to the minimum activities pertaining to social responsibility as prescribed by law.

4.7.6 Resource Conservation

Clean Energy: The CMD has taken initiative towards clean green energy by setting up a 5 MW wind power generation unit in Gadag District commissioned with an investment of Rs.27 crore. During the year 2008-09, power to the tune of Rs.3.42 crore was supplied to state grid. In addition to
this Company is also setting up a new Wind energy generating system of 18 MW capacity towards being self-sufficient. With the implementation of this project, 90% of BEML’s requirement of energy will be met.

4.7.7 Cost reduction and improving profitability

The management of BEML introduced the Centralized purchase system for procurement on long term rate contract and cost reduction committees in all Divisions, Thrust on indigenization and outsourcing with clear-cut cost targets, Value Engineering instituted for ‘low margin’ products, discontinuance of certain loss making product models, tight control on inventory, reduction of certain in fructuous expenditures. Quality Circle activities and Six Sigma initiatives were instituted. Outsourcing of certain products was also introduced to gain flexibility and cost competitiveness.

As a result of the above initiatives, the Company recorded a jump in profits from Rs.13 crore in 2001-02 to Rs.320 crore in 2009-10 and registering an increase of over 25 times.

4.7.8 Afforestation

In order to protect the environment in and around the factory premises / Township, tree plantation were undertaken. Around 18 lakhs saplings of various types of avenue tree / flower bearing trees were planted in the vacant lands belonging to the company for maintaining ecological balance
in the surrounding areas. Further, measures have also been taken to protect the existing flora and fauna from any basic interference. Vigorous afforestation is an on-going programme for the company for the last 25 years and ‘Green Belts’ have been created in and around BEML Units.

4.7.9 Environmental Pollution control measures

Effluent treatment plants have been constructed inside the factory premises of the Production Units for treatment of domestic / industrial effluents. Further, treatment plants / oxidation ponds for treatment of natural process of treating effluents have been installed in various locations inside the factory and township. Treated effluent water is being utilized by the Landscaping Department in the production unit. Two artificial tanks have been constructed in Bangalore Complex to harvest rain water, restrict soil erosion and to raise ground water level.

4.7.10 CSR Activities at KGF Complex

i. Planting of 2180 Nos. of tree saplings in BEML Township for the year 2009-10.

ii. Modern Bus shelter provided near Five lights circle.

iii. Beautification of Road Junction near R & D Centre KGF. The proposed park (Ambedkar Park) has been completed on 31.01.10.
iv. Beautiful Park with waterfalls developed and maintained and good lighting provided for the park.

v. Effluent Treatment Plants installed near Transportation and painting shop for treatment of effluent water.

vi. Oxidation ponds cleared by removing sludge connected to EM Division, this meets the standards stipulated by KSPCB.

vii. Storage yard facility for Hazardous waste at salvage stores at EM Division is under progress as per ISO 14001 requirements.

viii. Developed garden with water foundation in the Road Junction at Banyan tree near Moidu Complex.

**CSR Activities at Bangalore Complex**

I. Tree Plantation

A. 600 Nos. of different trees saplings planted at BECS Layout, VI Stage, Tubarahalli.

B. Developed park with 1325 flowering shrubs and lawn.

II. Beautification of Road Junction

A. The Bus yard corner with display of BEML equipment models completed.

III. Environment protection Activities

A. Rainwater Harvesting system at New Hangar.
B. Recycling of the use of DMRC Car Body Leak proof tested water.

C. Maintaining Effluent Treatment Plant inside the factory on Regular contract.

4.7.11 Medical Assistance

M/s Bharat Gold Mines Ltd., KGF was closed during the year 2001. Consequent upon the closure of BGML Hospital, BGML employees have not been extended medical facilities. This situation was brought to the attention of BEML Management with a request to extend medical facilities. Considering the plight of the ex-BGML employees and their families, the CMD has been extending out-patient medical facilities to ex-BGML employees by deputing a Doctor and 2 para-medical staff to the areas of BGML such as Marikuppam, Champion Reef and Oorgaum and medicines prescribed by the Doctors are being dispensed free of cost for general illness. Medical treatment facilities were extended to the villagers in Dasarahosalli village adopted by the Company and provided a building for primary school, street lights, water tank and extended medical facilities to 174 families, through the BEML Medical Centre at KGF.

Medical Insurance scheme for retired employees and Insurance coverage to pay Rs.3 lakh / Rs.5 lakh to deceased employees families were innovative schemes introduced by Shri. VRS Natarajan.
4.7.12 Education

BEML runs one Junior College and two Nursery Schools at KGF and one at Bangalore and a Junior College at KGF. These institutions, although meant primarily for the children of the employees also cater to a large extent to the local population. The company has spent an amount of Rs.144 lakh towards the running of these institutions. In addition, BEML runs Kendriya Vidhyalaya project school at KGF. To promote the welfare of the socio-economic weaker sections of the society, the nominee has come up with a scholarship scheme for the SC and ST candidates, wherein, the company sponsors the education of the selected candidates till completion of their graduation. After completion of their education, these candidates are required to serve the organization for a period of 4 years.

4.7.13 Adoption of United Physically Handicapped children

BEML Limited has adopted four children of The United Physically Handicapped School of Coimbatore at an annual sponsorship of Rs.34,000. The Company has extended all help and support to the Labour Welfare Funds functioning in the production units. The LWF conducted training programmes in tailoring, computer, typing / shorthand course, diploma course in laboratory technology, job oriented courses, music/dance classes, spoken English course, summer camps for art/painting and sports activities. Also introduced free
‘Mobile Medical Ambulance’ for BEML employees and their families in BEML colonies.

4.7.14 Labour Welfare Activities.

The chairman has extended all help and support to the Labor Welfare Funds functioning in the production units. The LWF conducted training programmes in tailoring, computer, typing / shorthand course, diploma course in laboratory technology, job oriented courses, music/dance classes, spoken English course, summer camps for art/painting and sports activities.

The Chairman has taken some more steps towards social responsibility like:

a) Providing employment to children of employees who die in harness- so far the company has provided employment to more than 500 dependent family members during the last 10 years.

b) Contract labour happens to be one of the most deprived segment of the society. In our organization, such of the contract labour who continue for more than certain specified service are considered for regularization.

c) As a unique corporate initiative, the company has introduced a scheme wherein such of the students who could not pursue
further education viz., ITI, Diploma, etc., but have the requisite aptitude are being considered for specific training with requisite emoluments in BEML through enrolment in training scheme for ITI and Diploma in Engineering tailor made to suit BEML requirements.

d) Compassionate appointment: The Company has a policy of giving employment to children of deceased employees based on eligibility. Accordingly 194 persons have been given employment on compassionate grounds.

e) With a view to provide educational facilities for dependents of the employees'/officers' children, amenities and equipment have been provided to the schools established by the Company. Dependents of local residents, defence and other government employees' children are also accommodated in the company run schools.

f) Revival of Sick Industrial Unit: BEML took over an industrially sick foundry unit in Tarikere, Shimoga District, which was the only employment generating industry in one of the most backward regions of Karnataka. In the backdrop of imminent closure of the foundry, BEML stepped in and provided all the necessary support for rejuvenation of the foundry and with the passage of time, has not only provided
employment but has been the major source of sustained development in the entire Tarikere town. The company has since been turned around by BEML and is making profits.

g) The CMD has sponsored a National Symposium by The Society for Disability and Rehabilitation Studies-SDRS (New Delhi) for a sum of ` 10,000 on the occasion of Gandhi Jayanti.

h) The Company has contributed of ` 2 crore to Chief Minister Relief Fund – Karnataka for those families who has been affected by Rain havoc during Oct, 2009.

i) Further chairman has decided to make 500 dwelling houses at the cost of Rs.5 crore for those who lost their houses in flood ravaged villages.

4.7.15 Corporate Governance

BEML believes that the principles of fairness, transparency and accountability are the cornerstones for good governance. In addition to complying with the statutory requirements, effective governance systems and practices inter alia towards transparency, disclosures, internal controls and promotion of ethics at work-place have been institutionalized. The company recognizes that good corporate governance is a continuing exercise and reiterates its commitment to pursue highest standards of corporate governance.
in the overall interest of its stakeholders including shareholders, employees, lenders and the Government.

4.8 Chief Competitors of BEML

The chief competitors are JCB India, L&T case and L&T Komatsu, Ingersoll-Rand India Limited, Telcon, Voltas, Godrej & Boyce Manufacturing company Ltd., Escorts construction Equipment ltd., Action construction Equipment ltd., Caterpillar Inc., HAL., Terex and Hitachi.

4.9 BEML’s Overseas Operations

BEML Limited has an expanding international presence in around 56 countries spread worldwide including Syria, Tunisia, UAE, Jordan, Suriname, South Africa, UK, Sri Lanka, Bangladesh, Philippines, Indonesia, Oman, Nepal etc. An Export House with ‘Star Exporter’ status, BEML has proven strengths in handling large-scale trading and counter-trade and has pushed the export of engineering goods as well as other equipment. Its plans are in the offing to set up assembly operations at Morocco, Suriname and Indonesia in partnership with local players.

Tapping new / unexplored export markets such as Latin America and Australia, opening of co-production units in select countries, appointment of dealers / representatives in select countries and offering innovative financial packages to customers, active participation in international expos and trade fairs, appointment of consultants, are some of the strategies adopted
for boosting exports. As a result of these measures, Company’s Exports showed significant growth in the past years. Added to this it also explored geographical niche markets domestically & globally to make BEML a globally operating company and to achieve 20-25% of turnover from overseas business, BEML expanded its global reach by opening local company at Indonesia and Brazil during 2009-10 in addition to Malaysia and China offices. Plans are also afoot to commence manufacturing of equipment in a phased manner from some of the countries which are expected to significantly boost company’s export business in the coming years. ‘Go local to become global’ is the mantra for export growth.

4.10 Research and Development in BEML

BEML has a biggest development centre in India, recognized by the Department of science, considered as a vital contribution towards strengthening the earthmover and related industries in the country. Highly advanced technology development in R&D division such as CAD centre, Fluid power, Power-line testing and structural engineering steered by the brainpower of its highly competent engineers, lies the success of the organization.

4.11 Products developed by in-house R&D:

Several products have been developed by the R&D division of BEML namely;
4.11.1 Defence

- Tank Transportation Trailer
- PMS Bridge
- Crash Fire Tender
- Aircraft Towing Tractor
- Aircraft Weapon Loading Trolley
- Missile Launcher on Tatra
- Ammunition Loader Vehicle
- Backhoe Loader Transport Vehicle
- Wagons
- Milrail Coach
- Variants on BEML -Tatra Trucks
- Prithvi Missile Launcher
- Field Artillery Tractor
- Crash Fire Tender
- 30 M Mobile Mast
- Ammunition Loader
- 15 m Bridge- Sarvatra
4.11.2 Mining & Construction

- Pontoon Bridge system
- Trailers - 50 T, 20 T

- Dump Trucks - 40T, 60T, 70T & 100T
- Excavators 7T, 10T (C/W) & 20T
- Side Discharge Loader
- Load Haul Dumper
- BH100 Rear Dumper
- BG605A Motor Grader
- Pipe Layer - 100T
- Remote Controlled Dozer
- Snow Cutter

4.11.3 Rail & Metro

- Over Head Equipment (OHE) Inspection Car
- Stainless EMU
- Track Laying Equipment
- Utility Track Vehicle (UTV)
4. Railbus

- Spoil Disposal Unit
- Treasury Van
- Skybus

### 4.11.4 Underground Mining

- 1 Cu.m. Bucket Capacity Side Discharge Loader
- Side Discharge Loader with Cable Reeler Drum
- Side Discharge Loader with Side Tipping Bucket
- Load Haul Dumper with 1.5 Cu.m. Push Plate Bucket
- 5 Ton Granby Car
- 10 Ton Granby Car

### 4.11.5 Axle Technology

- BL1420, BL30, BL40, BL54 Loaders
- BH35-2, BH60, BH70, BH85-1, BH100 Dumpers
- BG605-A Motor Grader
4.11.6 Transmission Technology

- Dozers, Loaders and Dumpers
- 230HP Dozer Transmission
- 450HP, 715HP and 950HP Dumper Transmissions with Computerized Gearshift Control
- 420HP Loader Transmission with Electro-Hydraulic Control

These have been best achieved through the dynamic, pro-active, effective and efficient service delivery of the Human Resources of BEML.

4.12 Infrastructure in BEML

BEML operates on three major business verticals for associated equipment manufacturing:

- Mining & Construction
- Defence & Aerospace
- Rail & Metro In addition to the above, there are Four Strategic Business Units (SBUs):
  - Technology Division for providing end-to-end engineering solutions
  - Trading Division for dealing in non-company products
• International Business Division for export activities

• Aerospace Division for provide design services for Aviation Sector BEML’s eight manufacturing units are spread over in four locations:

• Kolar Gold Fields (KGF) Complex (around 100 km from Bangalore)
  o Earth Moving Division
  o Rail Coach Unit II
  o Heavy Fabrication Unit
  o Hydraulic & Powerline Division

• Mysore Complex
  o Truck Division
  o Engine Division
  o Aerospace Manufacturing Division

• Bangalore Complex - Rail & Metro Division

• Vignyan Industries, a subsidiary located at Tarikere - Steel Castings
4.13 Key Clients

- BEML’s key clients span various sectors like Coal, Steel, Power, Cement, Construction, Municipal bodies, Defence undertakings, PSUs, Indian Railway, DMRCL, BMRCL, etc.

The partial list is given below:

4.13.1 Mining & Construction Sector

- Coal India Limited & subsidiaries, Singareni Collieries Ltd, Neyveli Lignite Corporation, National Mineral Development Corporation, Steel Authority of India, NTPC, NHPC, Reliance Infra, Larsen & Toubro, Tata Steel Limited, Municipal bodies, Ports etc

4.13.2 Defense Sector

Ministry of Defense / Defense Forces, DGBR, BDL, DRDO, BEL, HAL Ordnance Factories

4.13.3 Rail & Metro Sector

Indian Railways, Delhi Metro Rail Corporation Ltd, Bangalore Metro Rail Corporation Ltd, Other Metro Projects
4.14 Achievements and Accolades

BEML was able to achieve 85% rating in a number of its products, resulting on spearheading towards fast-track indigenization enabling it to gain many accolades, such as accreditation of ISO 9000 and attaining the position of second largest manufacturer of earthmoving equipments in Asia. The organization has vital applications in diverse sector of economy such as coal, steel, mining, cement, power, irrigation, construction, road building, defence and railway. The services and production has also expanded towards manufacturing high quality hydraulics, heavy duty diesel engines, welding robots and undertaking of fabrication jobs.

Figure 4.6 Innovation Management Award

Several Accolades has been received past four decades, some of the recent accolades are;
2007-08

- EEPC, Southern Region awarded BEML ‘Star Performer Award’ for its outstanding contribution to Engineering Export held on 24th Nov 2007
- BEML Award received for ‘Excellence in Technology and Innovation’ from Confederation Indian Industries (CII).
- CMD received the 'ROTARIAN AWARD' of Vocational Excellence in their District Conference held at Bangalore on 9th February 2008

2008-09

- Raksha Mantri’s Award for Best Defence PSU for year 2007-08.
- Best PSU award from Indian School of Planning and Management.
- EEPC, Southern Region awarded ‘Silver Shield’ for Star Performer as a Large Enterprise for its outstanding contribution to Engineering Export held on 11th Feb 2009
- Indian Institute of Planning & Management has awarded BEML the ‘Best PSU Award’ on 25th Mar 2009.
SCOPE Award received from Hon’ble Prime Minister for Excellence and Outstanding Contribution to the Public Sector Management – Medium PSE Category for the year 2006-07 on October 15th 2009.

Raksha Mantri’s Award for Excellence- ‘Institutional Award for Best Performance in Exports for the year 2007-08’ was received from Hon’ble Raksha Mantri on November 6th 2009 at New Delhi.

Construction World Award 2009 for the fastest growing construction equipment company by Union Minister for Roads Transport and Highways on 8th Oct 2009 at Mumbai.

Golden Peacock Award (Innovative management category) on 16th January 2010 at Bangalore

Figure 4.7 Awards
The chapter 4 covers a complete analysis on the performance, functions, strategies, structure, scalability, practices, products, competencies, infrastructure, corporate governance, corporate social responsibilities, Research and development, achievements, financial performance, internationalization and its business transformation and expansion activities.