

Human Resource Accounting Practices in Bharat Heavy Electricals Limited

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1. Profile of BHEL

Bharat Heavy Electricals Limited (BHEL) is India's largest engineering company and one of its kind in this part of the hemisphere. It manufactures a wide range of state-of-the-art power generation equipment and systems besides equipment for industry, transmission, transport, defence, telecommunication and oil business. The first plant of BHEL was set up at Bhopal in 1956, which signalled the dawn of the heavy electrical industry in India. In the early sixties three more major plants were set up at Hardwar, Hyderabad and Tiruchirapalli. They form the core of the diversified product range, systems and services that BHEL offers today. The company now has 14 manufacturing divisions, 9 service centres and 4 power sector regional centres besides project sites spread all over India and also provides prompt and effective service to customers.

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BHEL's business broadly covers conversion, transmission, utilisation and conservation of energy in the core sectors of the economy that fulfil infrastructural needs of the country. Its products have established an enviable reputation for high quality and reliability, which is largely due to the emphasis placed all along on contemporary technology. BHEL has consistently upgraded its design and manufacturing facilities to international standards by acquiring and assimilating some of the best technologies in the world from leading companies in the USA, Europe and Japan together with technologies from its own research and development centres.¹

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BHEL has a corporate research and development centre supported by an R&D group at each of the manufacturing divisions. BHEL's technology policy, which has been derived from the National Technology Policy, has adopted a judicious mix of indigenous effort and selective collaboration in essential areas. The company is thus able to continuously upgrade its technology and product designs to contemporary standards.²

Around 69,000 employees in BHEL form the backbone of the company. The greatest strength of BHEL is its highly skilled and committed people. The Human Resource Development Institute and other training institutes of the company not only help in keeping their skills updated and finely honed but also add new skills when required. Every employee is given an equal opportunity to develop himself and improve his position. Continuous training and retraining, a positive work culture and a participative style of management have led to the development of a motivated work force and enhanced productivity and quality levels.

BHEL has also set up several national level research institutions with the assistance of the United Nations Development Programme (UNDP). These include Welding Research Institute and Occupational Health Service Centre at Tiruchy, Pollution Control Research Institute at Hardwar, Centre for Development of Electric Transportation at Bhopal and Ceramic Technology Institute at Bangalore. Since the majority of the utilities are coal-based, a fuel evaluation facility has been set up to test coal for evolving better design parameters.³

BHEL's operations are organised around three business sectors, namely, Power, Industry and International Operations.⁴ It has exported its equipment and services to over 50 countries. With the receipt of repeat order, 80% of boilers installed in Malaysia are of BHEL make. Besides, several BHEL hydro sets are also in operation there. Recently, BHEL rehabilitated several boilers in Malaysia and converted these to gas firing. The company also supplied and commissioned gas turbines to Malaysia on a tight delivery schedule. BHEL made a breakthrough in the European market by supplying 2 TG sets of 600 MW rating to both Malta and Cyprus. BHEL does trade with Egypt and Saudi Arabia also.⁵

2. HRA Model and General Assumptions at BHEL

BHEL is one of the earliest organisations in India which started the practice of HRA, though none of the accounting standards and none of the provisions of the Indian Companies Act 1956 require disclosure of the value of human resource. However, there are organisations both in India and abroad which have started valuing their HR and making proper disclosure of it. Such disclosure helps them to take proper decisions and to motivate employees to perform at their best for the organisation. BHEL is one such organisation.

In India almost all the organisations which are depicting the worth of their HR are following the Lev and Schwartz Model with certain modifications here and there.

BHEL does not consider labour as a cost but as a resource and in valuing this important asset it has been guided by the Lev and Schwartz model. The expected salary, increments there of and expected years of service of an employee are taken into consideration and further discounted at a rate decided by the organisation. BHEL follows this model with the following assumptions :

- i. present pattern in employees compensation, including direct and indirect benefits, including the effect of wage revision
- ii. normal career growth as per the present policies with vacancies filled from the levels immediately below;
- iii. weightage to change in efficiency due to age, experience and skills;
- iv. application of the discount factor, 12% per annum on the future earnings, to arrive at the present value.⁶

3. Disclosure of Human Assets in Financial Statement

BHEL has classified its work force into six categories to make it easier to calculate their value. These categories are :

- i. Executives
- ii. Supervisors
- iii. Artisans
- iv. Supporting Technical Staff
- v. Clerical and Office Staff
- vi. Unskilled/Semi-skilled workers

This classification is based on the nature of job performed by different individuals. The services, which are owned by the organisation against the salaries to be given to them, form the basis for the valuation of HR.

The history of HRA in BHEL dates back to 1971-72. BHEL, being a leading public sector enterprise, took a lead and initiated the importance of treating the employees as an asset and disclosing them in the balance sheet properly in the form of an asset. However, because of the non-availability of data thereafter and for making this study more exact and meaningful, we have taken into account the data of HR in BHEL since 1981-82. The figures and interpretation thereof have been presented in a chronological order to facilitate the understanding of the theory and practice of HRA in BHEL.

4. Analysis and Interpretation of Human Asset Accounts

4. i. General

BHEL started disclosing its Human Asset Accounts in 1971 and since then it has never looked back. For the purpose of the present study, the data/accounts of the last 13 years are being analysed and interpreted to provide a more comprehensive and detailed picture of the organisation. In certain years some of the information has been omitted whereas in some others some more information has been added. It is discussed in detail in the following study. However, it is important to mention here that in the absence of any Accounting Standard, which asks for compulsory disclosure of Human Assets, such accounts have not been audited. Therefore, certain changes in the form of presentation are quite obvious and visible in the Annual Reports of different years. Moreover, a common practice followed by BHEL in all these years has been that the number of total employees and the pattern of their valuation have been stable and consistent. We can discuss, analyse and interpret Human Asset Accounts as depicted in all these years here under different heads.

4. ii. Professional Profile

Since the time BHEL started following HRA, it has been depicting the number of employees under different heads. In 1977-78 there were 7 types of employees - Engineers/Technicians, Accountants, Doctors, Scientists, Artisans, Clerical Staff and Others. Since 1981-82, they have been classifying the professionals under 6 major heads as Executives, Supervisors, Artisans, Supporting Technical Staff (STS), Clerical and Office Staff (COS) and Unskilled/Semi-skilled Workers (USSW). BHEL has been quite consistent and strict in this classification and to date there has been no change in these major heads. So far as the number of total employees is concerned, it has been increasing with the size and profitability of the organisation. However, in some years it has been observed that the number of total employees has gone down. In 1975-76, the total number of employees was around 52,000, which went up to 56,137 in 1977-78. In 1981-82 it was 69,800, which means that in 4 years, i.e. 1977-78 to 1981-82, there was a sharp increase in the total number of employees by 13,663. This increase in the number of employees in just four years is a record increase in BHEL, the reason being that during a these years a lot of new units of BHEL were set up and started operating. More importantly, this increase was in the field of managerial and technical jobs as the number of artisans went down during the period. It was 28,792 in 1977-78 and 27,160 in 1981-82. From 1981-82 to 1988-89 there was a small fluctuation in the total number of employees but from 1988-89 till 1993-94 the total number of employees went down. In 1981-82 it was 69,800, which went up to 71,750 in 1982-83, 74,800 in 1983-84 and went down to 74,464 in 1984-85. Again there was an increase by around 500 employees and in 1985-86 it was 74,915. In 1986-87 a mere increase by 3 employees was noticed as it was 74,918. In 1987-88 it was 74,813, which went up to 75,116 in 1988-89. Since then the total number of employees has been going down and in 1993-94 it was shown as 70,463.

If the break-up of the total number of employees is analysed, it can guide us to a better understanding.

4. ii. a Executives

The number of executives had been going up till 1989-90 when their number was 12,044, being 16% of the total employees. After 1989-90 the number started having a downward trend and it fell to 11,899 in 1993-94, being 17% of the total employees. It is evident here that though the total number of employees and also the number of executives had a downward trend, their share in the total employees has always been going up. In 1981-82 out of the total employees, 13% were executives. In 1985-86 it went up to 15%, in 1989-90 to 16% and in 1993-94 to 17%. It shows that BHEL has been in need of more and more executives year by year, which proves that the planning and decision-making force is more effective and efficient. Further, the Management is supposed to be more concentrated on the decision-making body of the organisation.

4. ii. b Supervisors

The number of supervisors in BHEL has not been increasing in the same way as that of the executives. If we take into account the percentage of supervisors out of the total employees, we find that it has been quite consistent during all these years. In 1981-82 the percentage was 14, in 1985-86 it was 16 and since then it has had a

stable position at 16. It should be kept in mind here that the size of executives in total started going down in 1989-90 where as the number of supervisors in total started having a downward trend in 1984-85. These two different trends can provide some ground for being technically self-sufficient and the efficient working of supervisors.

4. ii. c Artisans

The role of artisans in an industry like BHEL which deals in manufacturing heavy plants and generating electricity etc is very important. In 1977-78 BHEL had 28,792 artisans who constituted 51% of its total employees. The greatest number of employees in BHEL is still of artisans and in 1993-94 their number was 28,935, which was 41% of the total employees i.e. 10% less than that in 1977-78. However, during this period (1977-78 to 1993-94) there were both an increase and a decrease in the total number of artisans and also in the percentage of total employees. In 1981-82 there were 21,160 artisans who constituted 39% of the total work force. From 1981-82 to 1983-84 the number of artisans had an upward trend, it being 28,155 in 1983-84. In 1984-85 the number of artisans was 27,644 and in 1985-86 it was 27,953, when their percentage in the total employees went down to 37%. In 1986-87 there was an increase in the number of artisans by around 1.7%. In 1989-90 the number of artisans touched its peak in BHEL with that of 29,809, which was 40% of the total work force. Since then there has been a marginal decrease in the total number of artisans which was 28,935 in 1993-94, being 41% of the total work force. Importantly it should be noted here that in 1977-78, when there were only 28,792 artisans, their share in the total employees was 51% whereas in 1993-94 even when the total number was 28,934, its share was only 41%. It shows that in the initial years, out of the total available work force, there were more artisans and today their share has gone down.

4. ii. b. Supporting Technical Staff (STS)

Out of the 6 types of employees in BHEL, the total number of STS has always been the least, the reason being its supporting nature. Such employees are generally attached to supervisors and artisans in some way or other. Generally, the number of STS has been going down in the last 12-13 years. In 1981-82, its number was 4,310 which followed a downward trend till 1987-88 when it was 3,743. After 1987-88, in 1988-89 its number went up to 3,804 and since then again it has been going down. In 1993-94 its number was 3,496, which is the lowest figure so far in the last 13 years. If we analyse the percentage of the total employees we find that it has been going down in the last years and the decrease is quite consistent as in 1981-82, out of the total employees, 6% were STS whereas in 1985-86, 1989-90 and 1993-94 it was merely 5% of the total strength of employees. It can be interpreted that BHEL's policy of achieving excellence is to make technical staff more self-dependent and responsible rather than going for supporting staff. To some extent BHEL has succeeded in its target by increasing the percentage of artisans more than that of STS in the total strength of employees.

4. ii. e. Clerical and Office Staff (COS)

So far as COS is concerned, BHEL has taken due care to maintain their size in total employees. It has been keeping track of the office automation systems and more efficient use of the office machinery. Though the total number of COS increased marginally in the initial years of the study, the later decrease in size is recorded. In

1981-82 the number of COS was 6,090, which went up to 6,120 in 1982-83 and further to 6,230 in 1983-84 and 6,263 in 1984-85. After 1984-85 there has been a decrease in the total size of COS as in 1985-86 it was 6,202 and it further went down to 5,699 in 1986-87 and 5,580 in 1987-88. Again in two consecutive years there was an increase as in 1988-89 it was 5,581 and in 1989-90 it was 5,602. Its number went down to 5,522 in 1990-91 and again a small increase was observed as in 1991-92 it went up to 5,537. Since then it has been going down. In 1992-93 it was 5,397 and in 1993-94 it reached 5,193. The decrease in the total number of COS has been because of the good office management techniques followed by BHEL and computerisation has also helped the organisation in maintaining a satisfying figure of COS. If we go through the percentage of COS in the total number of employees, it may be seen that its number has been quite consistent as in 1981-82 its percentage was 9% and it has been going down marginally as in 1985-86 it was 8% and in 1989-90 and 1993-94 it stood at 7% of the total employee strength.

4. ii. f. Unskilled/Semi-skilled Workers (USSW)

This category of employees comes next to artisans so far as its number is concerned, initially. But in the later years it has gone down to number four because the number of executives and supervisors has gone up. It can be treated as an indication of the progressive approach of BHEL. In 1982-83 the number of USSW was 13,100, it being 19% of the total employees. This number went up to 14,590 in 1983-84, which is highest ever between 1981 and 1994. After 1983-84 it had a downward trend and in 1985-86 it was 13,724, which constituted 19% again of the total employees. This consistency was very well maintained in the organisation, but in the later years both the number of USSW and their percentage in total employees had a downward trend and it reached 11,567 in 1989-90, being 16% of the total employees and further in 1993-94 it was 9,773, being 14% of the total employees. It should be noted here that 1993-94 had the lowest figure of USSW in the course of the study i.e. 1981-94. It shows that BHEL went for adopting new technology for keeping pace with the other industries, which resulted in a decrease in USSW.

4. iii. Value of Human Assets (HA)

As mentioned at the outset, BHEL follows the Lev and Schwartz model of valuation of HA. "Prior to 1981-82 BHEL had been using the Lev and Schwartz model without making any changes, whereas since 1981-82 one change in the model has been made which assumes the maintenance of staff strength at the existing level, and no replacement as and when retirement takes place."⁷ Though such valuation and depiction is not audited, it helps the management to have a sound decision policy and the correct picture of total assets including physical assets, current assets and human assets comes before the management and the parties interested in the financial information of the organisation. If the total value of HA in different years is compared, it will show the speed of progress in the organisation and the creation of HA in different years. In 1977-78 the organisation had HA worth Rs. 4,127 million which reached Rs. 37,532 million in 1993-94. This increase of around 9 times in the value of HA shows that the organisation has reached a mature stage and year after year a good amount of HA has been created and added to the worth.

This also shows that there has been a steady rise in the value of HA. However, if it is studied together with the number of employees, it will be seen that the number of

employees has a downward trend now. It shows that the per employee worth is increasing, which is a good sign for the organisation. Each segment of employees is analysed below on the basis of its value.

4. iii. a. Executives

BHEL values its executives at a high price. If we take a look at their value we find that in 1981-82, one executive was valued at Rs. 2.09 lakhs, which has a trend of increase every year. In 1985-86 it reached Rs. 3.28 lakh and in 1987-88 it was Rs. 4.11 lakh. 1989-90 recorded the value of one executive at Rs. 5.75 lakh and in 1993-94 it was Rs. 9.02 lakh. This increase indicates the creation of assets within executives on the basis of their important role in the organisation. If we see the percentage of executives, value in the total value, we can draw interesting conclusions. In 1981-82, 27% of the total value of HA was of executives, which went down to 26% in 1985-86 and stood at it in 1989-90. But in 1993-94 it went up to 29%. These marginal fluctuations are the result of different experiments made by the organisation. And at present executives have the most important role to play. Their percentage is lower than that of artisans only because of their size. In number, artisans are around three times as great as executives. But valuationwise executives are at the top. It may be because of their earning capacities which are the very basis of the calculation of HA.

4. iii. b. Supervisors

So far as technical supervision is concerned, supervisors are valued at the top. In 1981-82, one supervisor was valued at Rs. 1.04 lakh, which has been increasing throughout the study period. In 1985-86 it went up to Rs. 1.99 lakh and in 1989-90 it was Rs. 4.76 lakh. In 1993-94 it went up to Rs. 5.83 lakh. As the organisation is getting mature, the value of supervisors is increasing. Interestingly supervisors' value is quite on a par with the average value of an employee which was Rs. 1.01 lakh in 1981-82, Rs. 1.81 lakh in 1985-86, Rs. 4.22 lakh in 1989-90 and Rs. 5.33 lakh in 1993-94. It can also be analysed that increase in the value in the initial years is more than in the later years. If the share of supervisors is interpreted, it again leads us to an interesting picture of the organisation. The position of supervisors' value is the reverse of that of executives so far as its percentage in the total value of HA is concerned. In 1981-82, 15% of the total HA was the value of supervisors which had an upward trend till 1989-90, as in 1985-86 it became 18% and in 1989-90 21%. But in 1993-94 the percentage of the value of supervisors in the value of total HA went down to 17%, whereas in the case of executives it went up to 27%. The decrease in the value share of supervisors was shifted to executives and artisans, although per artisan value was less than per supervisor value.

4. iii. c. Artisans

As discussed earlier, the number of artisans is at the top in BHEL and constitutes a little more than one-third of the total work force of the organisation. But since the per employee salary of artisans is much less than that of executives and supervisors, their per artisan value is also less. In 1981-82 one artisan was valued at Rs. 0.84 lakh, which went up to Rs. 1.49 lakh in 1985-86, Rs. 2.87 lakh in 1989-90 and Rs. 4.25 lakh in 1993-94. If the per artisan value is compared with the average employee value, we find that the difference between them is decreasing year by year. It is an indication of the efficient services provided by artisans in BHEL. The percentage of

the value of artisans constitutes a little less than one-third of the total value of HA. In 1981-82 their share was 32%, in 1985-86 it went down to 31% and there was a consistent increase by 1% as it became 32% in 1989-90 and 33% in 1993-94 as against a decrease in the share of supervisors' value. Interestingly the number of artisans is around three times as great as that of executives whereas in value it is merely a 5 to 6% increase.

4. iii. d. Supporting Technical Staff (STS)

As discussed earlier, BHEL has a policy of making its engineers self-sufficient and responsible by decreasing the size of supporting staff, which is one of the important reasons for increase in the number of executives, supervisors and artisans. In the same way as the number of STS is going down, their value share in the total value of HA is also decreasing consistently. In 1981-82 it constituted 6% of the total value of HA, which went down to 5% in 1985-86 and further to 4% in 1989-90. In 1993-94, it stayed at 4%. At first, STS was valued at a bit more price than artisans but later on it was on a par with them. In 1981-82 one STS was valued at Rs. 1 lakh which went up to Rs. 1.66 lakh in 1985-86 and Rs. 2.87 lakh in 1989-90. It stayed on a par with artisans in 1993-94 with Rs. 4.25 lakh per STS. The difference between the average value of one employee and that of one STS is more or less the same as that of artisans. Again, it should be noted that BHEL wants to decrease the size of STS by shifting them to various other fields.

4. iii. e. Clerical and Other Staff (COS)

The number of COS is more than that of STS only in BHEL. Their number also has a downward trend during the last years because of office automation, computerisation and other new technologies adopted by the organisation. But COS still plays a major role in achieving the goal of the organisation. COS has been valued at just a bit more price than USSW and almost on a par with artisans and STS but 1993-94 brought a lot of changes which resulted in the less price of COS, STS and artisans than USSW. In 1981-82 one COS was valued at Rs. 0.90 lakh which increased to Rs. 1.61 lakh in 1985-86, Rs. 2.87 in 1989-90 and was on a par with STS and artisans at Rs. 4.25 lakh in 1993-94 which is around Rs. 1 lakh less than the average value of an employee. If the trend in the value share out of the total value of HA is analysed, it can be seen that COS has the same trend as STS. In 1981-82 COS had 8% value of the total HA, which went down to 7% in 1985-86 and 6% in 1989-90. In 1993-94 it stayed at 6%. It has a downward trend which is an indication of the modernisation and efficient use of COS, keeping in view their value and number.

4. iii. f. Unskilled/Semi-skilled Workers (USSW)

This segment of employees had the second position in number after artisans in 1981-82 which went down to the fourth position in 1993-94. These years revolutionised the working in BHEL and brought it to an international standard. But so far as their value is concerned, it had the same place in 1993-94 as in 1981-82. In 1981-82, 12% value of the total HA was constituted by USSW which increased to 13% in 1985-86 and went down to 11% in 1989-90. In 1993-94, it stayed at 11% and had the fourth position, as in 1981-82. So far as the value of one USSW, is concerned, it used to be least valued till 1992-93 but 1993-94 valued him at a more price than an artisan and a member of the STS and COS. In 1981-82 one USSW was valued at Rs.

0.64 Lakh, in 1985-86 the value was Rs. 1.28 lakh and in 1989-90 it went up to Rs. 2.61 lakh, being the least value segment. But in 1993-94 it reached Rs. 4.39 lakh which was more than that of an artisan and of a member of the STS and COS by around Rs. 0.14 lakh. It shows the importance given to this segment of employees in BHEL.

"During the years 1986-87 and 1987-88, Human Asset Values went up by 15% partly due to a rise in emoluments and partly due to the growing number of professionals and artisans."⁸ Valuing the employees in BHEL has brought about a lot of good results in the organisation and at present it is one of the most important organisations for the government. The employees of BHEL have been bagging a lot of national awards and it has made its presence felt in the international arena. It is no longer a conservative organisation and has shown adaptability to all new techniques which are beneficial to it.

4.iv. Productivity of Human Resources

There are different variables which indicate the productivity of BHEL as a whole. Human Resource Valuation has helped the organisation to increase productivity and efficiency within the organisation. It has helped to streamline the areas of importance. Personnel payments, capital employed, turnover, value added data and profit before tax are the variables which have been used in the present study to show the increase in productivity in BHEL. BHEL has followed a policy of diversification and has entered into new types of ventures all over the years of the study and before.

Our productivity plans formulated and implemented since 1982 have helped us in improving capacity utilisation and optimal use of our resources in men, machines, materials and money. Our investment plans have been primarily directed at product improvement, capacity utilisation, cost reduction, quality improvement, technology upgradation, modernisation of machine tools and efficient import substitution - steps intended to improve overall productivity of the organisation measured in value added terms. We are striving to build up in the company an environment in which every one of our employees is able and willing to give his or her best. It involves :

- (i) Building up a new work culture which will promote motivation and commitment and where employees work as members of a family for the accomplishment of the overall objectives of the company;
- (ii) Decentralising and reducing substantially managerial layers and administrative levels to provide greater freedom and flexibility for our managers in operation; and
- (iii) Training and development of our employees in line with the company's and employees' needs.⁹

BHEL has been successful in achieving its set targets within the estimated period. Its focus on employees has brought good results by way of sizable increase in the productivity. Here we analyse all factors of productivity one by one.

4.iv.a. Personnel Payment Per Employee (PPPE)

BHEL includes salaries, wages and other benefits to employees in personnel payments. The total amount of personnel payments is separately discussed under the next head viz Compensation Packages. Here only PPPE has been analysed and

interpreted. In 1982-83, one employee on an average was paid Rs. 0.22 lakh, which has been increasing quite consistently. In 1983-84 it was Rs. 0.25 lakh and in 1984-85 it went up to Rs. 0.285 lakh. In 1993-94 the PPPE was Rs. 0.80 lakh. There was an increase by 13.63% in the PP during 1982-83 and 1983-84. The increase in payments was at its peak during 1985-86 and 1986-87 and since then there has been a decrease in the percentage of increase in PPs, as it went down as low as 6.67% during 1992-93 and 1993-94. In 1985-86 average PP was Rs. 32,600 which went up to Rs. 37,800 in 1986-87. This was the time of highest increase in the payments so far as the study period 1981 to 1994 is concerned. Decrease in the size of increase in PPs helped the organisation to increase its productivity.

4. iv. b. Capital Employed Per Employee (CEPE)

So far as CEPE is concerned, it has a rising trend in general after 1984-85 though before 1984-85 there were ups and downs. In 1981-82 it was Rs. 1.24 million which increased to Rs. 1.35 million in 1982-83 and there was a sharp decline by around 14% when it fell to Rs. 1.16 million in 1983-84. The position got strengthened in 1984-85; it was Rs. 1.24 million and increased to Rs. 1.29 million in 1985-86. There was a sharp increase in the figure in 1986-87 when it was Rs. 1.38 million. After that it has been increasing steadily. In 1989-90 it was Rs. 2.07 million and reached Rs. 3.4 million in 1993-94. If the size of increase between different intervals is analysed it shows that between 1981-82 and 1985-86 there was an increase in CEPE of merely 4% whereas between 1985-86 and 1989-90 it was by 60%. Between 1989-90 and 1993-94 the increase was by 64%. It clarifies that in the later years the amount of capital employed was better as compared to the early years.

4. iv. c. Turnover Per Employee (TPE)

To judge productivity, turnover is one of the most important variables. When we analyse per employee turnover it becomes more Human Resource oriented, which is the focal point of the present study. From 1981 to 1994 there was a steady increase in TPE. In 1981-82 it was Rs. 1.35 million which increased by around 23% and reached Rs. 1.67 million in 1982-83. This is the highest rate of increase during 1981-94. In 1983-84 it reached Rs. 1.81 million and in 1984-85 Rs. 1.99 million, recording a 10% increase over the previous year. There was a good increase as compared to other years during 1986-87 and 1987-88 as in 1986-87 it was Rs. 2.66 million which became Rs. 3.10 million in 1987-88, recording an increase by around 19%. Again in the later years it had a very slow trend as between 1989-90 and 1993-94 there was an increase by 27% which had been 70% between 1985-86 and 1989-90. So far as the average rate of increase during 1981-94 is concerned, it was recorded at 11.83%.

4. iv. d. Value Added Per Employee (VAPE)

There was a consistent increase in the VAPE during 1981-94 as in total it was around 280%. In 1981-82 the VAPE was Rs. 0.57 lakh which increased to Rs. 0.66 lakh in 1982-83, Rs. 0.75 lakh in 1983-84, Rs. 0.82 lakh in 1984-85, Rs. 0.942 lakh in 1985-86, Rs. 1.06 lakh in 1986-87, Rs. 1.19 lakh in 1987-88, Rs. 1.23 lakh in 1988-89, Rs. 1.42 lakh in 1989-90, Rs. 1.51 lakh in 1990-91, Rs. 1.78 lakh in 1991-92, Rs. 1.97 lakh in 1992-93 and Rs. 2.17 lakh in 1993-94. So far as the percentage of increase is concerned, in the last years i.e. 1992-93 and 1993-94 it was at its top. It was around 10%. It shows that there has been a good amount of value added to the

organisation. There is one important reason for increase in the VAPE in the last years and that is the marginal decrease in the number of total employees.

4. iv. e. Profit Before Tax Per Employee (PBTPE)

This is also an important variable for analysing the productivity of an organisation. BHEL has recorded a good increase in PBTPE, but in some of the years the position has not been good. In 1981-82 it was Rs. 0.07 lakh which went up to Rs. 0.45 lakh in 1993-94. From 1981-82 to 1985-86, geometric consistency was seen as during 1981-83 it increased by Rs. 0.01 lakh, during 1982-84 by Rs. 0.02 lakh, during 1983-85 by Rs. 0.05 lakh and during the year 1984-86 it was a 0.05 lakh increase. In 1986-87, it stayed at Rs. 0.02 lakh and again increased by Rs. 0.05 lakh following the earlier trend. Between 1987-88 and 1992-93 there was inconsistency in the increase and decrease of PBTPE, as in 1988-89 it was Rs. 0.26 lakh and went up to Rs. 0.29 lakh in 1989-90. In 1990-91, it went down to Rs. 0.27 lakh which again went down to Rs. 0.26 lakh in 1991-92. It was quite expected of the organisation because of the acquisition of a good infrastructure for future business. In 1992-93 it recorded a sizable increase and reached Rs. 0.43 lakh and further in 1993-94 it was maintained at Rs. 0.45 lakh. During 1991-92 and 1992-93 there was a record increase in PBT by around 66%, which indicates the mature growth achieved by BHEL.

4. iv. f. Turnover Per Rupee of Wages (TPRW)

This variable provides information about the relationship between turnover and personnel payments. The amount of turnover that BHEL gets against one rupee of payment is the base of this variable. In 1982-83 one rupee payment was making a return of Rs. 7.47 by way of turnover. TPRW has generally been going down during the last few years because of two major reasons : one, decrease in the number of total employees and, two, improvement in the efficiency of the employees. In 1983-84 it went down to Rs. 7.08 and further to Rs. 7.00 in 1984-85. There was an increase in 1985-86 as TPRW reached Rs. 7.08 and again there was a decrease by Rs. 0.04 in 1986-87 and in 1987-88 it reached Rs. 7.09. In 1988-89 it went down to Rs. 6.98 and further there was an increase which made it reach Rs. 7.12 in 1989-90. Since then it has been going down steadily as in 1990-91 it became Rs. 6.96, in 1991-92 Rs. 6.85 and in 1992-93 Rs. 6.53. In 1993-94, it further went down to Rs. 6.34. The inconsistency during the last 12 years is because of the number of employees and the salary packages provided for them.

4. iv. g. Value Added Per Rupee of Wages (VAPRW)

This variable is based on the per rupee advantage to the value added. In 1982-83 the payment of one rupee was able to add Rs. 3 to the value of the organisation. It has been going down and up in the last years. In 1983-84 it went down to Rs. 2.94 and again in 1984-85 it went down to Rs. 2.84. There was an increase by Rs. 0.04 in 1985-86 and further there was a decrease by Rs. 0.08 as it reached Rs. 2.80. It followed this downward trend till 1988-89 when it was Rs. 2.45. Since 1988-89 it has been going up with an exception in 1992-93 when it went down from 2.67 in 1991-92 to Rs. 2.63 in 1992-93. In 1993-94 it stayed at Rs. 2.73. Therefore, if the total period of 12 years is taken into consideration it can be concluded that there was a 9% decrease in VAPRW during 1981-84. Since BHEL is at a mature stage now, it can very well be

said that the Rs. 2.73 addition against one rupee of payment to the worth of the organisation is quite satisfactory.

If BHEL has achieved the stature of a leader in its field it is only due to its experienced and mature employees. Productivity trends improved due to the growth in turnover and value added with more or less the same number of employees. The value added per rupee of wages went down mainly due to upward revisions of personnel payments by way of ad hoc interim relief to employees.¹⁰

Additional investments and enhanced employee benefits led to an increase in productivity per employee. The value added per employee increased by 12% as compared to the increase in investment by 9% and in the total emoluments by 16%. The value added per rupee of wages remained by and large stable.¹¹

Side by side, round the year training programmes, increased investment in the plant and machinery, in particular in CNC machines, and continuous upgradation of the other machinery through reconditioning and retrofitting improved the productivity of HR. At the same time emoluments also increased substantially due to wage revisions which to a certain extent resulted in the decline of productivity ratios in relation to wages.¹²

The improved quality of manpower coupled with increased investments in technology, new machines (particularly CNC machines) and reconditioning and retrofitting of old machines enhanced the productivity. The productivity ratio per employee and per rupee of investment increased. In relation to the wages the ratios remained fairly stable.¹³

BHEL is an organisation which has achieved its targeted growth and, wherever necessary, restricted itself to attaining a high level of productivity. CMDs and Directors of BHEL have always been appreciating, encouraging and motivating its employees to perform at their best for the organisation. In fact BHEL is proud of its able, efficient and motivated workers and to a very good extent the disclosure of human asset information has helped them to have a sense of belonging to the organisation.

4. v. Compensation Packages

BHEL's compensation packages for its employees are among those offered by excellent organisations in the public sector. Keeping in view the decrease in the number of employees, the salary package has always been increasing in total. Salaries, wages and benefits have been increasing during the last 12 years at an average of 12.78% annually. In some of the years it has gone up to 20% and in some others it has gone down to an increase of mere 4%. Generally, it can be observed that in the initial years, i.e. 1981 to 1990, the rate of increase was quite good, more than the average increase, and in the later years, i.e. from 1991 to 1994, it was below average. There are two major reasons for it: one, decrease in the number of total employees which has affected the total package and, two, it is a natural process that when an organisation goes ahead and attains maturity, the increasing ratios go down. It is evident from our study of these 12 years if we divide them into three terms—the first from 1982-83 to 1985-86, the second from 1986-87 to 1989-90 and the third from 1990-91 to 1993-94. In the first term, the average increase was 16.33%, in the second it was 14.25% whereas in the third term it was simply 7.75%. On the whole it is quite natural for an organisation like BHEL, though there has been inconsistent increase during the whole

period. So far as the payment per employee is concerned, it has already been discussed earlier, while analysing the productivity of HR. The total payment was Rs. 1547 million in 1982-83 which reached Rs. 5608 million in 1993-94 as against the total strength of 71,750 employees in 1982-83 and of 70,463 in 1993-94. In total payments, the increase is recorded around 262% during 1982-94 as against an increase in the employee of (-) 1.79%. It is a good sign for the organisation.

BHEL strove to evolve compensation packages commensurate with Government guidelines for workers and officers so as to meet their needs. In the last five years, as against no growth in the total employee strength the personnel payments have increased by 94%. The changing employee profile is one reason. The other reasons are wage settlements for workers, ad hoc reliefs for others, increased DA as compensation for the higher cost of living and increased personnel payments. The provision for adequate welfare facilities increased the social overhead expenses by 47%. The share of employee payments in the value added increased from 35% in 1984-85 to 38% in 1989-90.¹⁴

If personnel payments are analysed as the percentage of value added it will help us to interpret the position in a better way. It has already been discussed earlier that in the total personnel payment, there has been inconsistent increase. It has affected the percentage of value added to personnel payments also. This percentage has been quite inconsistent, but even then it has not varied much so far as its average percentage is concerned. In 1982-83 this percentage was 32.6% which rose to 36.6% in 1993-94. In 1988-89 it was at its highest at 40.8% whereas in 1986-87 it was at its lowest viz 30.7%.

4. vi. Human Assets vis-a-vis Total Assets

BHEL depicts different information as related to human resource. The relationship between human assets and total assets has been analysed and interpreted here for reaching a sound and appropriate decision as employees play a major role in increasing the total wealth of the organisation year by year. As discussed earlier, the value of HR has been increasing in the last years even when the number of employees has started going down. It indicates that the employees' productivity has been increasing. BHEL has taken effective steps for research and development on the one hand and for employee training on the other. This has made the employees more efficient. Though the disclosure of human asset accounts is not audited, it is of great importance and needs to be analysed since it establishes a proper relationship between human assets and total assets. It becomes more important when the increase in physical resources (total asset - human asset) is less than the increase in human assets. Here the different variables which facilitate the relationship have been discussed one by one.

4. vi. a. Periodic Increase in the Value of Human Assets

The total value of human assets in BHEL has an upward trend. The increase in the value of different types of employees has already been discussed. Here the percentage increase in the total value of HR is analysed. Though between 1977-78 and 1993-94 the increase in the total value is around 9 times, it will be of more importance to study the year-by-year increase in percentage since 1981-82 when the total value of HA was Rs. 7,060 million which reached Rs. 37,532 million in 1993-

94. The highest increase during 1981-94 took place in the first year, i.e. 1981-82 to 1982-83, when it was around 31% whereas the least increase in the percentage was during the period from 1990-91 to 1991-92 when it was around 4%. A more interesting picture can be obtained if all these 12 years are studied by making groups of the first, second and third four years which will be 1981-82 to 1985-86, 1985-86 to 1989-90 and 1989-90 to 1993-94. The average increase in the first four years was around 18%, whereas in the second four years it was around 18.5% and in the third and last four years it was merely 8.75%. It means that the highest increase in four years was during the period from 1985-86 to 1989-90 when the increase was kept quite stable. But as a natural process one cannot expect this value to increase in the same way over all the years. It starts falling down and stays there when the organisation gets maturity. BHEL is no exception to it. However, if the average of all the 12 years is taken, the picture is quite satisfactory, the average being 15.08%. One more interesting thing that may be mentioned here is that this increase is there even after a decrease in the total number of employees. And it may be one of the grounds for BHEL to decrease the size of employees in the organisation.

4. vi. b. Periodic Increase in the Value of Physical Resource

During the period of our study, i.e. from 1981-82 to 1993-94, the value of physical resource (PR) increased less than 3 times whereas if it is compared with the value of HR, it increased by around 5 times. It shows that the organisation has given more importance to HR than PR. In 1981-82 the value of PR was Rs. 15281 million which reached Rs. 41403 million in 1993-94. During these 12 years it is discovered that from 1983-84 to 1984-85 there was highest increase i.e. by around 45% whereas from 1982-83 to 1983-84 it was least and negative as it went down by around 29%. From 1992-93 to 1993-94 also there was a decrease of around 7% in PR. But if the average of these 12 years is taken, we find that there was an increase by around 9.83%. And further if these 12 years are divided into 3 slabs as the first four years (1981-82 to 1985-86), the second four years (1985-86 to 1989-90) and the third four years (1989-90 to 1993-94), the picture is more or less the same as that of the value of human asset. In the first four years the average increase in PR was 6.75%, in the second four years it was around 12.75% and in the last four years it was around 10%. The increase in the second four years was more than in the first and third four years, as in the case of the value of HA. It is also to be noted that the decrease in the value of PR is because of a decrease in the value of current assets.

4. vi. c. Periodic Increase in the Value of Total Resources

After analysing the value of human resource and that of physical resource, it is important to analyse the changes in the total resources (TR). From 1981-82 to 1993-94, only in one year there was a decrease in TR by around 2%, in the year 1981-82 to 1982-83. This was because of the decrease in PR because even during this year there was an increase by around 12% in the value of HA. So far as the increase in TR is concerned, it was at its highest during the period 1987-88 to 1988-89 when it was around 18%. During the last year i.e. 1992-93 to 1993-94 the increase in TR was merely by around 1%. If these 12 years are analysed on the basis of four-year slabs, it is discovered that in the first four years the average increase was around 8.5% which went up to 15.75% in the second four years and in the last four years it was 9.25%. Again, in the case of the value of TR also the second four-year slab was at the

top i.e. from 1985-86 to 1989-90. The average increase during the last 12 years was around 11%.

If the value of HA and that of PR and TR are compared, in total the position of TR was quite consistent during these 12 years, which shows that even when in some of the years there was inconsistent increase or decrease in the value of PR, it was taken care of by HA. It again justifies its valuation and disclosure which has brought good results for BHEL.

4. vi. d. Periodic Increase in Turnover

The per employee turnover has already been analysed earlier. Here the increase in total turnover during the last 12 years has been analysed. Generally over the last years the turnover had an upward trend as in 1981-82 it was Rs. 9,431 million which increased by around 5 times and reached Rs. 35,537 million. The highest increase was recorded during the year 1981-82 to 1982-83 when it was around 25% whereas it was at its lowest in the last year i.e. 1992-93 to 1993-94 when it was merely 1%. This trend is more or less the same as the increase in TR. Overall there has been a consistent decrease as in the first four years (1981-82-1985-86) the average increase in turnover was around 16.25% which went down to around 13.75% during the second four years (1985-86-1989-90). Further, it went down to around 4.75% in the last four years (1989-90-1993-94). On an average there was an increase of around 11.58% during the last 12 years. It is clear from the fact that in the later years the rate of increase went down. It is quite obvious in the case of BHEL because of its mature stage when such variables are supposed to be stable for far more years in the absence of any major change in the structure of the organisation or more diversification of its products.

4. vi. e. Periodic Increase in the Value Added

The increase in the amount of value added has been quite similar to the increase in turnover over the last 12 years. Similar to the increase in turnover, 1981-82 recorded the highest increase in value added when it was around 18%. In 1981-82 the value added was Rs. 4007 million which rose to Rs. 15,317 million, recording a little-less-than-4-time increase. During the year 1987-88 to 1988-89, there was least increase in the value added when it was around 3%. After this it was quite steady. The average increase in the value added during the last 12 years was around 11.83%. During the first four years the increase was around 14.5%, which then had a downward trend and went down to 10.75% in the second four years and further during the last four years to around 9.25%.

Though the average increase in turnover and that in value added during the last 12 years have been quite near (11.58% and 11.83%), one can see that in the first eight years the increase in turnover was more than the increase in value added. In the last four years the increase in value added was more than the increase in turnover.

4. vi. f. Turnover/Human Asset Ratio

Both the variables, turnover and the value of human asset had an upward trend during the last 12 years (1981-94). However, this ratio went down from 1.33 in 1981-82 to 0.95 in 1993-94. The major reason for this decrease is less increase in the turnover than in the value of HA. The increase in HA was a little more than 5 times

during the period 1981-82 to 1993-94, whereas during the same period the increase in turnover was a little less than 4 times. This ratio guides the management to increase the size of turnover in order to make the ratio equal, which should be treated as an ideal ratio. During 1990-91, it was quite near it viz. 1.01.

4. vi. g. Turnover/Total Resources Ratio

This ratio has been quite consistent during the last 12 years, the reason being a consistent increase in both these variables. The turnover increased by a little less than 4 times whereas the increase in TR was around 3.5 times. The organisation has been successful in maintaining this ratio all these years. In 1981-82 it was 0.42 and in 1993-94 it was 0.45. This ratio was at its peak during 1987-88 when it was 0.58. Since then it has been going down. In 1981-82 it was at its lowest in 12 years. The consistency in this ratio is because of a consistent increase in Human Asset Value (HAV), because in the value of PR there was some inconsistent increase in some of the years. On the other hand, the turnover has been increasing steadily.

4. vi. h. Value Added/Human Asset Ratio

The value added has risen by a little less than 4 times during the last 12 years whereas the value of Human Assets has gone up by more than 5 times. In 1981-82 this ratio was 0.57 which went down to 0.41 in 1993-94. In 1981-82 it was at its peak, whereas in 1990-91 it was at its lowest when it was 0.38 and since then it has picked up marginally. The reason for the decrease in this ratio is the lower percentage of increase in the value added than in HAV. The average HAV increase is recorded at 15.08% whereas the average value added increase is recorded at 11.83%. Decrease in this ratio is not a negative sign for the organisation because at the time of maturity the increased percentage in value added goes down, which effects this ratio.

4. vi. i. Value Added/Total Resources Ratio

The average increase in value added and that in TR are quite near each other. During the last 12 years the average value added increase was around 11.83% against the around 11% average increase in TR. So far as this ratio is concerned, it has been quite consistent during the last years. In 1981-82 it was 0.18 and in 1993-94 it was 0.19. It was at its peak in 1985-86 and 1986-87 when it was stable at 0.23 and after that it kept on going down. The average of this ratio during the last 12 years was 0.19 at which it stayed. Here also HAV has played its role in making the value of TR consistent.

4. vi. j. Human Asset/Total Resources Ratio

This ratio establishes relationship between the HA and TR of an organisation. TR includes HR and PR. Further, PR includes fixed assets, current assets and investment at current cost. This ratio can tell us the share of HA in the total assets. The higher this ratio, the better it is because the value of HA by itself has a tendency to increase whereas PR may not increase in the same way. A bigger ratio will show the efficiency of employees because they will be valued on this basis.

BHEL shows a positive trend in general during the last 12 years. In 1981-82 it was 0.32, which is the lowest ever during the whole period. It reached 0.48 in 1993-94, which is not the highest ever. However, it is more than the average ratio during the last

12 years which was 0.43. From 1987-88 to 1992-93, there was some inconsistency in this ratio. In 1987-88 it was 0.46 which went down to 0.45 in 1988-89 and again went up to 0.48 in 1989-90 and there was further increase when it reached its peak in 1990-91 at 0.49. It went down to 0.45 in 1991-92 and again to 0.42 in 1992-93 but rose to 0.48 in 1993-94. Overall this ratio has been quite satisfactory and positive for the organisation.

Recent economic developments, particularly exchange variation changes, increased substantially the value of physical resources in comparison with the value of human resources.¹²

4. vi i. Other Factors

BHEL has set up a human resource development institute (HRDI) to provide training to its employees. "Planned in-house and external programmes are conducted, aimed at improving skills and enhancing motivation both at unit level and by the HRDI at corporate level. Company concerns like quality, interpersonal relationship, employee morale and skill enhancement are specially emphasized."¹³

In 1982-83, 25% of its total employees were trained, which increased to 46% in 1986-87. "Training and development programmes encompassing employees at all levels ensured enhancement in the quality of human resource and their productive capabilities."¹⁴ BHEL has been sending its employees abroad, too, for training. In 1986-87 it sent 71 of its employees whereas in 1987-88 this figure was 78. Such training programmes have increased the value of HR throughout the last years.

Addressing the 24th AGM at BHEL, its chairman stated:

Another area of major attention has been to enhance the employee motivation and participation. Several steps have been initiated to build a new work culture and ethos which should promote team work and participation in decision making. Communication meetings are organised regularly with the employees at different levels to share ideas and perceptions on company plans and programmes. Streamlining the existing procedures and systems to make them more efficient and responsive, training and redeployment of our work force, management development programmes for different levels of managers with a view to exposing them to the latest national and international trends and the challenges affecting the organisation are the other areas of attention in this regard. These steps we hope will go a long way to promoting the employees' commitment to the organisational goals and objectives.¹⁵

These words of the chairman show the importance given to the human factor in the organisation.

If the profit before tax (PBT) is analysed, one can very well appreciate BHEL's policy. During the last 12 years (1981-82-1993-94) PBT went up by around 6 times. This increase is more than the increase in the turnover, value added, total resources, human asset and capital employed. However, the increase in PBT has been quite inconsistent and in some of the years it has gone down. In the period from 1989-90 to 1990-91, it declined by around 5% and further in 1990-91 and 1991-92, it declined by around 7%. But during the period 1991-91-1992-93 there was a sharp increase by around 66%, which is a record increase in PBT during

the period of 12 years. The average annual increase in PBT is recorded at around 18.08% during the period as against the around 9.3% average annual increase in total PR, around 11%, increase in TR, around 12.78% increase in compensation packages, around 15.08% increase in HAV, around 11.58% increase in the turnover and around 11.83% increase in the value added. It is a good sign for the organisation. If PBT is analysed in terms of four-year slabs, it can be seen that in the first four years the increase was highest at around 30% and in the second four years it was lowest at around 9% whereas in the last four years, i.e. from 1989-90 to 1993-94, it was 14.25%.

5. Conclusion

This paper delineates the human resource accounting practices in BHEL. The problem is not that of considering HRA as a branch of accounting but of practically treating employees as a resource which guides us to treat it as an asset. And once employees become an asset theoretically, and one of the most important at that, it needs and asks for proper disclosure in the books of accounts. It needs no mention here that BHEL has opened the door for other similar organisations which were not aware of this emerging area of accounting. Whether BHEL has been able to convince the accounting fraternity about its disclosure practices or not, it has certainly paved the way for other organisations to form an opinion about the concept of HRA, particularly in India. There are Indian organisations both in public and private sectors which have started this practice. If nothing is done at this point of time to convince the academicians and accounting bodies to rethink and revise their opinions of this emerging area of accounting, HRA will prove to be a fantasy and nobody except the accounting academicians will be responsible for this.

Table 1
Bharat Heavy Electricals Limited - Human Asset Accounts (1981-82 to 1993-94)

	1981-82	1982-83	1983-84	1984-85	1985-86	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94
Professional Profile (in figures)													
Executives	9080	9410	9750	10346	10914	11185	11529	11870	12044	11930	11970	12081	11899
Supervisors	10220	11225	11900	12170	12188	12543	12486	12305	11646	11356	11197	11219	11167
Artisans	27160	27645	28155	27644	27953	28426	28723	29760	29809	29766	29712	29354	28935
Supporting Technical Staff	4310	4250	4175	4105	3934	3839	3743	3804	3768	3737	3679	3589	3496
Clerical and Office Staff	6090	6120	6230	6263	6202	5699	5580	5581	5602	5522	5537	5397	5193
Un-sikilled and Semi-skilled Workers	12940	13100	14590	13936	13724	13226	12752	11886	11567	11363	10525	10106	9773
Total	69800	71750	74800	74464	74915	74918	74813	75116	74436	73664	72620	71746	70463
Value of Human Asset (in millions)													
Executives	1900	2430	2600	2995	3580	3960	4744	5367	6992	9068	9573	9959	10736
Supervisors	1060	1600	1835	2190	2420	3121	3841	4533	5546	6266	6400	6606	6512
Artisans	2290	2020	3385	3840	4165	5169	5550	7198	8550	9624	10031	10640	12300
Supporting Technical Staff	430	530	570	660	655	698	742	923	1081	1205	1242	1301	1486
Clerical and Office Staff	550	740	810	940	1000	1036	1106	1354	1607	1785	1869	1958	2208
Un-sikilled and Semi-skilled Workers	830	1030	1150	1535	1755	1899	1982	2459	3026	3164	3205	3288	4290
Total	7060	9250	10350	12160	13575	15883	18265	21834	26732	31112	32320	33747	37532

Cont...

	1981-82	1982-83	1983-84	1984-85	1985-86	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94
Productivity													
Personnel Payment (per employee in rupees)	NA	22000	25000	28500	32600	37800	43650	50000	55000	61000	67000	75000	80000
Capital Employed (per employee in rupees)	1.24	1.35	1.16	1.24	1.29	1.38	1.42	1.70	2.07	2.19	2.90	3.31	3.40
Turnover (per employee in rupees)	1.35	1.67	1.81	1.99	2.30	2.66	3.10	3.49	3.91	4.28	4.58	4.88	5.00
Value Added (per employee in rupees/lakhs)	0.57	0.66	0.75	0.82	0.94	1.06	1.19	1.23	1.42	1.59	1.78	1.97	2.17
PBT*													
(per employee in rupees/lakhs)	0.07	0.08	0.10	0.15	0.20	0.20	0.25	0.26	0.29	0.27	0.26	0.43	0.45
Per Rupee of Wages													
Turnover	NA	7.47	7.08	7.00	7.8	7.04	7.09	6.98	7.12	6.96	6.85	6.53	6.34
Value Added	NA	3.00	2.94	2.84	2.88	2.80	2.73	2.45	2.58	2.59	2.67	2.63	2.73
Compensation Packages													
Salaries, Wages and Benefits (in millions)	NA	1547	1859	2116	2436	2833	3265	3778	4172	4533	4862	5375	5608
Personnel Payments as Percentage of Value Added	NA	32.60	33.90	35.20	34.80	30.70	32.10	40.80	39.30	38.60	37.50	38.00	36.60
Human Asset vis-a-vis Total Asset (rupees in millions)													
Value of Human Asset	7060	9250	10350	12160	13575	15883	18265	21834	26732	31112	32320	33747	37532

Cont...

	1981-82	1982-83	1983-84	1984-85	1985-86	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94
Total Resources at													
Current Cost	22341	24985	24440	28231	30990	35133	40511	48019	55429	63851	72406	78073	78935
Turnover	9431	11792	13247	14818	17269	19939	23183	26200	29215	31536	33308	35083	35537
Value Added	4007	4748	5489	6019	6998	7922	8925	9203	10619	11741	12967	14162	15317
Ratios													
Turnover / Human Resources	1.33	1.28	1.28	1.22	1.27	1.26	1.27	1.20	1.09	1.01	1.03	1.04	0.95
Turnover/Total Resources	0.42	0.47	0.54	0.52	0.56	0.57	0.58	0.55	0.53	0.49	0.46	0.45	0.45
Value added/Human Resource	0.57	0.51	0.53	0.49	0.52	0.50	0.49	0.42	0.40	0.38	0.40	0.42	0.41
Value Added/Total Resource	0.18	0.19	0.22	0.21	0.23	0.23	0.22	0.19	0.19	0.18	0.18	0.18	0.19
Human Resource/Total Resources	0.32	0.37	0.42	0.43	0.44	0.45	0.46	0.45	0.48	0.49	0.45	0.43	0.48

REFERENCES

1. BHEL, *Annual Report*, 1994-95, p. 20.
2. *Ibid*, p. 23.
3. *Ibid*, p. 23.
4. *Ibid*, p. 20.
5. *Ibid*, p. 23.
6. BHEL, *Annual Report*, 1993-94, p. 80.
7. L.S. Porwal, *Accounting Theory : An Introduction to Human Resource Accounting* (Tata McGraw Hill), p. 358.
8. BHEL, *Annual Report*, 1987-88, p. 73.
9. BHEL, *Annual Report*, Chairman's Address, p. 3.
10. BHEL, *Annual Report*, 1989-90, p. 78.
11. *Ibid*, p. 78.
12. BHEL, *Annual Report*, 1991-92, p. 40.
13. BHEL, *Annual Report*, 1987-88, p. 37.
14. BHEL, *Annual Report*, 1987-88, p. 72.
15. *Ibid*, p. 3.