Chapter IX

Findings and Recommendations
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The importance of human resource management for accelerating the economic growth and prosperity of any developing country can hardly be exaggerated. The main objective of developing the economy of a country is to raise the standard of living of its people. Human resource management in a developing economy deserves special study and attention, because in a broader sense, the labour force is the most abundant resource available in any economy and therefore its sustained and stable growth depends in a very large measure upon the proper utilisation of this resource for efficient productivity.

Human resource generally means the total quantitative and qualitative worth of the human asset in a society. The concept of development may be defined
broadly as the formal and informal processes by which individuals learn. Development of persons to their maximum potential and conservation of talent is the essence of the Human Resource Development (HRD) concept.

People are a resource, the use of which needs to be forecast, planned, co-ordinated and controlled in the same way as any other resource. In a world that of late seems to be running out of natural resources, we hear a lot of talk about exploring, discovering and tapping new and novel resources. Traditionally in all countries far more attention has been paid to development and utilisation of material resources than of the human resource. We are in a stage to promote a more enlightened philosophy of management which encourages responsible participation of the employees of an organisation by respecting their dignity as human beings. We can improve the tone of administration by utilising people's minds as well as their hands.

The essence of human resource development is to bring out the best in man in terms of productivity. Better performance or higher productivity depends upon one's own level of knowledge, skill, capacities and the positive work attitude and values of the organisation.
In this study, the researcher has attempted to identify the major human resource factors that contribute to productivity and the extent of their impact on productivity and for the purposes of this study, BHEL, Trichy, a Public Sector enterprise has been taken as a case. The study is undertaken with the objective of identifying the human resource factors that contribute to productivity in an industrial organisation like BHEL, Trichy, understanding the impact of the human resource factors on productivity and to suggest ways and means to improve productivity still further by effective human resource management.

BHEL, Trichy represents one of the largest manufacturing and engineering organisations run in the public sector of India and is almost the leader in the industry which it represents. Its contribution to industrial and entrepreneurship growth, power and employment generation, and above all its overall contribution to the economic prosperity of our nation is quite substantial and it is a rare specimen of the very few successful public sector units in India. Hence, it has been taken as the case for this study.
The main objective of this study is to find how the human resource factors enhance productivity in a public sector undertaking. The assumption underlying this study, is that human resource is the most important of all resources. Human resource appreciates in value in the long run due to innovation and technological developments. Man is the heart and the centre of all productivity. Without man, no machine can function in any organisation. Notwithstanding excellent machines, first rate technology and a layout provided in an enterprise, the man behind the machine is what matters the most. His morale and creative culture could make all the difference between success and failure of the enterprise.

It is an accepted fact that the public sector in India does have access to the best available inputs; yet this sector has not been able to deliver the rich results expected of it. The main reason for this failure, according to the researcher, is under utilisation of the available human capacity. There are organisations like the study unit (BHEL) which have performed comparatively better. An enquiry revealed that the most critical factor which has ensured the industrial success
and the commercial viability of the organisation under study is the quality and effective utilisation of its human resources.

The present study is essentially a case approach with a keen observation as the basis of study. The HRM aspects such as Human resource planning, Training and development, labour management relationships, participative management and labour welfare measures are thoroughly studied by the researcher through comprehensive surveys with the help of carefully structured questionnaires which are pre-tested for ensuring authentic and reliable data.

Preliminary discussions were held with Executives and Workers to understand the HRM perspective in BHEL and to set forth the purpose of the study and the approach. Detailed discussions with Industrial Engineers were held to ascertain the intricacies involved in the manpower planning process at BHEL.

Secondly, the researcher had an opportunity to observe the Training which is being imparted to employees in BHEL, Trichy and to interview many Executives regarding the various aspects of the Training
Programmes offered in BHEL. This has helped the researcher to assess the impact of Training and development on productivity on a more objective basis.

The labour management relations is an area in which the researcher had made an elaborate study with a view to know how far the employees are satisfied with their relations with the management. An elaborate Interview Schedule designed separately for workers in the vernacular has been used to get their fair and unbiased views.

Participation of employees in the decision making process leads to involvement and this involvement leads to commitment, without which no measure of improving productivity can prove to be a success. The researcher had made an indepth study of the various participative fora functioning in BHEL and their effectiveness.

Labour welfare measures provided to the employees make them happy and committed to the organisational goals. The study has utilised both primary and secondary data available from journals, records, reports, house magazines of BHEL, Trichy etc., for understanding and establishing the cause and effect relationship between
labour welfare and productivity for the period of study from 1984-85 to 1988-89, using reliable measuring scales.

Thus, the present study attempts to highlight the HRM factors and their impact on productivity. The study covers the various facets of manpower planning viz., manpower planning system, manpower planning process and manpower planning audit. It was found that manpower planning if only properly done would lead to proper utilisation of manpower; otherwise, an organisation cannot ensure the desired productivity because of the non-availability of right people at the right time and in required quantities.

Secondly, the study has revealed the significant role of training and development in enhancing the productivity of the organisation and it was found that there is a positive impact of Training on productivity in the study unit.

Thirdly, the essence of Labour-management relationships for productivity improvement was analysed by making a detailed survey as regards the satisfaction in the job, worker's participation in decision-making and the role of trade unions.
The study also made an attempt to understand the various welfare measures provided in BHEL and its impact on productivity by using the correlation technique. The study revealed that there is a definite relationship between the welfare measures provided in BHEL, Trichy and productivity.

From the above facts, it becomes obvious that the essence of utilising human power lies in understanding its importance and utilising it in the most effective way to ensure productivity. The study has attempted to assess the impact of effective human resource management on productivity.

Findings and Recommendations

Human resource - the Axis of development

In the entire gamut of productivity, it is recognised that manpower resource has a key role to play. The expanding and diverse requirements of the economy need a large reservoir of skilled manpower and managerial talent.
The present study revealed certain key factors viz., Human resource planning, Training and development, Labour management relationships and Labour welfare measures as contributory factors to the success of the organisation. An organisation which aims at developing the human power must first of all plan its manpower efficiently so as to have a skilled, technical and qualified manpower. Since manpower costs make up a substantial part of total running costs of many firms, it is important to see that manpower resources are utilized as effectively as possible. The ability of a company to compete successfully may well depend on how closely future manpower costs are predicted and controlled. Manpower planning is conceived as a strategy for the acquisition, utilization, improvement and preservation of a company's resources.

An organisation constantly looks for changes in improving the operating methods and for updating technology. In such circumstances, an organisation relies on training for diversifying its activities so as to improve the productivity of the organisation. Otherwise, employees may resist to act as desired by the organisation. Training is thus a vital activity
for improving the skills and talents of the existing employees and also for the new entrants, so that they can take up the organisation's actual change in the true spirit. In short, Training is found to be an important HRM aspect for developing the productivity of the Human resources of the organisation.

Good labour-management relationship is the basis for smooth functioning of the organisation. A satisfactory working relationship among the employees would lead to work commitment. But such a working relationship requires wholehearted cooperation from the management also. Employers and employees often accuse each other of exploitations. Strained employer-employee relationship leads to many unholy alliances on either side. Healthy industrial relations make the employees satisfied which in turn leads to greater motivation of employees and results in enhanced productivity.

Worker's participation in management has got a crucial role to play in maintaining healthy industrial relations climate in the organisation. It is the involvement of men that achieves the result; whether it is management or labour, work situation has to be
made such that everyone participates. Participative management involves a manager consulting his employees and letting them participate in the decision making process in the interest of the overall good of the organisation.

Another important factor in developing the human resources is the recognition given to the Human resources by the provision of adequate welfare measures to the work force for making them satisfied with the present working environment. A satisfied worker is a productive worker and he would recognise the value of his role in the organisation and put in maximum effort for contributing to the success of the organisation.

Human resource planning

Human resource planning in BHEL, Trichy is taken care of by the manpower planning cell which has been specially created for this purpose. Norms have been developed in BHEL for forecasting the manpower demand in a systematic way having the long range corporate and unitwise objectives in mind. It is found that BHEL resorts to managerial techniques like the manpower inventory, manpower demand forecast, manpower supply
forecast and the manpower wastage forecast, to arrive at the net manpower requirement.

The present study revealed the following defects which need to be remedied.

1. Optimum utilisation of manpower

One of the short-comings that needs to be remedied is that the manpower planning effort in BHEL, Trichy has been focussing mainly on higher level manpower like Graduates, Engineers, Doctors, Scientists, etc. The lower level requirements are met through re-training and re-deployment of employees.

Apart from forecasting demand and supply of human factor, manpower planners must give sufficient attention to the utilisation of the personnel already built up in the labour force. It is for the management to identify and measure the quantitative and qualitative aspects of under utilisation that exists in the organisation and the factors which stand in the way of optimum utilisation.
2. Lack of confidence is noticed among managers in their manpower plans and forecasts. The gap between the manpower forecasts and the use of such data by management for actual implementation is sometimes attributable to the over-ambitiousness of the staff in designing and introducing elaborate manpower planning techniques on the one hand and the top management's reservations on the other.

3. Although it is possible to predict the approximate number of vacancies that will occur in BHEL, Trichy as a result of deaths, retirements and resignations in a year there is no way of knowing the exact area of specialisation that may require replacement. It is observed that in some cases, manpower forecast is also made by rough estimate which are subject to the capacity and judgement of the individual. Hence forecasts can yield only Gross estimates of requirements of various personnel in the future, but management can take action on specific cases, not on totals.
4. BHEL, Trichy may find it difficult to compete effectively against its competitors, if it allows either shortage of surplus of labour to develop for any significant period of time. If vacancies particularly for top positions are not filled in promptly, efficiency is likely to be impaired and production schedules interrupted. If one of the other hand, there is under utilisation of personnel through overmanning, there will be unnecessarily high labour cost and low profit margin. Increasing the importance of involving line managers, employees and union representatives in the planning process has to be recognised in BHEL, Trichy.

5. Role analysis

The extent to which an organisation can succeed in achieving its goals depends to a large extent upon the availability of human resources and the amount and type of skills at their disposal. BHEL, Trichy has to forecast what positions will become vacant or will have to be newly created at different times and who in the organisation would best suit these positions, as a result of diversification. For this 'Role-analysis'
can be done in terms of the three well known fields that constitute any supervisory or managerial job, technical skill, conceptual skill and human relations skill. Role analysis not only helps manpower strategy, but also helps evolve training programmes which instead of being mere blanket type are more meaningful and tailor-made to meet the training needs of the staff of the various categories.

For effective development of Manpower through planning in BHEL, Trichy, the researcher strongly recommends the creation of an independent (not influenced by any of the existing departments) and effective department for performing all specialised activities of manpower planning. That is, BHEL, Trichy should enlarge and develop their present tiny manpower planning cells and ultimately convert them into a centralised fullfledged manpower planning department consisting of specialists like Manpower Experts, Statisticians, Industrial Engineers, Economists etc., under a manpower manager.

The draft manpower plan emerging from the proposed Manpower Planning Department in BHEL, Trichy should be considered by a high level manpower planning
committee, consisting of the Heads of all functional
departments with the Executive Director as Chairman.
For effective functioning, the manpower planning depart­
ment should come forward to analyse and solve specific
manpower problems and should consider the following
steps for making a manpower planning system a success.

First, manpower planners in BHEL, Trichy should
try to assess the organisation's receptivity to changes,
particularly changes in the area of human resource
planning and deployment and identify the executives
and departments which are most and least likely to
support a manpower planning programme.

Secondly, they have to identify the actual and
perceived manpower planning needs and problems of the
organisation. Manpower planners have to establish the
objectives and scope of manpower planning. The time
horizon of the manpower should be determined. The next
step is to consider how to enlist the support and
involvement of top management in manpower planning
and the key interfaces should be identified. These
would probably include persons responsible for long
term planning business research and organisation planning.
Then a design for manpower planning is to be projected for the top management's approval. For this, the concerned functionaries in BHEL, Trichy should prepare a formal detailed implementation plan, including provision for progress reporting. Methods have to be developed for monitoring the plan in order to evaluate the accuracy and practicality of the forecasting and planning process and to learn whether recommendations are acted upon.

Even when the plan is finally approved there may be scope for revision and improvement at a short notice during the course of execution and the plan should have such a provision for subsequent revision as even the most carefully prepared design will often uncover mistaken assumptions and expectations. Finally, the planning process has to be institutionalised to make its place secure with the management. The above process can also be represented by the following diagram.
Manpower Planning Process

Assess the Organisation's receptivity to changes

Identify the actual Manpower planning needs

Manpower planning design formulated

Plan approved Support of the Management

Subsequent Revision made

Planning Process Institutionalised

Figure 33
The following are the essential pre-requisites as viewed by the researcher for successful Human resource planning in BHEL, Trichy:

1. Human resource planning must be recognised as an integral part of corporate planning. Thus the manpower planner needs to be aware of the company's overall objectives.

2. Top management's backing for manpower planning is absolutely essential.

3. Personnel records must be complete, upto date and readily available.

4. Manpower planning responsibilities should be centralised to co-ordinate consultation between various levels of management.

5. The planning period should be long enough to permit remedial action to be taken.

6. The planning techniques used in BHEL, Trichy should be those suited to the data available and the degree of accuracy required.

7. Plans should be prepared by skill levels rather than by mere aggregates.
8. Data collection, analysis, planning techniques and the plans themselves need to be constantly revised and improved in the light of experience.

Public enterprises are responsible not only for building the infrastructure for industrialisation and producing goods and services of wide variety but also developing the human resources. The public enterprises have also to live with many limitations in hiring manpower. Some top appointments in the public sector are made directly by the government. Even in respect of appointments falling within the powers of the enterprise, Government directions on job reservations for various sections of the society limit the choice of the enterprise in hiring personnel of requisite standard, commitment and motivation. Unwritten political interferences by labour unions/employees associations also play their part.

Further, in any organisation it may be easy to recruit a person but it is difficult to dispense with him. Today, there are many enterprises in the public sector which should have been closed down long ago or should have shed a bulk of their labour force
if they were guided by the economic needs of the enterprise; but for various reasons they could not do so.

Many of the public sector undertakings have not evolved work standards/norms of output through systematic objective studies. Because of this and due to lack of proper work-load recording/reporting systems, the assessment of manpower requirement is not realistic.

The existence of constraints in manpower planning in the public sector should not lead to the conclusion that manpower planning is a futile exercise. The constraints in fact point out to the need for more responsive and alert manpower planning. The following suggestions would improve the situation in public sector undertakings in this regard.

Human resource planning at unit or plant level in public sector undertaking has to be integrated with the corporate planning of the organisation; the first step which has to be taken is to institutionalise corporate planning in the public enterprises.

At the national level a central agency may be set up to undertake the task of Human resource planning
for public enterprises as a whole should be set up. The central agency should aim at a proper integration of sector-wise and industry-wise development planning. The central/national agency should aim at a proper integration of sector-wise and industry-wise manpower planning with the sector-wise and industry-wise development planning. The central/national agency should also attempt sector-wise and function-wise estimation of manpower resources in public enterprises and forecast the requirement of manpower of various levels and categories for public enterprises as a whole over a specific time span. In short the manpower planning for public enterprises in India may be centralised or coordinated through a central agency so as to achieve the overall objectives of these undertakings from the national perspective.

Finally, effective manpower management will require both at enterprise level and at the national level the development and maintenance of a Personnel Information System which will serve as a manpower inventory, capable of updating itself and supplying manpower data whenever required and also as a feedback mechanism - a track record of performance and growth of managers.
The central agency should also organise seminars and workshops - both at National level and international level - to heighten the awareness of the importance of Human resource planning in public enterprises and use the findings of such seminars/workshops to bring about further improvements in manpower planning mechanisms.

The number of public sector enterprises looking for guidance by which Human resource planning can make a practical contribution has grown in the recent past with the awareness of the need for more effective manpower management so as to bring improvement in productivity. As we know, manpower is the most perishable of all commodities so it should be planned in such a way as to provide employment to each and every able bodied person of the working age willing to work at maximum efficiency.
Training

It is found that in BHEL, Trichy Training plays an important role in contributing to productivity. The training process involves certain steps:

1. First, the individual potentials are understood and the individual and group needs of different categories to improve individual and organisational effectiveness are identified.

2. Second, the organisational resources including men and machinery, the technology, followed, the needs in terms of knowledge and skill required by an individual for effective performance are understood.

3. Third, on the basis of the above, training needs are identified for designing the appropriate training programmes.

There is a HRD Centre at BHEL, which helps programme co-ordinators in the design and development of training aids for a particular programme. It is found that in BHEL, a well planned training system is in vogue in order to provide the right training for the person. Based on survey, buzzing session, the training plans
for individuals, groups and departments are worked out and organised accordingly. All the information regarding training has been computerised and the individual/department programme-wise outputs are generated and used to select and organise suitable programmes for employees.

In BHEL, an action research programme is conducted on controlling of absenteeism through counselling. As a result of the action research, improvement in attendance was shown by 200 persons out of 324 persons covered 62% as on March 1989. Further study is on for finding out the effectiveness of these employees in their jobs for initiating necessary steps to improve their effectiveness.

Besides HRDC creates a suitable climate for developing team spirit, participation and productive culture through socialisation, mass education and open communication. Mass education on various thrust areas is imparted on a variety of subjects such as participative management, quality circles, commitment to customer etc. These promote the right culture in a very large cross section of the employees in a shorter time.
The HRD centre is thus functioning efficiently in BHEL to develop all the employees and to bring in the required changes in their behaviour and promote a productive work culture. Further it is observed that training encourages effective interpersonal relation at all levels of the organisational structure. Excellent opportunities are provided to Trainees to improve their talents and develop positive attitudes among them. They are even sent abroad by the company for learning new techniques.

To know the impact of Training on productivity, the researcher has made use of the correlation technique which shows the type and degree of relationship existing between the training cost and value added. During the course of analysis, it is found that there exists a positive correlation between the total training costs and value added, which implies that training has significant impact on the value added in BHEL, Trichy.

The researcher recommends the following steps to be taken by the study unit to make Training far more effective.
1. Identification of Training needs

The present study revealed that in BHEL, Trichy buzzing session and survey method etc., are used for identification of Training needs. Assessment of Training needs therefore is the key to the efficacy of all subsequent training action. Many methods are in vogue in such assessment, such as organisational audit, surveys—external and internal, individual assessment of knowledge, skill and behaviour and actual levels compared to the desired level. The identification of Training needs has to be done within the organisation with reference to the existing and future demands for competent Human resources at all levels. The training needs would also require identification of Training gaps and the specific additional skills which are needed for efficient performance.

2. At HRDC in BHEL it is found that number of experts are available in Technical areas but there are not many people to handle behavioural science in HRDC, General Management and functional management. The researcher feel that the executives who have the aptitude for teaching and working for the above areas may be called from inside the plant for a shorter duration
to act as Faculty. The researcher has found that sufficient number of case studies are not available related to BHEL in areas of Functional Management.

For making the inhouse training in BHEL far more effective, the inhouse training cells should be adequately staffed and should possess more training equipment and resources. The training programme should be carefully designed and conducted with special emphasis on the specific requirements of different functional areas at different times.

3. Training the Trainers

It is important for the trainers to have educational background and experience and appropriate orientation they would also need to acquire skills which would ensure, with reasonable certainty, their effectiveness. Also the training of Trainers in BHEL, Trichy should form an integral part of the training process to be pursued on a long term basis, in order to make available sufficient number of trainers who would be able to meet in constantly changing needs of the organisation.
To make training of Trainers comprehensive and meaningful, it is necessary to ensure the following, before sending a trainer to attend advanced teacher training programmes:

1. giving on the job training at the institute/centre and in industry or business,
   - counterpart attachment programme at the centre to ensure attainment of a certain level of proficiency,
   - carrying out Research appropriate to the level of training and experience,
   - encouraging experience in developing training materials.

2. Exchange of trainers among institutions within the region should be encouraged.

3. Regional workshop of trainers may be held in BHEL, Trichy to exchange views on developments and experiences in management training.

4. Research projects may be undertaken to determine problems of management training with particular reference to selection, recruitment and development of management trainers.
5. Opportunities for consultancy and research should be provided for improving professional competency and job satisfaction of trainers.

6. Trainers should be periodically rotated to move to various management positions in organisations so as not to lose touch with the changing realities of the enterprise's objectives and needs.

Evaluation of Training Programme

It is found that in BHEL, Evaluation of Training is broadly categorised into the following:

1. Pre-Evaluation
2. Reaction Evaluation
3. On the job Evaluation

BHEL HRDC has an excellent system for the following up of the translation of learning on the job. However, researcher feels that vigorous involvement on the part of the trainer and the concerned officer is absolutely essential for making the trainee to implement the learning, which to some extent is absent at present.

The evaluation before or after training provides certain indicators for the trainee's performance.
potential in the work situation, but accords no assurance with regard to his actual job performance in terms of applying the knowledge, skill and attitude learned in the training.

Time Dimension in evaluating Training effectiveness

The time lapse needed in evaluating training effectiveness will conceivably vary from 3 months to a year or 2 since this would depend largely on the course objectives and on the degree of sophistication or depth of the skills, knowledge and techniques imparted in the training. This much time is not generally allotted for evaluating training effectiveness in BHEL, Trichy. It is however more reliable to perform the evaluation at regularly set periods after 6 months, then after a year and finally 2 years of training. The longer time intervals generally would provide a more accurate and fuller feedback on the value of training in job performance, particularly if the training provides more generalized and abstract management skills to the participants.

An efficient use of materials, money, machines and human resources is essential for achieving a higher level of productivity in industry, whereas other
resources have limitations, the human resources has unlimited potential. Moreover this is the only activating resource; other being passive. Its quality can be improved by intervention of training. Therefore, to raise productivity, improvement in the quality of human resource through training inputs is of vital importance.

Some of the problems identified in the provision of training in a public enterprise are as follows:

Training is generally considered the last priority of top management in many organisations, but it is observed that at BHEL, importance is given for Training and development. This is evident from the fact that all categories of employees compulsorily undergo training on the promotion of one house to another. However the researcher feels that the management training can be further extended to cover more number of people and also bring in higher levels of professionalism in the organisation.

In most of the public sector undertakings there is found to be lack of clear cut commitment for training even from the top management. It is the initiative of employees to attend training programmes, rather than the initiative of top management, which has been responsible for developing
consciousness of the need for training in public enterprises.

It is found moreover that there has been no special training programme designed to meet the needs of managerial personnel and also no systematic effort has been made to evaluate the relevance of training to meet the specific needs of public enterprises. Although management development and training have gained general recognition, everywhere yet there has hardly been any attempt to assess managerial training needs and provide the same in an attempt to build up a good managerial force.

To be effective, training should be viewed as an integral part of the total system, rather than training people to just plug specific gaps or to improve specific areas of operation. It is all the more essential for public enterprises to evolve training strategies, defining their needs, devising the most appropriate means and methods of training, ensuring selection of the most suitable candidates and also ensuring that they are suitably placed on the completion of their training to positions where they could best apply their
knowledge and skills learnt through such training. There should also be a continuous evaluation of performance of such trained personnel to determine whether training has helped to achieve the desired results. It is recommended that the study unit follows such an organised approach to its training efforts.

Healthy Industrial Relations

The study of labour-management relationships prevailing in BHEL revealed the following interesting facts:

1. Firstly, it was found that the employees' in BHEL, Trichy are generally satisfied with their job, position and status in the company even though there is a desire to get more wages than the present - an attitude which is quite natural to any employee.

2. In BHEL, Trichy, it is noticed that, the employees views are being taken into consideration at every stage of managerial decisions and mutually acceptable programmes of action are implemented. Recognition is being given to the sentiments of workmen on the issues that affect them directly
or indirectly. BHEL, Trichy has ushered in a participative style of functioning, with the object of prevention of industrial unrest and it has received the first prize for 'Good Industrial relations' as early as in 1982 from the Government of Tamilnadu, among the establishments employing above 1000 workers.

3. The analysis of the opinions of employees of BHEL on their preference for participation in management, level of participation, membership in the participative forums revealed that workers' participation in management is favoured more by the workers than the Executives in BHEL.

As regards their level of participation, the present survey revealed that on the whole, majority of executives and workers are involved in the decision making process related to productivity, at different levels in management.

4. The study also revealed that bi-partite forum is the main instrument through which almost all industrial relations issues are resolved in the study unit. The bi-partite forum is
functioning in the form of various committees such as Joint committee, works committee, canteen managing committee etc., with clear cut areas of responsibility at corporate level and at unit level. It is found that the majority of executives and workers in BHEL, Trichy prefer that the functions of bipartite committees have to be extended to many areas of activity in the unit which have so far not come under the purview of such committees.

5. When the reasons for existence of multiplicity of unions are analysed, it was found that external politics appears to be the main cause for the formation of multiplicity of unions as elsewhere. The study also revealed that the multiplicity had led to many bad effects such as the outsiders interference in the affairs of the organisation and political influence.

6. Major areas of disagreement between management and union in BHEL have arisen mainly due to the employees' attitude towards seeking jobs for employees' dependents and such other petty matters.
The researcher has recommended an action plan for ensuring a good industrial relations climate for higher productivity. Some decisive factors in ensuring this may be as follows:

1. Effective application of work study, introduction of incentive schemes, sharing gains of productivity, programme of modernisation, and above all initiating productivity bargaining and labour's co-operation will go a long way in achieving the objective.

2. An integrated approach to manpower planning, education and training of all personnel viz., management, supervisory and workers will be necessary for ensuring good industrial relations.

3. The management has to understand that at the enterprise level there are other factors of productivity not merely labour which have to be identified and developed.

4. Constant attention to a wide range of factors such as good house keeping, plant maintenance, methods improvement and quality control will be essential. This will require effective
deployment of work personnel and changes in work practice, skills and work loads as well as proper sharing of the gains of productivity.

Therefore, creating a healthy industrial relations climate in business, industry and administration is of paramount importance for increasing the productivity of the enterprise, in general, more so in the study unit.

Worker's Participation in Management

Participative management in BHEL, Trichy is now considered as an effective instrument for involving workers in the decision making process and motivating them to give their best for improvement in productivity. The study revealed that the one or more of the following symptoms exist which affect the effectiveness of participation.

i. Irregular meetings and frequent postponements

ii. Poor attendance

iii. Lack of specific Agenda

iv. Lack of prior preparation of members

v. Discussions based on opinion rather than facts
vi. Accusative attitude

vii. Lack of consensus in decision making.

The following suggestions may help BHEL, Trichy to develop a more democratic work culture and participative management style:

1. Commitment and support of top management to participative style of functioning expressed by providing time, space and an adequate budget for such participative programmes and extending appropriate recognition and positive reinforcement.

2. Introduction of meetings and discussion groups to share organisational information and provide for a two-way communication process.

3. Evaluation, implementation and reward for productive suggestions must be timely and appropriate.

4. Creation of autonomous work groups at shop floor level to give workers more responsibility for setting goals, establishing procedures and achieving output.
5. Joint consultative mechanisms to move decision making to lower organisational levels. The introduction of such mechanisms as shop councils and plant councils must be preceded by training to all members in communication, team working, consensus decision making and meeting skills.

6. Promotional and publicity campaigns highlighting the achievement of participative fora and spreading consciousness throughout the organisation.

Generally speaking, the scheme of worker's participation in a public sector undertaking could not make any impact among the workers as participation tended to remain confined only to production and productivity. There had been no institutionalised forum to deal with worker's interest bearing issues. Even in respect of matters related to production and productivity, the management puts forward plans for acceptance by the worker's representative without associating them in the process of planning. In several other matters, due to an assumed technical superiority of managers, workers' views are not given due recognition. The following reasons are listed mainly by the trade union leaders of BHEL on an interview for the failure of
works committees and Joint Management councils:

1. Inter-union rivalry
2. Lack of scope for deciding interest-related issues of the workers by joint committees
3. A bureaucratic attitude and negative approach of the management
4. No democratic process being followed in the Trade union leadership elections.
5. Work committees and joint management councils were only recommendatory bodies and had no executive functions. As such they have failed to deliver the results.

To be effective, participation would require involvement of workmen in each and every sphere of activity in industry. Since the various levels are inter-related it would be of no use if participation was confined to one level only.

The concept of workers' participation in management is neither effective nor working well in practice in some of the public sector undertaking in India.
To make industrial relations smoother in a public sector undertaking like the study unit every wage settlement for atleast 4 to 5 years duration, should be linked only with productivity. Wasteful practices should be specially mentioned and agreed upon for elimination. Unions being part to the agreement should have a say at the unit level in the public sector. Otherwise, agreements would remain only on paper.

A flexible relations oriented and task oriented management is likely to succeed in many situations. Industrial relations problems mainly arise because of different perceptions of each other by the manager and the workforce. The only way therefore seems to be for the management to set an example to eliminate the gap between perception and practice so as to carry conviction with the workforce.

Provision of Welfare Measures

The study found that BHEL, Trichy lays a lot of emphasis on employee welfare in providing amenities such as medical facilities, subsidised canteen services, Group insurance schemes, Quarters and school facilities, Scholarships and grants, Co-operative Bank and Society, Advance for building own houses, purchase of cars,
scooters etc., assistance in case of eventualities such as depth of employees through death relief fund, Leave travel concession etc.

The study also revealed that the facilities for the treatment of heart ailment (such as open-heart surgery, by-pass surgery etc.), kidney transplantation etc., which involve huge expenditure are provided to the needy employees, irrespective of their designation or cadre, and their dependents. This is a facility available to every employee of BHEL and this is not available to employees in other concerns, private or public government departments.

BHEL today is one of the pioneers in the field of occupational Health services. Recognising the work done so far at Occupational Health Services (OHS), BHEL, Trichy, International Labour Organisation (ILO) with the help of Government of India, is helping financially and technically the model centre for 'occupational health service' functioning at plant level at BHEL, Trichy.

The researcher made an attempt to find the relationship between the quality of work life as measured
in terms of labour welfare cost and productivity. The analysis revealed that the statutory welfare cost and productivity are positively correlated indicating the fact that provision of welfare measures has a telling effect on productivity.

It was also found through the correlation technique, that there exists a positive correlation between non-statutory welfare cost and value added reinforcing the view already held.

The study revealed that there exists a positive correlation between the total welfare cost and value added. This makes it obvious that BHEL has a concern for the welfare of the employees and the provision of the same is an attempt which has borne fruit in terms of productivity.

In spite of the provision of good welfare measures, there is one serious drawback in BHEL, which needs to be rectified. The pension scheme generally adopted in any type of establishment has been so far not implemented in BHEL, Trichy. This may be one of the important demotivating factor for the employee's productivity. Hence steps have to be taken for the
introduction of the pension scheme which would make the employees feel little more satisfied as it would ensure a sense of security for the future.

Thus on an overall analysis the study revealed that BHEL has realised that man is the centre of productivity and improvement in productivity is the result of composite human effort. An organisation is as successful as the people who constitute it. The employees commit themselves in the process of building the organisation to achieve its goals, provided the organisation recognises human beings as the pivot around which the entire organisation revolves. Good organisation therefore, lays great stress on improving the quality of its employees at all levels by continuously upgrading their conceptual, managerial, behavioural and technical skills. In the hierarchy of productivity improvement efforts, mutual understanding between the partners of production and updating of skills and knowledge take precedence over systems, procedures and even technology. That is why 'productivity through people' has become an important system slogan in productivity oriented organisations.