CHAPTER X

FINDINGS, DISCUSSIONS AND RECOMMENDATIONS
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This chapter covers the findings, discussions and suggestions of the study. It is presented under the following sections and headings for the sake of convenience: (A) Findings and Discussions and (B) Recommendations.

10.1.1. Findings and Discussions: -

Sections 1:(i) Energy and its Importance.

(ii) Coal and its Development.

(iii) Coal Industry: a Historical Perspective.

(iv) Profile and Performance of North Eastern Coalfields vis-a-vis Coal India Limited.

Section II: Review of Literature and Concept of Human Resources Management.

Section III: Human Resources Policy and Practices.

Section IV: Salary and Wages Administration.

Section V: Working Conditions and Safety Measures.

Section VI: Attitudes, Morale, Monotony, Job Satisfaction, Motivation, Absenteeism and Labour Turnover.

Section VII: Union and Management Relations.
Section I (i): Energy and its Importance.

(a) Energy plays a pivotal role in the economic development of a place.

The shortage of energy is a real concern for the planners as economic planning without energy is unrealistic. The consumption of energy is higher in the developed countries, which is more than the underdeveloped countries. India’s per capita consumption of 300 KW per annum which is among the lowest in the world. On the other hand, NorthEastern Region’s per capita consumption of 30 percent of all India average is still very low. Considering India’s position as a developing country and the industrial development and economic condition of North Eastern Coalfields (NEC), the importance of energy in the economic development is not a mere statement and exaggeration, but a ground reality for the realization of the expected economic development, which is the urgent need for over all development of the country and North Eastern Region.

(b) The growing gap between energy supply and demand has been increasing. It is a matter of deep concern and calls for urgent measures to bridge the gap.

It is also interesting to note that India’s energy growth rates are much higher than the world growth rate and ranked the second in Asia next to China in terms of capacity generation. Even then, there is growing gap and deficit of 10,000 MW. The increasing shortage of energy continues to plague the economy. The deficit of energy up to Eight Plan (1951 to 1997) were 15.4%(First Plan), 35.7%(Second Plan), 35.8%(Third Plan),50.5%(Fourth Plan),18.4%(FifthPlan),27.7%(Sixth Plan),3.8%(Seventh Plan) and 41.1%(EightPlan).

(c) Energy scenario in NorthEastern Region is not encouraging, considering the present requirement and need for the industrial and economic development, in spite of all the resources and potential.

The installed capacity per million population was only 33MW as against
81MW in India. The deficit and growing demand of energy cannot be met in spite of the availability of other resources like coal, oil, gas and uranium. The region has the estimated 85.5 M W and out of this only 450 MW has so far been harnessed. On the other hand, there has been realisation for the growing need to accelerate the economic development of this region. In other words it calls for overall improvement of energy scenario.

(d) **Coal plays an important role and will continue to be a major source of cheap commercial energy.**

Coal, as a prime source of energy, contributes about 60 percent of the total energy sources and 40 percent of world electricity. Coal is likely to generate about 75 percent of electricity generation by 2015. With the ever increase of oil price and high cost of energy production from other sources, there is no reason why coal should not continue to play an important role. Indeed it will continue to play an important role in the overall energy scenario of the world, India and NorthEastern Region.

**Section I (ii): Coal and its Development.**

(a) **Coal is a rare fuel fossil. It took million of years to form a lump of coal and nature has bestowed such rare fossil to limited places of the globe.**

India is fortunate to have such rare fuel fossil. In North Eastern Region, out of seven states, coal is available in Assam, Meghalaya, Arunachal Pradesh and Nagaland having 864 million tones reserve coal. The coal is of high quality, having its own unique class among the available coals of other places viz., high heat value and burns longer, low in ash content, moisture and high volatile matter.
(b) The development of coal industry depends upon the development of mines, suitable technology, proper management with due conservation of coal, overall development and utilisation of human resources.

In India coal mining industry developed after Independence in 1947. It had witnessed remarkable transformations. The most significant turning point in coal industry was the nationalisation of private coalmines.

Section I (iii): Coal Industry: a Historical Perspective.

(a) A close look into the historical growth reveals that the coal industry is one of the oldest industries, and its development is historically and emotionally associated with the development of human civilization.

In the development process since the man found coal and the actual coal mining started in India in 1815 at Ranigunj by Rupert Joness, the coal industry had witnessed lots of human endurance, perseverance and hard work in the development of this industry in India. Indeed the development of coal industry led to the expansion of other industries. It can be termed as the mother of all the industries.

(b) Coal industries in India has undergone several organisational changes before coming into existence of the present Coal India Ltd.(CIL). Any study on industry and industrial growth of North Eastern Region without the study of AR&TC is incomplete and inconclusive.

It had changed several hands, starting from private mine owners to National Coal Development Corporation (NCDC), then to Coal Mines Authority of India(CMAL) and the present Coal India Ltd.(CIL). Similarly in the case of Assam, coal mines started from AR&TC to CMAL, then to NEC, Coal India Ltd. The development of coal industry in North Eastern Regions is fondly associated with the development of other industries such
as tea, timber, oil, etc., expansion of roads and railway lines almost up to Burma (Myanmar) border under the pioneering works of Assam Railways & Trading Company (AR&TC). In the process established some of the famous industrial towns such as Ledo, Margherita, Digboi, etc., and made the places possible for human settlement which was once famous for *kalazar* and *malaria* and far from human inhabitant.

**Section 1(IV) profile and Performance of North Eastern Coalfields vis-a-vis Coal India Ltd.**

*(a) It is a Herculean task to manage Coal India Ltd., which is labour intensive organisation, having 70 percent of the total employment in the mining sector, having the distinction of being the second largest manpower deployment corporate sector and first among the coal industry in the world.*

Coal India Ltd. (CIL) was formed as a holding company with the mission to produce planned quality of coal effectively and economically with due attention to safety, conservation and quality. It was just several pockets of private owned coal mines which was unified. There were 6,27,463 manpower including 19,624 executives in 1997. Out of this North Eastern Coalfields (NEC) had 4729 manpower that was about 0.76 percent of the above total manpower. In 1999 NEC has 4560 employees with 136 executives.

*(b) NEC, as a unit of production of CIL, has a unique place in the overall coal industry scenario.*

It is not only the quality of coal that distinguishes NEC from other coalfields, but one of the main reasons is the employees and its dependents that make NEC vibrant and lively. There is unity in diversity under the banner of coal community, living together without distinction of caste, creed, religion and origins. The working force comprise of mainly, Assamese, Bengali, Bihari, Nepali, Telegu, Garo/Khasi, Oriya and others from different parts of India. There were about 19,223 population in 1997 as compare to 4549
at the time of nationalisation. The percentage of employees’ literacy is more than 50 percent in NEC, and is much higher than the other coalfields. It is also noted that Simsang Project under NEC has 100 percent literacy rate. The profile of NEC with such a significant percentage of literacy spells out for the congenial working atmosphere of co-existence in diversity, making rooms for development.

(c) **Frequent restructuring of the organisational set up and frequent change of the chief executives hamper the overall organisational development and defeated the objectives.**

This lead to confusion among executives and their subordinates, frequent change of policy, non implementation of plan and policy due to sudden change of heads, leaving incomplete task and assignment of programs and policies

(d) **The overall performance of North Eastern Coalfields is not encouraging.**

The results of profit and loss since 1973-74(nationalisation) shows a series of downward trend except in 1983-84,1984-85,1991-92,1992-93,1993-94 and 1995-96. The loss was significantly increased from Rs.3676.21 lakhs in 1985 to Rs 4913.69 lakhs in 1998-99. Interestingly the capital expenditure has been increased from Rs 82.80 crores in 1974-75(nationalisation) to the highest investment of Rs1808.47 crores in 1993, but reduced to 252.00 in 1998-99. Besides, there is sharp increase in earnings per manskirts(EMS), total cost per tonne and sale values. Hence, the overall performance of the organisation is not only encouraging, but also need to be concerned.

**Section (II) Human Resources Policy and Practices.**

(a) **There is lack of sound and purposeful human resource policy in NEC.**

The manpower deployment significantly fluctuates. It is observed that the manpower increased from 4964 in 1971 (pre-nationalisation period) to 5350 in 1973 (time of nationalisation), then, started reducing. The sharp decrease and increase in 1973, 1984,
1987 and 1991 is significant. Then, there is overall gradual reduction except slight fluctuation in 1994-95. Similarly the fluctuation among casual/badli workers was also noticed- sharp increase from 365 in 1972 to 822 in 1974, then sharply reduced to 201 in 1976. It was again increased from 175 in 1977 to 472 in 1978. But a sharp increase from 268 in 1982 to 844 in 1983, which was reduced significantly to 322 in 1985 and again from 182 in 1986 to 16 in 1987. Later on no casual or badli workers were engaged. It is also noticed that with the sharp reduction of casual/badli workers, there is a corresponding increase in permanent monthly and daily rated employees. It was because of the absorption or regularisation of casual/badli workers as permanent employees. With such unchecked growth pattern of human resources and haphazard regularisation or abortion of casual or badli workers permanently lead to unplanned growth of manpower and affected the growth pattern of total manpower. In the long run the organisation suffers in terms of surplus manpower and waste of human resources due to not properly utilised the available manpower. This shows there is lack of such proper Human Resource Policy and Practices. In case of formulation and presence of such effective policy, it is hardly practised or not practised at all or not taken into account.

(b) The available human resources are not properly tapped and utilised gainfully.

It is generally accepted that increase in manshift and proper management of manshift leads to promote production volume of any labour intensive organisation. Contrary to general conception, in NEC although related trend of manshift growth was observed, there was overall decrease in growth rate are marked for both underground and opencast with -19.00 percent and -86.20 percent respectively. Where as the overall growth rate of total production of coal was 362.38 percent. Out of this opencast alone with 662.08 percent growth rate backs this tempo of production. On the other hand the underground growth rate shows negative (-73.39 percent) growth during the same period. It is worth
noting that the main concentration of human resources is in the underground and is much more than opencast manpower deployment which is supported by machines. It is also observed that the coefficient of elasticity of total production with respect to total manpower from 1971 to 1999 is 0.360. It means that one percent unit change in manpower leads to 0.36 change in production which is less than one (0.360<1). That means the contribution of additional manpower to the addition of the total production is less elastic. In other words, one percent/unit change in increase in total manpower, the value of total production decreases. None of the calculated elasticity of coefficient is equal to a very close to one. The maximum negative value during 1974-77 is 0.933 and 0.860 in 1990-94. That means contribution of additional manpower to the total production is less elastic or not up to the mark or insignificant. Hence, the available human resource is not properly tapped and gainfully used.

(c) The changing underground and surface ratio and age ratio of the old to the young group affects the working of underground mines.

The underground mines require lots of physical labour unlike working on the surface or in other work place. Besides, coal mining is a hazardous and it differs from one coal mines to another depending on the conditions of mine. The condition of North Eastern Coalfields mines are the difficult and tough mines in India. In 1980s, in NEC the percentage of younger age group below 39 years was more than older age group. The change in younger age groups (between 1985 to 1999) under different age groups are as follows- 25 years (1.55% to 5.23%), 26-30 years (21.36% to 10.85%), 31-35 years (19.06% to 13.64%) and 36-39 years (19.61% to 23.44%). Where as the corresponding changes of the older age group in 1985 to 1999 shows the increase as 40-45 (11.91% to 18.41%), 46-50 years (8.59 % to 12.60%), 51-55 years (7.88% to 9.18%) and above 55 years (4.03 to 6.67%). Besides, the overall ratio of surface to underground deployment have been decreasing from 1:1.58 in 1958 to 1:1.19 in 1999, showing the reduction of engagement
of manpower in underground as compare to the surface. Similarly the deployment of executives in underground also have reduced from 51 in 1995 to 39 in 1999.

(d) *There is need for proper and gainful utilisation of female employees as significant percentage of manpower are female employees. Otherwise, it is a wastage of human resources and affect the manpower scenario of NEC.*

A considerable 6.55 percent of the total manpower is female employee and increased considerably from 59 in 1974 to 308 in 1998 and 299 in 1999. The increase in female employees after nationalisation was due to the dependent employment under NCWA. The percentage of female employee would have been much higher had there been no statutory restriction in engaging in underground and at night. Considering the overall percentage of female employees to the total population it calls for proper and gainful utilisation.

(e) *Manpower deployment in underground is more than the opencast mines, but the productivity and production from underground is much less than the opencast.*

The production has been increased since Assam Railways & Trading Company (AR&TC) from 2,52,610 tonnes in 1925-26 to 63,74,230 tonnes in 1998-99. But the increased in production was largely from the opencast production. The opencast production started with just 1,23,160 tonnes at the time of nationalisation (1973-74) and at that time the underground production was 2,92,670 tonnes. Thus, the percentage of coal production from underground to the total coal production in 1973-74 was 69.68 percent, but it was reduced to 12.58 percent in 1999. That means, 87.42 percent of coal produced in 1999 was from open cast alone.

Besides, the overall productivity of underground was reduced from 0.38 in 1974 to 0.24 in 1999. Whereas the productivity (output per manshifts) of opencast was
increased from 0.52 in 1974 to 3.31 in 1999. On the other hand, manpower deployment ratio of surface to underground in 1958 was 1:58, but in 1999 it was 1:1.19. Although the ratio of surface to underground is reduced, the deployment of manpower is much higher in underground.

Section III: Review of literature and concept of Human Resources Management.

(a) The literature on HRM is sparse particularly the critical analysis on the concept of HRM.

No doubt there is relative body of academic literature on human resources management, which are emerged mainly in the USA, UK and Japan. The available literatures are generally confined to-

(i) Specialist literature for HRM professionals which deal about knowledge rather than skill,

(ii) Critical review of HRM developments which require more research and further studies,

(iii) Popular management books which deals about prescription, evidences and analysis. It is more difficult to get such literature on HRM in India except tried to link or relate the event of the business or the industrial development with human side of management as in India business is even less developed.

(b) HRM is a vital, valuable and ultimate resource of an organisation.

It is realised and accepted that the importance of human resources as a vital valuable and ultimate resources of an organisation with an edge on competition. When we critically analyse the successful organisations today we can find behind this success is the successful management of human resources. The concept has been widely used in business schools, institutions and industries because of its competitive edge and practical utility.
(c) The concept and approach of HRM is transforming dramatically and is in transition as it dealt human beings which is dynamic and complex, but an ultimate resources of all. Hence, it is in evolution process of dealing human side of management and is highly sensitive to change and response faster.

Its role has been fast changing from the traditional personnel management. From just merely dealing with human beings as a commodity, which can be bought and sale, it has become the main resources to be reckon with in the success of an organisation. The changes have become more practical, significant and analytical after HRM apparently started its origin in the USA in 1950s and later on widely recognised its origin by the beginning of 1980s in the USA and later part of 1980s in the UK and later on to other places. In this process of changes many management thinkers namely Peter Drucker, Mc Gregor, Maslow, Likert, Argyris and Herzberg contributed significantly and influenced a great deal in shaping the HRM.

(d) The functions of HRM and the traditional personnel management are overlapping.

HRM is the approach of not only dealing with human beings as a factor of production and allowed to work within a framework of rules and regulations and guidelines, but beyond personnel functions of finding and using gainfully all the resources of human side of an organisation. It is wider in scope and different in approach. Although it overlaps with the traditional personnel management’s certain functions, it is definitely different in terms of approach, outlook, adaptability to the change and innovation. It concentrates more on individuals and recognises individual’s resources and contribution to the overall organisation.

(e) It is closely related to HRD.

It is not the same terminology and meaning, having different functions as HRD is the overall development of an individual. In other words HRD functions within
HRM and contribute to HRM by developing the individual resources suitably. Whereas training is not the same with HRD. It is a technique or means of HRD.

(f) *There is no widely acceptable definition of HRM.*

Many academicians, management experts and critics such as Michael Armstrong, one of the pioneers of HRM concept, Guest, Bee setal, Pettigrew, Leon C. Megginson, Ken Starkey, Shaun Tyson, Stone J. Raymond, John Storey, Michael Foucault, Barbara Townley, Michael Poole, David Guests, John Ivancevich, Keith Sisson and others tried to stipulate the definition of HRM. Some tried to define through models or framework, but no definition has been so far widely accepted. It is because of the fact that the concept of HRM is still in transition or in evolution. Many management critics, academicians and writers addressed HRM in different terms and connotations and considered as philosophy or concept or theory or style of management as the nature of HRM is not yet clear. The debate is still on whether HRM is a theory or philosophy or what! Like most of the innovative concept it tends to take the shape of the container as who says or practice in a particular country. However, the fact remains that the hidden practical utility and result oriented approach cannot be denied rather it is accepted under its different functions and applied as practical utility.

(g) *HRM needs to be a cardinal part and should be incorporated in the organisational objectives for a result oriented HRM process.*

It cannot be kept aside and expect quick results. It is quite evident that while formulating project report of any mine there is no detailed human resources discussion except mentioning the manpower requirement. It is essential because human beings are different in terms of capability, aptitude and approach towards the work. This is particularly significant in the case of foreign technology introduction. It needs to have an indepth analytical study of the human aspects if to achieve the desired results from the
application of the technology. Introduction of Russian Mining method of Flexible Roofing method did not give the desired results in the long run as the results produced by the Russians could not be produced by applying and used the same technology by the Indian Coal miners. Thus, there is need for specific study in a report about the human aspects.

(h) In the present scenario HRM is not confined only to the known resources of the human beings, but needs to use gainfully such unknown resources (Hidden Areas) to achieve the organisational goal. This will distinguish one organisation from another.

These are discussed in details under different models- HRM Approach Model, Eclipse Model, HRM Cycle Model, Hidden Resources of Johari Window, Iceberg Model. In the present competitive environment, HRM does not confine only to the known resources of the human beings, but need to find out the hidden or unknown resources (Hidden Areas) and use gainfully as a competitive edge over the other to achieve the organisational goal. This distinguishes one organisation from another organisation. These are discussed, analysed and designed with different models vis- (i) HRM Approach Model (Researcher’s own model), (ii) Eclipse Model (Researcher’s own model), (iii) HRM Cycle Model (Researcher’s own model), (iv) Iceberg Model, (v) Hidden Resources of Johari Window.

Section IV Salary and Wages Administration

(a) Wage and salary form a major part of the production cost of coal: the increase in wages and salary has direct impact upon the sale value.

Wages in Coal India constitute 62 percent of the production cost in 1978 out of the cost of production of about Rs 76 per tonne of coal, Rs 67 (88%) was direct cost. In NEC as the wage and salary increases 8 percent every year, the cost of coal production also increases. In 1925 the wage cost per tonne formed only 21.5 percent of the total cost per tonne. But, it was increased to 25 percent in 1929. Wages in Coal India in 1978 constitute
62 percent of the cost of production of coal. As the wage and salary increases for every agreement of NCWA and revision of pay scales for executive and non-executives, the production cost also increases. The increase of Rs 110 crores to Rs 115 crores in 1979 due to agreement lead to an increase of Rs 10 to Rs 11 per tonne. In NEC wage and salary increases 8 percent every year, there is corresponding revision of cost of the coal production.

(b) The nationalisation of coal industries has brought uniformity and improved the wage and salary structure in coalfields.

The difference in wages and salary was due to geological factors, working conditions in the coal pits, extent of the use of machinery and explosives, the size and position of the colliery. In all the coalfields of India, the outside labourers were paid higher than the local labourers. The total earnings of a husband and wife were 24 Rs, 10 Anna and 2 pies in the Assam valley and 20 Rs, 1 Anna and 1 pies in the Surma Valley. Whereas in other coalfields it was 22 Rs, 5 Anna and 8 pies and 19 Rs 6 Anna, 0 pies respectively in Raniganj and Giridih. The coal miners in 1857-60 were paid 11/4 Anna per bucket of 6 maund. Then in 1860 a family of a man and his wife with three children earned Rs 9 per month. There was no improvement till 1882 in bucket rate. In 1900 there was considerable improvement in bucket rate and it was increased to 2 annas 3 pies per bucket. It was increased in 1909 and 1912 to 3 annas per bucket.

There was no uniform wage structure in coal industry prior to 1947. However, after nationalisation of private coal mines there was control and unification and improvement in wage and salary through several committees such as Fact Finding Committee, Mazumdar Award, Dasgupta Award, Central Wage Board under the Chairmanship of Shri Salim M. Marchant and under Joint Bipartite Committee of Coal Industry (JBCCI) viz National Coal Wage Agreement I, II, III, IV, and V, the earnings of the
employees in coal industry have improved and today is among the highly paid workmen in India. It became more uniform after the nationalisation. Today the lowest paid employee under NCWA -V is Rs 2138.70 per month or Rs 82.27 per day at the All India Average Consumer Price Index Number of Industrial Workers. Thus, the wage of the employees were not only increased but also brought the highly paid employees in India.

(c) There was no proper systematic method of fixing the wage system in coalfields before nationalisation.

It was the price test system rather than the average or normal wage system. Fixation of wages in coal industry was largely confined to time rate and piece rate which depend upon the nature of jobs. As majority of nearly 80 percent of the total workers were piece rated workers, the time rated method is ignored and preferred more on piece rated methods. The rate among the piece rated workers also differs from manual worker to use of explosives. The coal cutters and loaders in Jheria and Raniganj Coalfields used to get 4 to 6 annas per tub and 4.5 to 7 annas per tonne. Whereas coal cutters using blasting or coal cutting machines were not paid more than four to five annas per tub. And if the worker use his own gunpowder, fuse and drilled the hole he was paid 6 to 7.5 annas a tub. Man were paid more than woman loader. The rates also differ in Assam coalfields from other coalfields. It was due to nature and condition of mines. Today the lowest rate of coal cutter is Rs 65.75 in the case of other coalfields, whereas rates of Assam coal fields differ according to nature of work, work load and minimum of Rs 3.25 per cu.ft. of 24 cu. ft. workload, with special Piece Rate Allowance of Rs 2.12 per day. Thus, there was different rate of wages as there was no proper system of fixation of wages and salary. It was rather depend on the owners of the mines, whose interest was profit. However, after nationalisation proper system of fixation of wage and salary was introduced.
(d) Wages of Assam coalfields has been higher than the other coalfields.

During AR&TC (pre-nationalisation period) the wages of European were higher than the others. The total earning of a husband and wife were 24 Rs, 10 Annas and in the Assam Valley, whereas in other coalfields such as Surma Valley it was only 20 Rs, 1 Anna and 1 pies. Besides the rate of wages of miners in the case of Assam was higher because of the dispose of the coal easily and at better prices as it supplied to railways, tea-estates, etc. Thus formed a ready market and adverse the effect of the economic depression.

In 1956 the total wage of a male(surface), female, underground worker, trimmer and coal cutters were 2 Rs, 1 anna and 8 paise, 1Rs 13 anna and 8 paise, 2Rs 13 Anna and 5 paise, 3Rs 2 anna and 8 paise and 3Rs 2 anna 8 paise respectively. This includes basic wage, dearness allowance, bonus, food concessions, extra value of food concession and subsidiary ration allowance (S.R.A.). This was much higher than the other coalfields. It was higher because of giving a subsidiary ration allowance of 2 anna a day to workers in 1956. Besides the company pays 13 annas 6 paise to the underground workers as against 8 annas to the surface workers.

The total minimum wage as on 1.10.1964 of category I (surface) employee was Rs. 100.10 which was increased to Rs 108.61 in 1.10.1965. In the case of underground workers it was increase from Rs 111.73 to Rs 119.53. Where as in other coalfields it was Rs 101.73. When the total minimum wages of a lowest category I (surface) worker as on 1.10.1964 was Rs 100.10. For AR&TC, in other coalfields the wages of such category was Rs 98.28. Similarly as on 1.10.1965 the corresponding minimum wages of Assam Coalfields to other coalfields were Rs 108.61 to Rs 108.02 for surface workers and Rs 119.53 to Rs 111.47 for under ground. Subsequent wage revision under separate NCWA of I, II, III, IV, and V and the wage and salary of AR&TC was always higher than the other organisations even in 1964.
(e) *Salary and other benefits of the executives during AR&TC was higher and among the highly paid executives of public sector undertakings.*

The executives of AR&TC were paid higher as compare to other even Europeans to attract from other companies due to lack of professionals. Besides other benefits such as overseas pay, servant allowance, provident fund, home leave and passage, medical treatment, rent free accommodations and other amenities were provided. This attracted lots of Europeans and professionals from other coalfields. Further after nationalisation the pay scale was revised in 1974, 1982, 1991 and 1996. As compare to other public sectors the pay scale of CIL executives is at par with other organisations, such as Assam Oil Division, Assam and Oil India Ltd etc.

(f) *The underground employee should get more wage and salary as compare to those working on surface.*

Considering the difficulty and risk factor of those working in underground, the employees working in underground get more than those working on the surface. Thus during AR&TC in 1956 while a male (surface) gets 2 Rs 1 anna and 8 paisa, his counterpart working in underground gets 2 Rs 13 annas 5 pies i.e. higher than the working on the surface. In 1964 a category 1 surface employee gets Rs 100.10 and those working in underground gets 111.02. Similarly at the time of nationalisation in 1973 a lowest category employee in underground gets pay scale of Rs 137-06-173 whereas his counter parts working on surface gets Rs 106-06-142. After the nationalisation an employee working in underground of Assam coalfields under NCWA-V gets at the rate of Rs 25 percent of basic pay or Rs 23.76 per day as pro-rata basic, whereas at other coalfields it is only 20 percent. Even the executives are paid underground allowance as on 1.1.1987 at the rate of 15 percent of basic pay to the Agent/Project Officer/Colliery Manager/Addl. Manager/Asstt.Manager/Safety Officer/Ventilation Officer/Colliery Engineer and Colliery Survey Officer. Hence it is accepted that the underground employees should get more than surface
employees.

(g) The nationalisation of coal industry has given security and benefits to the employees but not to the organisation.

The nationalisation of coal was the turning point and a movement in the historical development of coal industry. It was not a step arising out of fashion, but mainly due to the need for the conservation of limited available coal reserves under private owners, problem of well-being of coal miners, improve production and productivity, improve safety and conservation. With the nationalisation of coal the coal employees work with dignity of labour, job and social security among highly paid workers in India. The pay scale has been increasing for every wage agreements. In return it was expected of high production, productivity and prosperity. But the expectation is far from satisfactory and in reality, rather a loosing concern. The employees have benefited from nationalisation but the aim and object of nationalisation is yet to be fulfilled.

(h) Increase in salary and wages does not increase in coal production and bears less responsibility to the maximisation or minimisation of profit or loss of NEC.

It has been generally observed that the increase in salary and wages motivate the employees to contribute in the overall production of coal. Although the question of salary and wages as the everlasting motivating factor for production is a matter of further research. It is a fact that the increase in salary and wages lead to increase the production of coal. It is also accepted that the increase in salary and wages increase the sale value of coal and there is little effect on the profit or loss of NEC, but bears little effect in the maximisation or minimisation of profit or loss of NEC. In other words, the other factors are mainly responsible for the loss/profit of NEC.
Section (V) Working Conditions And Safety Measures.

(a) The study of human resource management without safety aspects is incomplete and ambiguous conclusion.

Safety of employee cannot be study in isolation from human resources management as it dealt the human aspect directly and human factor are largely responsible for such accident. Work related injuries and illnesses causes waste of human resources and affect the organisation. Each year 15000 miners all over the world lose their lives at their place of work. The rate might be higher. On the other hand minimising these losses means increase production, productivity and profit. A productive mine is the most safe mine.

Thus reducing occupational accidents, decrease stress and improve the quality of working life of the employee would be effective to the performance of employees. Hence, study of safety and working conditions is necessary for the study of human resources management.

(b) The accident in NEC has been reduced and improved significantly after the nationalisation of coal.

In India the right of the state to supervise safety in mines was established after public opinion and legislation after 1900AD. due to serious accidents. The private mine owners did not bother about the safety and welfare measures of the miners, rather concern about production only. Similarly during the pre-nationalisation period although as a European Company it was better than those of the other local mines. Even then, accident rate was high as there was no modern equipment and no rule and regulations. There was no post mortem after the death of mine accidents. However, after nationalisation there has been great concern about the safety of the workers and observe high standards under the
supervision of Dy General Mine Safety, Govt. of India. Analyzing the accident rate of NEC from 1958 to 1999, it is observed that comparing pre-nationalisation (1958 to 1972) and post nationalisation (1973 to 1999) the number of fatal accidents of post nationalisation is much less than the pre-nationalisation period particularly 1990s except highly significant exceptional rate in 1979 and 1993. However, number of serious accidents are reduced significantly since nationalisation. The accident rate of fatal, serious and minor of NEC for the last 50 years from 1958 onwards, there were 43 fatal, 786 serious and no minor in 1958-67. From 1968-77 there were 38 fatal, 201 serious and 2567 minors. The above rate is much higher than the post nationalisation rate of accidents from 1978-87 of 42 fatal, 72 serious and 2254 minors and for 1988-97 of 25 fatal, 72 serious and 1114 minors.

(c) Accident causes financial and non financial losses.

Accidents have economic, social and psychological effects. The economic lost is very high in terms of direct lost as first aid expense, medical and surgical expenses, compensation payments, legal fees and overhead expenditure. In NEC the compensation paid due to mine were Rs. 2.35 lakhs, Rs. 4.13 lakhs, Rs.6.06 lakhs Rs. 4.48 lakhs, Rs. 4.19 lakhs, Rs. 4.8 lakhs, Rs.13.62 lakhs, Rs.7.12 lakhs, Rs. 2.6 lakhs, Rs. 5.71 lakhs, Rs. 6.26 lakhs and Rs. 2.48 lakhs in the year 1987-88, 1988-89, 1989-90, 1990-91, 1991-92, 1992-93, 1993-94, 1994-95, 1995-96, 1996-97, 1997-98 and 1998-99 respectively. Indirect lost in terms of lost time of injured employees, lost on time by other employees, lost of time of replacement, lost due to damage to machine, tools, etc., lost to employer under employee welfare benefit system, cost of continuing the wage of the injured employee and cost due to loss of profit in injured employee’s productivity and idle machine. On the other hand the social consequences are in terms of the victim’s family, unpleasant experiences of the coal community and insecurity due to accidents. The whole family’s social life, happiness and hope collapse due to the lost of the victim’s earning capacity. It
also weaken the morale of the employees.

(d) The accident rate of underground is higher than the opencast mines.

Most of the accidents in NEC are due to roof/side fall, haulage and gas ignition in underground. Whereas transportation is the main cause of accidents in opencast. The accidents of NEC from 1991 to 1999 shows the underground accidents of 14 fatal and 5 serious is higher than 3 fatal and no serious, which is about six times of opencast (19 underground and 3 opencast). Out of the total underground accidents from 1958-97, the causes of the accidents were 48 percent, (roof/side fall), 30 percent (haulage), in 1958-67, 28 percent (roof/side fall), 40 percent (haulage) in 1968-77, 28 percent (roof/side fall), 40 percent (gas ignition) in 1978-87 and 22 percent (roof/side fall) and 38 percent (gas-ignition) whereas in 1988-97 alone in opencast 20 percent of the accident was due to transportation. From 1991 to 1999 in underground out of 19 causes of the accidents 2 were due to the fall of roof, 9 explosion and 4 haulage or run over by tub. Whereas in opencast 200 were due to fall or over turning of dumper.

It is also observed that the accident in underground also mainly occurred in 1st shift, 2nd half of 3rd shift and 1st half of all the shifts in open cast. Besides, accident largely accrued maximum in the age group from 21 to 40 years and is open cast between 31 to 50 years. The accidents were commonly occurred among coal cutters, electricians, timberman, general mazdoor and chute operator in underground and in opencast among the dumper operator.

(e) Mine accident rate in India is higher as compare to other developed countries.

The fatality rate per 3 lakhs manshifts in India during 1979 and 1993 is higher as compare to other major coal producing countries in 1993 viz 0.1 (France), 0.33(Japan), 0.46 (USA), 0.26 (Germany), 0.07 (UK) and 0.24(Australia). It is because of the fact that
the Indian coal mines are largely labour intensive rather than highly mechanised unlike in other country. That is the reason why fatality rate is marginally higher than the other countries. Similarly an examination in the fatality rate of NEC from 1986 to 1993, which is higher than others, clearly justify the highly labour intensive organisation, although NEC has the distinction of overall lowest rate of accident.

(f) The lowest rate of accident in NEC is due to the employee concern and awareness of the importance of safety measures. Besides they are more concerned about their own safety than obligation of the statutes.

The trade union leaders, executives and non-executives opined significantly that lowest percentage of accident in NEC is due to the awareness and concern of the employees. The employees are more concerned and feel that personal or their safety is more important and give priority than the statutory obligations.

(g) The controllable human factors are responsible to the occurrence of mine accidents.

On analysis of the causes of accident, it was found that human factors are responsible for 80 percent of the accidents, 10 percent due to mechanical failures and 2 percent due to acts of God. It is the human factor which performs an unsafe act. In the H.W. Heinrich study in 1920, it was observed that 80 percent of the mine accidents was due to human causes such as unsafe practice, lack of foresight, way of attitude, etc., which is a major factor. 10 percent were due to mechanical failure such as plant condition, tool or equipment failure and 2 percent (weather, floods, cyclones, etc.) as is termed as acts of God. Both unsafe conditions and fatal accidents of the mine can be controlled and minimised by experience and trained workers.
(h) **Increase of production does not increase the occurrence of mine accidents.**

It is generally felt that by increasing the production, there is general pressure on the employees and lead to accidents. But in fact the production increase does not have any impact or relation with the percentage of accidents.

(i) **The increase in manpower and manshifts increase the frequency of accident rather it declines.**

In other wards accident is not a function of increase in manpower i.e. manpower increase does not have any effect on the frequency of an accident. On the corollary the manshift and production do not have any relationship and changes, any, or improvement in manshifts does not lead to increase the frequency of accidents.

(j) **Medical unfitness is also one of the reason for accident.**

In the case of NEC the general perception to some extend that medical unfitness also is a cause, although the executives have some reservation. Besides, the domestic and personal problems of the employees are also to some extent contributes to the mine accidents.

(k) **Lack of training on safety is one of the main cause of accident.**

In other words, by giving training both technical and nontechnical help in the prevention of mine accidents. Considering the importance of training in 1961, the ILO expert, when they visited the Indian coal mines suggested for extensive safety training including initial training, specification of standard for ventilation, illumination and shot firing. A significant percentage of trade union leaders (85.8 percent), executives (79 percent) and non-executives (56.46 percent) also strongly felt the importance of training in the prevention of mine accident.
(l) **Comfortable working environment in NEC.**

There is general satisfaction among the employees regarding the working conditions in terms of comfortable, noise, safety measures, temperature or ventilation, crowdedness etc. There is no doubt that mining is a hazardous occupation. The working conditions of mining industries cannot be compared with any industries in terms of working conditions and hazardous. Even there is satisfaction among the employees in terms of noise, safety measures, temperature or ventilation etc. in NEC coal mine.

(m) **Considering the safety measures and objectives accident rates can be avoided and minimised to zero.**

The mission of NEC, CIL has fully acknowledged and clearly spelled out with the objective to produce planned quality coal with due regards to safety. Moreover, statutory agencies such as DYGMS have strong vigilance and supervision. With the employees awareness of safety measures and concern for individual safety, active participation of all employees by giving training and psychology support can reduce and minimise the accident rate to zero.

Section (VI) : Attitudes, Morale, Monotony, Job Satisfaction, Motivation, Absenteeism and Labour Turn Over.

(a) **Morale, job satisfaction and motivation of the employees are moderate but not high.**

The satisfaction level among clerical staffs, overman, sirdars and supervisors are encouraging. It is also observed according to Rensis Likert Group high morale relate to productivity under the supervisors pressure for production. Immediate attention and servilence is needed to understand the degree of satisfaction for the fullest advantage use of the human resources. These factors are hidden and undisclosed factors having positive and negative effects.
(b) The components of overall morale, attitude, job satisfaction and motivation reveals that

(i) The employees still expect more although they are paid reasonably at par with other organisation.

(ii) There is lack of general concern for organisational development, although majority of the executives have certain restriction.

(iii) The overall promotional and personal growth are satisfactory. It is perceived that non-executive’s promotional lines are not better than executive.

(iv) Executives have reasonably higher ego as compare to non-executives.

(v) Non-executives have clear authority, duties and responsibility. Whereas the executives have clear duties and responsibilities, but they do not have clear authority, which affects the performance, morale, job satisfaction and develop different negative attitude.

(vi) Machines and tools enhances significantly the production and productivity. The performance of an employee is affected by the breakdown and obsoleteness of machines. The machines and tools breakdown is high, but is reasonably maintain. Even then there is need to replace these obsolete machines.

(c) Nature of job are highly repetitious and monotonous.

The jobs are of highly routine type, repetitious and involve lots of paperwork. However, the nature of job for executives are more challenging, innovative and creative than the non-executives.

(d) The executives and non-executives are moderately fulfilled their expectations.

The executives and non-executives are moderately fulfilled their expectations felt at the time of joining such as good salary, job security, freedom at work, better avenue for promotion, social prestige, personal expectation, good quality of life, welfare
facilities, etc. Motivation level apparently has reached and confined upto primary needs of Maslow’s Hierarchy needs- the lowest level of hierarchy of needs, and some upto social needs, safety and security. Thus there is still need for further improvement for the better utilisation of HRM and for the benifit of the organisation.

(e) Absenteeism adversely affect the production of coal whereas mandays lost does not affect the production.

In normal course increase in absenteeism rate leads to increase in mandays lost and correspondingly increase in mandays lost leads to decrease in production.

The number of hands increases the production but production depends not only on the physical presence of the employees; there are certain other resources which can increase the production.

(f) Absenteeism rate has been moderately improved in the last 10 years.

The overall absenteeism rate in NEC has been decreased from 19.80% in 1970 to 18.83% in 1974 and for underground the decreased was from 22.91% to 21.91% during this period. But for opencast it was increase from 13.50% in 1970 to 17.29% in 1974, whereas there was an increase in all India level from 13.11 to 13.54 percent during pre-nationalisation. During post-nationalisation period there was fluctuation of absenteeism rates among the miners and loaders from 1989 to 1999. The average rate of absenteeism declined from 23.78 in 1989 to 19.74 in 1999.

(g) Attendance bonus paid as a part of wage under NCWA is not effective in checking and improving absenteeism.

The payment of 10 percent of the basic pay as attendance bonus which increases with every wage agreement does not serve the purpose to improve the
absenteeism. That means the root cause of absenteeism lies somewhere beyond the financial motivation. In other words, financial satisfaction leads to be more independent and free.

(h) **Drinking habits/gambling are significant indicator and other factors also contribute for absenteeism in coalfields.**

The rate of absenteeism was significantly high during festival, after payment of wages, arrears/bonus, third shifts (10 p.m. to 6 a.m.), paid holidays and sundays. This can be improved by improving quality of life, cordial relations and making job more attractive.

(i) **Labour turnover, among the executives is very high during the pre-nationalisation period.**

Whereas among nonexecutives it is quite normal, but due to the prevailing labour control and scanty of jobs. During 1957 to 1972 i.e. during 15 years, 50 executives resigned, 3 terminated, 1 disqualified, 7 retired, 4 transferred, and 2 died. Whereas in the last five years of 1990s only 4 resigned for better prospect.

**Section VII : Union And Management Relations.**

(a) **The trade union movement of Assam Coalfields has its own historical importance in the industrial development of Assam.**

Since the trade union movement started in India under M.S.S. Bengali in 1875 and formation of first trade union in 1890 under Narayan Meghji Lokhande of Bombay Mill hands it was to protect the deplorable conditions of Indian labour. The movement in Assam was started due to the conditions of workers, but was largely due to the national movement that influence the other parts of India. The trade union movement in Assam can be broadly discussed under three phases.

(i) First Phase (Pre-nationalisation)
(ii) Second Phase (Post-nationalisation upto 1985) and
(iii) Third Phase (1985 onwards)

Employees join the trade union mostly to safeguard against victimisation and unity and strength. They joined the union mainly voluntarily and with persuasion by the union leaders. However, many of them do not know the reasons for joining and many did not join because of ignorance, illiteracy and due to lack of confidence on the union leadership. Workers generally join trade union because of

(i) Economic & job security
(ii) Restrain management from taking among irrational illogical, discriminately prejudicial or against victimisation.
(iii) Communicate their aims, idea, feeling and grievance to manager
(iv) Social security and
(v) Recognition, respect, voice, socialisation and unity.

(b) **Industrial relations in NEC is cordial and peaceful.**

There is overall improvement in industrial relation scenario in coal India Ltd. The industrial relation in coal companies have been improved since early seventies particularly after nationalisation. It is widely acknowledged stating that strike prone coal mining sector has shown a strikingly steady improvement in labour relations in the post reforms period. The number of strikes were reduced from 381 in 1981 to 31 in 1995-96.

The relationship during AR & TC was purely human relationship and co-existences between a few European staffs and Indians, Pathans and Nepalese mine workers. The relationship immediately before 1974 was not comfortable due to trade union movement. However, the industrial relationship in Assam has been smarting a highly cordial relationship except a few incidents which is quite obvious in an industrial set up. Even this, the relationship after nationalisation of coal in 1974 has become more cordial.
as there were only 12 strikes in 26 years out of the strikes of 1988 was due to the strikes Central Trade Union at All India Level. The strike accrued due to the signing of National Coal Wage Agreement in 1974, 1979, 1981 and 1996 except the strikes in 1976, 1983 and 1986. Besides some of the strikes were due to local Assam bandh. It only affected Margherita Head Office, but not the collieries. It is interesting that although lock out is a weapon for the management, there was not even a single lockout during 26 years. Hence, there was cordial industrial relationship and the relationship is improved as compare to 5/10 years back. There is enough scope for improvement and for better utilisation of such relationship.

(c)**Multiplicity of trade union leaders in NEC is a great loss to the company and employee.**

Multiplicity of trade unions leads to inter and intra-union rivalry; develops hatred and confusion among the employees, and divide them rather than to unite to protect their interest. It also delayed in the implementation of policy, delayed development work and decision making. It is a great loss to the employees if the purpose of trade union is defeated. Operating of five trade union rather than a single strong unified trade union, in manpower of 4560 has its own disadvantages and chances of de-stabilising the NEC’s harmonious industrial relations is very high.

(d)**There is need to re-examine and improve the methods of grievances procedure.**

It is generally felt that individual grievances are not settled always. It is found that the trade union leaders and executives receive about 10 to 20 grievances per month from the employees.
(e) **Agreements or decisions are not implemented completely.**

Non-implementation of agreements or decision lead to discontentment among the employees as a whole which may develop distrust and grievances and ultimately become a cause of strike. The agreements or decision jointly taken may be implemented in good faith and trust to make employer-employees relationship cordial and healthy.

(f) **The relationship between supervisors and executives are cohesive and based in good human relationship.**

The relationship are more of work related rather than social or emotional. Such relationship has been maintained since the establishment of Assam Railways and Trading Company. However, the aggrieved employee need more counselling.

### 10.2.1. Recommendations

While taking into consideration of the recommendations it is necessary to keep in mind the constrain, the threat and opportunities, which are of strategic issues of Coal India Ltd., (CIL) as a whole.

(1) **Constrains or threats of Coal India Ltd. (CIL) vis-a-vis North eastern Coal fields (NEC):**

(i) CIL operates in a much more difficult environment than most other companies do, whether in the public sector or on the private sector.

(ii) Finding suitable technology with economic viability is difficult, as the geological characteristics are different and uncertainty for availability of fund from Government for bilateral project assistance although international experiences are relevant.
(iii) Acquisition of lands has become a greater problem than before as the coal can be mined only where deposits occur. The delay in the process results inconsiderable time and cost increase. Besides, reluctant to hand over the coal bearing lands due to environmental constrains and the compensation to the land owners have become an unavoidable problem.

(iv) Quality of coal supplied by CIL and customers losing confidence is a matter of concern for the industry.

(v) Most of the major customers such as State Electricity Boards are financially starve and delays payments. This leads to financial hardship for CIL.

(vi) It is cheaper to produce coal from open cast mines, good quality, less manpower and wages cost, high productivity (OMS) than from the underground. It is not economical to mine underground coal at present level of performance. The rate of absenteeism is also high. The underground mines deploy about 52 percent manpower, while production is hardly 28 percent.

(vii) CIL has more manpower than it really requires whereas it shows low productivity.

(viii) Increase in labour cost for every four years due to wage revision of non-executive and pay revision for executives leads to increase in cost of coal production. Where as there is not much significant corresponding increase in productivity.

(ix) There is conflict in objectives and different expectations from different organisations. It was clearly spelled out by a study of Indian Institute of Management, Calcutta, in a study entitled "Study on corporate planning in coal India Ltd."
that "As far as objectives of CIL are concerned, today one of the problems that CIL faces is the conflict in objectives or different expectations from different organisations".

(x) Liberalisation policy, a free and customer oriented market have become a great threat-"tightening the rope in the neck". It is a threat to the monopoly of CIL in the coal sector of India. Under this the private investors in power sector and State Electricity Boards like to either import coal or to have captive mines. Unless the Government intervenes, control the permits of too much import of coal and advise investors in power plants to take CIL coal, things are going to be not easy. It is a greater and major threat to CIL.

(xi) Withdrawal of Government financial assistance at this crucial stage is a matter of great concern and a challenge to the existence of CIL. Funds are required for investment in mine development, otherwise production will be stagnant and will rather encourage greater imports.

(xii) Ever increasing environmental constrains from different organisation is a matter of unavoidable problems to tackle. The objection of high ash percentage content in coal and notification from the Ministry of Environment and Forests of 19th September, 1997 is a great blow to coal industry particularly CIL. The above amendment lays down that with effect from 1st day of June, 2001, the coal based thermal shall use beneficiated coal with an ash content not exceeding 34 percent. The thermal plants are:-

(a) Located beyond 1000 km. from the pit head, and

(b) Located in urban area or sensitive or critically populated area irrespective of their distances from pit-head except any pit-head power plant.
In addition to the above constraints or threats at CIL level, North Eastern Coal fields face certain unusual problems unlike in other coal fields such as: (1) shrinking market due to the removal of locos, replacement of fuel requirement in tea gardens by gas, drastic reduction of local consumption. Till today no coal based industries have come up to utilise the coal, The local consumption is insignificant, (ii) under the name of cottage industry, unfair competition of low coal price and production from Meghalaya and other places, has lead to the lost of customers and markets, (iii) high landing cost due to transportation cost in spite of broad gauge link and (iv) inherent high sulphur contained in NEC coal although it has low ash content, high caloric value and other superior factors of high quality coal.

(2) Opportunities

(a) CIL has tremendous opportunity to meet the higher demand for coal in power sector and fill up the gap of shortage of energy requirement of the country. This opportunities should be exploited and focus on quality cost and delivery.

(b) CIL coal is cheaper as compare to other sector coal and coal is still cheapest fuel. The organisation has the monopoly of having 90% of the market and technically only major player in the industry.

(c) Besides, the supplier or consumers do not enjoy the bargaining power simply CIL is such a major player in energy and coal industry.

Whereas NEC has the opportunity to compare with other coalfields because of -
(1) Quality of coal, particularly low ash content, high caloric value. Hence, an opportunity out of Ministry of Environment and Forest restriction for high ash content from 19 June, 2001. (2) open market and (3) availability of coal.
On the whole there is a need for over all improvement and focus as stipulated in the study by the Indian Institute of Management Calcutta has identified, focused and stipulated the following major points:-

(1) Better understanding of market and customer need, (2) improving quality of their products and their delivery, (3) raising efficiency levels in operations, (4) reducing costs without anyway sacrificing product features and manufacturing efficiencies, (5) becoming proactive organisation and (6) focusing on human resources development.

Keeping the above threats and opportunities at the back of the study and findings of the present study, the following recommendations may be relevant in focusing the causes and narrowing down the negative contributing factors to make a vibrant and profit making organisation.

(1) As the importance of coal in economic development cannot be denied and overlooked in the present ever increasing shortage of energy scenario, there is urgent need to increase the energy generation for the overall economic development of the country as well as North Eastern Region. Neglect of this sector will have adverse affect in the development of industries and economic growth in India and North Eastern Region and it would be an unrealistic proposition. This hard reality has to be accepted without any exception and exploit all the available energy resources with due conservation and practical approach. It is fact rather than a fiction.

(2) Coal, as a major source of primary commercial energy, will continue to dominate the energy sector. Such a rare fossil should be produced with due conservation by developing new project and mines, apply suitable and economically viable technology and the proper utilisation of the resources. Besides, the demand for coal will increase,
considering the ever increase oil price and other sources of energy and other sources of energy has not come-up up to expectation.

(3) Coal India Ltd. vis-avis NEC having distinct historical background and culture will play an important role in the industrial development of India and North Eastern Region. It should be nourished maintain and protected to check and guide for the improvement of moral, attitude and work culture of the employees. This should be used as a platform for the development of the present system. Besides, discipline or punishment is necessary although it has negative impact on human resources. Discipline and performance should be the most important value to be emphasised.

(4) It is a herculean task to manage and administer such a scattered coal mines all over the India. However CIL having the distinction and profile of being second largest corporate sector in the world with such a large human resources, there is no reason why this corporate sector will not continue to dominate the coal sectors and be considered as a looming concern in the eyes of the country.

As NEC as unit of production of having its own distinction and having above 4500 human resources showing downward trend of performance is a matter of concern. Despite of favourable factors prevailing in the North-Eastern Coalfields such as the unity in diversity, living together without distinction of cast, creed and religion, harmonious industrial relation, more than 50% literacy rate which is backed by rich historical background and tradition observed low production and productivity. Where as salary and wages have increased considerably leading to increase cost of production. Therefore, there is a need for attention and focus to get on production and productivity.

(5) The number of manpower engaged in underground which is more than open-cast while production and productivity is very low in the underground mines. It is therefore necessary to check the performance and activities of the employees as by merely increasing
man shift does not necessarily improve the production and the productivity. All managerial efforts should be concentrated on improving the efficiency and utilisation of resources. There is need to check and identify the working and non working employees and dead woods. Manpower particularly surplus manpower should be checked and utilised. Otherwise, they should be engaged in some areas where there is a shortage of manpower or encourage VRS after identification.

(6) It is also recommended that production target should be realistically fixed and should meet the demand. Any ambitious target or projection of production without considering the ground reality would lead to either low quality coal production having no market or buyers and leading to increase in stock. Performance also to be monitor more closely and the responsibility and authority should be clearly assessed and delegated and demarcated. If such system is implemented there is every chance of improving both production and productivity thereby contributing to overall improvement in performance and efficiency.

(7) Considering the past performance and existing production and productivity with limited financial assistance it is cheaper to produce coal from open-cast mines and easier to produce good quality of coal of higher grade to satisfy the customer. In fact it is increasingly more economical to mine opencast at present level efficiently.

It is noticed that the main production of coal is from open-cast mine and production from UG is limited. Considering the environmental constraints production to increase the number of open-cast mines is difficulty. On the other hand underground coal production alone will make a profit is far from reality. At the same time if it is possible to increase the number of open-cast mines and substantiate by UG production, there is a urgent need for proper deployment of appropriate number of young, trained and technically sound employees and develop of
new mines and utilised of all possible human resources with appropriate technology. As the development of the UG mines takes time to start production it needs to take action immediately as the under ground mines of NEC are very old and increases the negative factors of production and productivity.

(8) In NEC there is need for re-examine and turn around of the management practices for proper utilisation of available human resources and their development more than other factor of management. The effective management and organisation does not depend upon the size of the organisation but the quality of its work and its people, the living forces behind the performance of the organisation.

(9) There is urgent need for regular, proper, sound and realistic Human Resources Policy which should be formulated and practice. It should be incorporated, in the corporate planning and form a part of the basic corporate planning. As observed in NEC there has been clear lack of human planning, policy and objectives, clearly showing highly irregular fluctuation of permanent employees. While formulating the Human Resources Policy all the departmental head professionals including overman, sister and other specialist should be involved in to throw more light of this practical experience. The performance of such Human Resources Policy should be checked examined and reviewed regularly and modify if any discrepancy occurred. Under Human Resource Policy, the following points should be noted (i) Promotional avenue should be spelled out clearly and promote subject to the preference or achievement of target stipulated and (ii) Other welfare matter, performance, training, etc. should be undertaken.

(10) Human resources should be properly tapped and utilized. It need to take drastic action and exercise to identify the surplus manpower working and non-working group, working in production and non-production areas. Deployment of manpower should be done meticulously, shifting, transfer and re-transfer should be done only when there is
 utmost necessity as it cost money, disturbs the quality life, hardship, etc. In this process union leader should be taken into confidence and make their understand the ground reality of the organisation. The old and aged employees who are not capable of working in underground should be brought to surface and young should go to underground.

(11) In order to check the surplus, dead wood, medically unfit employees, management should encourage to take voluntary retirement and improvement with understanding and firmness. As chronic or long absenteeism is a problem, such case to be identified, chronic absenteeism employees should be allowed to take voluntary retirement.

(12) The deployment of female employees for gainful utilisation is necessary as a considerable 6.55 percent of the total employees are female employees and their engagement is limited and restricted due to statutory obligation. They have to be identified in terms of qualification, capabilities age factor background and experience. Whenever it is necessary they should be trained accordingly to the identified working areas.

(13) Female dependent employment should be encouraged to take female VRS so that one of the male dependents can be employed. Considering the present change in age ratio of more old employees than the young employees it is an opportunity to replace the old by young employees to have a balance and avoid shortage of manpower in underground.

(14) As seen the increase in manpower and productivity increases in production, but increase in manshift above doesn’t increase coal production. Hence, strict control, deployment and utilisation of human resources would change. On corollary, no improvement in and achievement of goal can be expected by ignoring and taking for granted the human side of the organisation.
Frequent change of chief of executives and restructuring of organisation need to be re-examined as a matter of long term policy as it affect the whole policy matters delayed the implementation.

Quality, cost aspects and human resources deployment and utilisation should dominate the industry's operating philosophy for the future. The mission should be more forceful to suit the present scenario. Changing the mission of CIL may also include the human side of the organisation and give more vibrant and recognition of human side of the management. This would indicate the importance of HRM and give right signal of or ideas to the employees that organisation takes care of human side of the organisation. It would be appropriate to state as "the mission of CIL is to produce the planned quantity of coal efficiently and economically with due regard to safety, conservation, quality and human resources."

It is the age of professionalism. Professionalism in approach and action of the management solves most of the major problems. This will enable the organisation to respond effectively to the changing needs with an competitive edge.

To study the concept of HRM is an academic persuasion, but its application and approach is a practical utility which can not be taken for granted. It would be highly advantageous for the organisation if the importance of human side of the organisation is realised seriously and taken care of. The competitive advantage of Human Resources Management should be exploited to the fullest by not only using the known resourceful areas of the individuals, but also by exploring the hidden and unknown areas.

The existing performance appraisal systems should be examined to assess and reflect the performance of an individual within a practical approach rather than ritualistic needs. The improvement in welfare facilities and quality of life lead to improvement in the production, productivity and earning per shift. However, as noticed in NEC the increase of welfare expenditure does not have any impact. That means there is need for overall re-examination and review the performance of welfare activities, and more important of all is the control and supervision. No organisation can expect better results from its employees when even the minimum physical needs are not provided and live in an undesirable and unhygienic surroundings.
(20) The activities of improving the welfare, quality of life and health should be taken as an advantage or opportunities rather than as an obligation. It should aim and act to provide more than physiological needs.

(21) Training and development of human resources should be given due consideration in organisational policy. Training needs should be identified, planned the required training programmes and introduced systematically. Fitting an employee to a training programme without knowing the training needs is wastage of time and money.

(22) The training executives should be concentrated more on managerial aspects than the technical. Whereas for supervision, Sirdars and Overman should be technical and management aspect largely concentrated in leadership, communication, team work, organisational behaviour, principles of management and industrial psychology. At the grass root, it should be confine to technical aspects and to improve attitude, moral and importance in organising responsibility and organisational behaviour.

(23) The employee’s sense of security - socially, financially and after retirement needs to be channalised to develop sense of belongings, concern for the organisation’s development and proud to be an employee of the organisation. This can be done through communication or dialogue and the massage should be loud and clear. In this trade union leaders can play a major role.

(24) The increase in salary and wages should lead to improve in the standard of living of the employees, production and productivity. Considering the present financial position and performance of the organisation, the situation is such that the major increase in salary and wages due to agreements for every four years may not be justifiable. There is a need to re-examine jointly with the trade union leaders and asses the impact in the performance, standard of living and utilisation.

(25) The present safety performance should be maintained by giving proper vocational training supervision and awareness. In the meantime, the improvement of the conditions of the working places should be a matter of priority, routine and regular practices. Safety measures can be controlled and improved by the awareness and precaution, but not by statutory obligations.
(26) It is necessary to maintain the cordial industrial relations. This opportunity and situation should be used. It is the question of how long this cordial industrial relations can be maintained is a matter of time provided necessary steps are taken to stain such an important area of human management.

(27) Motivation is the key contributing factor for the success of organisations. It is necessary to check and improve the attitudes, morals and jobs satisfaction. These factors are reflected in an individuals performances.

(28) Job rotation and job enrichment should be done whenever and wherever there is monotony and possible.

(29) Absenteeism is a major factor or constrain in the development of organisation. By issuing charge sheets or punishment it would not change, the crux of the problems lies somewhere. There is need to identify, improve welfare facilities, living conditions recognise work performance, counseling etc, if necessary. Gambling and drunkennees which are identified as a major cause of absenteeism offer further scope for study.

(30) On the whole all said, and done there is a need for clear vision, planning mission and target. The approach should be pro active and professionalism. The human side of the organisation should not be ignored, but taken care of as the top priority and its advantages should be fully exploited. To expect good results and organisational performance without taking care of human resources is beyond the reality in the present competitive environment particularly for Coal Industry which is a labour intensive organisation. The success and survival of this organisation in such a competitive market also largely depend on the proper planning and set direction and will to do by the policy makers and Chief Executives to making the future more certain.