MINE MANAGER’S MANAGEMENT MANUAL

Anup Krishna Gupta
Dedicated to my father
who was closely associated
to the Coal Industry
and devoted his life for regular
upliftment of Technology
and steady improvement of this
traditional and unique Industry.
Acknowledgement

Sri S. Sood, Personnel Manager
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PREFACE

Coal is by far the most important primary source of energy in our country. To meet the ever increasing demand of coal, it is imperative that the Mining Industry be managed efficiently. Mining Management today has an obligation and challenge which never presented itself to its predecessors. In the early days of Nationalisation, a drive for coal at any price resulted in certain complacency regarding financial results. At the same time, the much needed overhaul of the industry demanded the capital investment which has now become an embarrassment; nevertheless the industry could not have continued to meet its commitments without such reconstruction. The success of this industry very much depends on the success of its Managerial group - the Managers of Mines. To have a successful industry, the efforts of everyone employed in the Coal Industry should be directed towards extending co-operation and assistance as well as ensuring that its Colliery Managers are successful. However, there cannot be any “Ten Commandments” to achieve success. The Managers have to develop that skill which will give them strength, confidence and courage to negotiate every situation.

The management experts and intellectuals have contributed a lot in explaining Management Principles, Theories and Practices. Hence, it is needless, for further illustration of such thoughts. The intention of recording my perceptions in short is possibly to remind young Managers of present days of complexity about their tasks and preparedness.

Some of my published articles based on personal experience, have been included in brief and attempt has been made to present some of my observations and thoughts in different chapters and left to the readers to formulate their own views. It will add to my satisfaction in case someone is benefitted after going through this book.

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INTRODUCTION

COAL is the key energy source for industrial growth in our country. It is the fossil fuel resource which is abundantly available in the country. The country stands at fourth position in the world so far as the identified reserves of coal are concerned. Coal occurrence is mainly distributed along river valleys - Damodar - Sone, Mahanadi, Koel, Pench-Kanhan, Wardha-Godavari etc. There are forty four major coalfields located in the Peninsular India.

The coal mining industry has passed through various phases during the last two centuries. It has seen dark and bright days, and there has been ups and downs, yet the industry continues to maintain an important position in the industrial scenario of India.

Coal mining in the early days meant generally “more hole more coal”. Later when gradually companies were formed and managing companies came into the scene, some of the establishments and houses considered systematic approach for extraction of coal, yet earning quick returns were their main objective. Some of the private owners made huge money by depriving its labour, indiscriminate mining even ignoring the safety aspects, leading to dangerous mining condition for life and property.

After 200 years of coal mining under private era, Government took over coking coal and non-coking coal mines in two phases in the early seventies. Initially coal at any cost was the philosophy but the situation could not continue for long. Huge manpower, heavy absenteeism, low productivity, revised wages, very quickly poised a severe threat to the coal industry. With budgetary support from Government almost vanishing, expansion and modernisation of mines became difficult. The obvious choice left was to mobilise internal resources. This was not easy to generate such huge amounts from internal sources making it obligatory to go for price hike from time to time.

This is possible so long there is none in competition but the monopoly of nationalised coal industry is in cross roads now due to changing economic policy of the country including opening of global market. More competition is going to be created with the decision of the Cabinet Committee on Economic Affairs (CCEA) to allow coal consuming
industries to open captive coal mines and to allow the private sector to set up coal washeries.

The reduction of import duty on coking and non-coking coal from 85% to 35% and later 3% for coking coal and 10% for non-coking coal, has triggered the alarm bell. Nationalised coal sector is now to suffer a major setback. The apprehension is that substantial duty cut will help foreign countries to sell their coal, in the country, at a cheaper rate.

Internal market may be capsized to certain extent and country’s coal production may have to be slashed down to great extent. Close on the heels of the prices of coal declining in the international market, the reduction in import duty would make the imported coal very attractive to the bulk coal consumers who are located at the coastal area.

With Indonesia and Australian Companies already having outpriced, nationalised coal sector faces the grim prospect of severe competition with the country.

Under this circumstances, particularly with little or no budgetary support, it is difficult to invest more to have ventures in capturing internal as well as market abroad.

Added to this, the net outstanding from State Electricity Board (SEBs) were on the rise and net budgetary support on the decline. The coal companies will have to perform huge task before thinking for modernisation.

The only point for consolation is that the coal companies have paid back the Government considerable amount over the years.

It is, therefore, important to pay attention for proper development of coal resources with appropriate utilisation. It cannot be said that this is being developed to the maximum extent possible. It is necessary from the point of view of self sufficiency and for generating more employment potential, adequate attention will be required so that a stable industrial basis is laid for economic growth of the nation.

The validity and long term future of the coal industry, largely, depend on the forecasting of quality-wise future coal demand and realistic coal price. This would help in deciding future course of action, essential for decision making with regard to investment for future growth. The long term prospect of coal demand largely depend on
technique and raw materials to be adopted for power generation in the power sector and other key industries. Consumption of lower grade coal in power sector and use of appropriate grade of coal in other industries will help in deciding future coal demand.

In absence of skillful forecasting of coal demand there may be occasion when on one side there will be heavy stock in the pithead and on the other side consumers will be short of appropriate coal supply.

Coal being the basic raw material for power generation or a source of heat or as a chemical raw material, this should be available with required quality, in adequate quantity with continuity in supply.

The actual happening, however, tells a different story and has been casting a long shadow on such possibilities with the increasing wages trend, high cost of stores, machineries, equipment, petrol, oil, and lubricant are not allowing the industry to establish its position. In addition to above indifferent power supply and low productivity will continuously push up the cost of production. Because of all these factors, many collieries are becoming uneconomical. It is because of the low productivity, certain collieries have been failing to give minimum return on the capital so far invested.

In the present context, in which the coal industry has been operating, the main scope for improvement will largely depend on higher coal production with the same manpower and without large increase in stores, and other costs. Productivity increase should be one of the objectives to overcome the situation.

Productivity which means ratio between input and output can be interpreted in different ways by different people. To some people, it is output per manshift (OMS). To the production people, it is actual return from plants, machineries or productivity of machineries and to Economists it is the return of the investment made. Output per manshift does not suggest viability of a mining unit. The break-even OMS varies from mine to mine depending upon the capital invested and stores consumed. Economic viability is the most practical aspect of the industry.

Most of the UG mines are now worked in the conventional method and by manual systems. Such mines can achieve higher production with the same manpower through planned layouts, inventions, elimination of wasteful expenditure, reduction of cost by introducing labour saving
devices, rationalisation of labour force and utilisation of machines available. Strict manpower deployment will be a must in the mines where higher mechanisation has been introduced. For success of mechanisation, properly trained workers and maintenance men will be essential. Training Department has to therefore plan to bring out specialist workforce for these mines according to the need.

In most of the mine production costs are more or less fixed cost. Under such circumstances, the most important factor is to achieve higher production with the same facilities available in the mine.

Breakdown arising out of poor track maintenance, absence of proper gradient and insufficient supply of tubs to the work face pose major problems in the mines. It is worthwhile to concentrate on safe and proper working face, adequate supply of tubs, proper layout maintenance and organisation of coal faces.

For mechanised mines, to prove a success a few factors should be ideal including suitable machine, better geological condition, trained manpower, spare parts, and congenial working environment. When all these factors are favourable, success in the mechanised mines is ensured. While the functioning of each machinery should be kept under constant vigil, maintenance has to be planned and systematic. Timely attending breakdowns and availability of spares of right type and right quality are important in mechanised mines.

In the coalfield there are frequent interruptions in power supply. As a result, machine, worth crores has the utilisation factors not more than in average 40%. Major breakthrough is required from all these constraints to achieve success in the mechanised mines.

Another vital aspect in the mine is Safety. With the exhaustion of easier deposit, underground mine work becoming complicated for working at greater depth, coupled with the problems of gas, dust, ventilation, geological condition, enforcement of strictest safety measures is essential.

In the days of complexity, cordial relation in the industry is essentially required. While it may be a fact that there are multiple employees’ union in the mines of coal industry, with various ideology and approach, yet it is necessary to meet such challenges in enlightened and moderate ways.
It is clear now that increased pay packets has failed to motivate the workers to increase productivity. The management has to think very sincerely the ways and means in getting workers and supervisors more involved in their work to raise the productivity.

To-day we have reached a stage when most operations are subject to some form of mechanisation. All classes of coal can be extracted and loaded by proved machines of a type to suit most of the varied conditions.

While every effort to keep abreast of all these latest technical developments has to be made, it is necessary to use the new techniques that have been developed as aids to more effective management. With this in mind, the methods of training and supervision should be kept constantly under review and to take prompt action to improve them as and when need arise.

Whatever has been mentioned, it is clear that the important and vital need of the coal company today is better management at all levels. At the directing level, executing level and at the working face level, the coal mining industry need more enlightened management team and leadership. Specialisation in the field like planning, ventilation, safety, engineering, Human Resource Development would be necessary to achieve success.
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MINE MANAGEMENT

COAL is still by far the most important primary source of energy in our country. The future demand of coal has been estimated to the region of 290 MT in the year 1998 and 340 MT in the year 2000 AD. Energy demand in excess of this would be met up by other basic fuel such as oil, uranium, natural gas. Coal is to meet ever-increasing demand successfully and as such it is imperative that the mining industry be managed efficiently.

The industry can only claim to be successful, however, when it produces sufficient coal of proper grades and sizes to meet the need of all its customers. This coal must be produced in safe working conditions, by safe working methods with efficiency. The cost of production will be such that when fair wages and salaries are paid to all employees and all other costs are met, the price of coal does not exceed the selling price so fixed.

The well being of all the members attached to the industry is very much tied with the success of coal industry and the success of this industry very much depends on the success of its Managerial group - the Managers of Mine. To have a successful industry, the efforts of everyone employed in the coal mining industry should be directed towards extending co-operation and assistance as well as ensuring that their Colliery Managers are successful.

The Mine Managers are the ‘King Pin’ of the Coal Industry.

It is a very responsible position and therefore, a Colliery Manager has to equip himself in such manner that he can handle all important functions satisfactorily.

The major functions are:

- A realistic forecast of output-Short term as well as long term.
- Rate of development
- To ensure every man is gainfully employed and arriving at his working place with minimum delay
- To fix standard for the use of all materials.
• Co-ordination with marketing deptt. on the size and grade of product.
• To fix a standard for effective industrial relation.
• There is no disagreement on the items to be considered in the cost of production.

Besides above:

(i) To establish an effective communication system. What is needed is the development of a right attitude of mind to economic production.

(ii) To stimulate interest in all the officials at the colliery in the need for maximum efficiency and provide a means of controlling operations.

Managers have always realised their responsibility for production i.e. to produce the optimum maintainable output at minimum cost, consistent with a planned rate of development.

This is not only the Mine Manager’s responsibility but it is his ambition and his career, as Manager is supposed to aim and striving to achieve it.

The Colliery Manager is supposed to be engaged in constant follow-up and implementation of various programmes scheduled as per activities related to aforesaid fields. As his routine work, daily control would start with analysis of:

• Daily Production Report
• Attendance Sheet - OMS
• Wage Cost and other allowances - EMS
• Saleable coal available
• Coal Despatched
• Failure of equipments
• The control section will supply other information necessary for control.
• Meeting with under officials at the end of the shifts, to set programme for advance action.

As weekly follow up measures, towards the end of each week, Manager consults with the Under Manager and Cost Assistants on any probable change in manning or output in the following week. The temporary adjustments to the standards are sometimes required due to changed conditions.

At the beginning of each week, control section would provide statements which will allow the Manager to review the previous week’s result as follows :-

(a) The output results statements shows for each section and
   (i) The calculated saleable output
   (ii) The operational forecast output
   (iii) The actual saleable output

(b) The Wage Cost Summary and reasons for variances.

(c) The estimated profitability statement will show the estimated actual result of the previous week against the forecast result.

(d) The cost control statement will cover items over which there is direct control at the colliery such as output, allowances, overtime, general stores - explosives cost. The statement will also show the budgeted cost for the week.

(e) The Manager and Under Manager would compare progress of development.

(f) Manager will obtain a statement from Store/Material Section about materials used and salvaged during the week.

The detailed information provided can be used by Managers in various ways. Graphs in the Manager’s office prepared and kept up-to-date by Control Section which would be used to show the trend of production, manpower in the book and deployment, attendance, productivity, cost per tonne and various break up.
The Manager and Under officials would maintain a continuity of getting information for selecting their course of action to meet the objectives of their mine.

All such activities, the Manager will perform by setting some methods.

It is said that the external vigilance is one of the many prices of good management.

“I keep six honest serving men (they taught me all I know). Their names are What and Why and When and How and Where and Who”.

It is upto Management to see that these honest serving men give him the regular and reliable information he requires. A Manager will do well to ask himself the following questions in relation to his own management team:

(a) Is my management team pulling together, or is it hampered by internal friction and jealousy?

(b) Are my keymen overloaded?

(c) Can I and my immediate officials successfully delegate responsibility?

(d) Does normal routine succeed in my Pit, or is there a continuous state of emergency?

(e) Is the mine well planned so as to ensure continuity of production and to reduce time and energy of those working in it?

(f) Are there excessive material handling costs?

(g) Is there waste of power and is power obtained in the most economical way?

(h) What is the cause of machine-idle time? Is it bad planning, poor maintenance?

(i) Are machines used to capacity; if not, why not?
(j) Is there waste of time and if so, what are the causes? Is it due to shortage of materials? Unsuitability of equipment, mechanical breakdown, bottlenecks, waiting between one job and the next?

(k) Is labour deployed timely and efficiently or are men kept waiting to see a variety of officers and supervisors?

(l) Is absenteeism high? Is it due to sickness, accidents, or indiscipline? Is there bad time keeping?

(m) Is there proper manpower support, is it poor placement, poor selection, poor working condition or discontent?

There may be many more such insearch which may play as guiding factor for managing a mine well.

The tasks are wide and varied. A Manager can afford to do all these tasks successfully through various small groups charged with spirit and enthusiasm. A suitable organisation given to a Manager to administer the mine activities will be much important, as much so to develop team to achieve common objectives and goals of mines as well as industry.

Before the organisation of mines, formation of groups and strength to handle all tasks are discussed, various important tasks in brief may be enumerated where involvement and participation of man and management is the central theme.

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PRODUCTION PLANNING AND MANAGEMENT

COAL is a wasting asset. The management of mining industry is full of reasons, such as, unnatural working condition, hazardous localities of the operational units in far off areas without adequate civil amenities. This is an industry where the higher investment has diminishing returns.

Earlier, since mining began, there has been a natural desire to exploit the most attractive and profitable reserves of coal. This policy had always been followed by Mine owners, who like all others, engaged in commercial undertakings, had been in business to make a profit.

After nationalisation, however, there has been limitation.

Now considerable care is necessary in assessing whether an area of coal is worth working or not. The cost of production, economy, consumers demand at the national and Company level, now need to be assessed.

In some cases, unattractive areas of coal may have to be bypassed, or even abandoned, in the interest of short term profitability, with the anticipation that future improvement in mining technique and equipment would permit such areas of coal to be worked profitably at a later date.

Production planning for coal industry is worked out considering the market demand. Depending upon the location of various consumers and type of demands, coalfields are identified.

The main factors taken into consideration for production planning are:

(a) Sectorwise coal demand
(b) Quality requirement
(c) Production potential of different coalfields in the country.

By the close working between the method study, mechanisation and planning branches in conjunction with colliery and group management, plans can be produced which create incentive to make real
gains in increasing productive capacity. Regular review of planning is essential in progress.

The production plan is not intended in any way to provide an estimate of what will be done, the main purpose is to get joint agreement of the work that should be done to improve colliery results and to make proper plans to achieve this end.

**Production Planning**

It is generally accepted that there is a need for higher productivity in the coal mines and there is need for increased efficiency. To assist colliery Management to achieve these aims, new developments in mechanisation and workings have been introduced and greater emphasis has been placed on production and cost controls, planned maintenance, method study and similar technique.

In addition to the technical and human factors involved, there are two essential parts of any system which is to produce coal efficiently. The first is production plan and second is a good means of controlling the day to day operations. When the national target production is decided, based on best forecast of demands, some decision is taken as to how to split up the production between divisions. Each Company will split up its allocation between Areas and the Areas to collieries. At colliery level, discussions have to be made as to the faces to be worked and methods of working to be used keeping in view the cost.

Many a times, Managers repeatedly complain about target output set at Area level for their particular colliery. When these are unattainable and very frequent enquiries are made as to why they were not achieved, it creates an atmosphere for frustration which is detrimental to the effort and concentration required by the Manager to operate efficiently. It is, however, important to get the budget fixed at the colliery. Appropriate area level officers may be invited in such important discussions. The Managers in conjunction with other officials and making full use of service Department would initiate a thorough analysis and investigation into the available resources and all operations involved in production at his colliery. There would be a full discussion on the findings of analysis and investigations and a realistic forecast of output rate of development would be decided. The Area officials and specialists are required to participate while deciding colliery Production Programme more because of identifying methods and systems to be adopted, keeping
in view mine capacity utilisation and means, measures to increase the system capacity of the mine.

The Production Planning must reflect the attainable performance of the Pit with available resources of men, machines and materials and the prevailing condition of working places. This plan has to be worked from method study investigation and should show output potential, manpower and material requirements, with manpower deployment as effectively as possible and Plant & Machinery operating at optimum efficiency.

Production Planning of a mine is based on the following main consideration:

- **Potentiality** - Area available for exploitation, coal seams and associated geological information, mineable reserves and coal quality.

- **Capacity** - Capacity of each system alongwith the total system capacity. This includes winding as well as evacuation.

- **Infrastructure** - Power, Land etc. Their availability.

- **Resource** - Men, material and Fund.

- **Despatch** - Both consumers as well as mode of despatch.

Short term as well as long term plans are drawn to improve production and productivity mainly depending on the potentiality. In case of short term plans, production improvement is envisaged with minor modification to utilise existing capacity involving marginal investment. Gestation period in this case is less and results are obtained quickly.

In case potentiality of the mine is quite considerable, long term plan is generally envisaged to enhance production. This includes major reconstruction and development works having a long gestation period. The capital requirement is also higher.

In both short term and long term plan, a schedule of activity is drawn. After finalisation of the scheme and implementation is followed as per schedule. Managers are sometimes satisfied with the system in operation and are reluctant many a time to change or modify it anyway. Due to reluctance to any change, Managers are required to have open discussion with seniors so that new points are well accepted after
thoroughly being convinced. Remembering his own reluctance to accept idea, the Manager's task is to plan how to overcome any reluctance on the part of Under Managers and other under officials. It is foolish to expect success by merely thrusting a batch of forms into each under officials hands and insisting that the appropriate information should be entered thereon. Success depends on team effort and each member of the team should not only know how he must play his part, but why his contribution is important.

A Manager has therefore to decide with officials:

(a) method
(b) men
(c) machine
(d) marketing
(e) money - required to achieve production effectively keeping in view profitability.

An investigation Group of the mine approach on the following line:

- State the objective - In most cases, this is to produce and sell certain quantity of various quality coal economically.

- To establish the factors which can be attained e.g., choice of machine, type of method to be adopted for steady output.

- Detailed planning on saleable output, face manpower, OMS, Face profit, has to be worked out.

The next stage is to get reasonable estimate of the costs which will be incurred and proceeds which should result so that the profit or break-even points arising from the various alternatives can be calculated. However, before adopting any production plans, it is necessary to have cost point estimated face-wise.

The capital cost of equipping a face to be estimated by seperating them into three categories.

(a) Costs completely dependent on length of the face; these include such items as conveyor, belting, props etc.
(b) Cost partially dependent on face length.

(c) Costs that completely independent of the length of the face.

These include the cost of the actual cost getting machine such as Shearer.

To obtain the depreciation charges each of these three costs is divided by the useful life of the item of equipment and the interest charge added on. To the depreciation and interest charges have to be added with estimate of the costs for wages, explosive, maintenance etc. It is also necessary to estimate the proceeds for each of the alternative methods on each of the faces. To do this, an estimate has to be made of the size, qualities of coal produced. When the total face costs for a particular method on a particular face are subtracted from the proceeds for the method on the face, the figure so obtained will be ‘Face Profit’.

The output plan is a reconciliation of opportunities for output and commitment for production imposed by the physical limitations at the colliery. Opportunities for output will be restricted in total only by the limit of capacity of plant and equipments. Therefore, the pre-requisites of the plan is an accurate appraisal of the capabilities and limitations of every machine from coal face, through the haulage and the shafts to the depot. Each source of output is evaluated in terms of productivity and financial return and placed in its respective position in order of merit.
Productivity improvement is a major concern and hence productivity management is an important area. It emphasizes on better utilisation of resources like, manpower, materials, machines, money, energy and so on. Productivity of a mine could be improved through productivity management when current level of productivity is known to Manager.

A careful examination of various factors influencing mines activities, production performances is the first step. Later productivity enhancement level has to be worked out and aimed.

Technological improvement, effective use of all available resources, maintenance of machineries, reducing inventory and costs are the means to promote productivity.

Productivity as a ratio of output/input is over simplification of complex concept. Productivity is a measure of effect. It aims at the maximisation of output by planned and most economic use of input and minimisation of waste. In the coal industry the basis of productivity measurement is indicated as :-

- OMS (Output per manshift)
- EMS (Earning per manshift)
- Cost per tonne
- Overburden cost per Cu.M.
- Net sale value per tonne
- Profit per tonne
- Cost reduction over the period

Inputs comprises of a number of diverse factor which have no common physical unit. Each unit is measured through separate yardstick.

<table>
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<tr>
<th>Factors</th>
<th>: Unit of measurement</th>
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<tr>
<td>Labour service</td>
<td>Man Hours, Manshifts, Money value, Mandays</td>
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Power service : Kilowatt, Hour
Maintenance & Repair shop : Manhour, Mandays

Productivity signifies a combination of efficiency and effectiveness of system. Productivity Management is, therefore, very important task. A detail study of the organisation is needed as a first step. Productivity line could be improved when the current level is known.

Productivity management forms an integral part of management functions. However, productivity improvement efforts need support of all including employees in the grass root. Concerted effort is needed to promote favourable attitudes by encouraging proper ethics developing positive values for productive work, culture and contributing conducive result oriented environment.

For improving productivity, four main aspects are:-

- Development of associated technology
- Maximum use of existing methods
- Efficient method of control
- More concentration of workings

Besides above, capacity utilisation of resources, machineries and tools are means to augment productivity. Use of industrial Engineering Techniques to restrict wastage and improvement in material handling, layout incentive plan will help in increasing productivity.

Different people may have different perception to productivity. To an industrialist, it may mean more profit, to a Manager it is better utilisation of resources, to a labour, it may mean better wages, to a Sales Manager, it is higher sale through better processing and so on. These are imposed and dependent on factors from outside.

Total effectiveness of a Manager will, however, not only judge in terms of production and marketing performance, but also on the quality of decision taken at various level and at various occasions.

Every person in the industry has to realise that the day is rapidly dawning when undertakings must make a contribution to the overall
economy of the country. This is a situation new to many unpalatable though it may be, we now have to face the hard facts that losses will be studied very critically in the light of improvement possible in methods of work and methods of management. Increasing attention will be necessary to the overall picture of costs against proceeds and proceeds against need of market and financial advantage in grade of coal. Productivity will not be only yardstick, but it will be necessary for the colliery Manager to obtain assistance and experience to resolve best form of mechanisation, economical use and the best way of achieving economy in store costs, wage cost, so that production cost is minimum and proceeds are at maximum.

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MANAGEMENT OF MAINTENANCE

1. In the coal mining industry, which is by nature, a destructive one, bad condition, roof falls, operational use may cause equipment failure, in addition to normal wear and tear on mechanical and electrical apparatus.

2. With the new developments of mechanisation, greater emphasis is required for planned maintenance.

3. It is apparent the organisation is required at the colliery in order that management could cope with the administration and efficient running of maintenance.

4. A basic maintenance plan at a colliery should indicate trend and faults, so that management may take positive remedial action.

Maintenance of Equipments

It is now realised that for the coal industry to make the best possible use of the resources available in providing optimum production at minimum cost, effective control system are essential. With the advent of these control systems, the task of operating a mine has become increasingly complex and the colliery Manager is presented with a set of problems with which he must cope in order to obtain the full advantage of mechanised mining. This demands a change in attitude and outlook on the part of colliery Management Team. Indeed, colliery Manager finds himself in a very different situation than his counter-part yesterday, now a mine Manager has to operate from a network of function and relationship more akin to human than mining engineering.

While human relation, manpower planning, manpower deployment are of paramount importance, another problem which colliery Manager faces today is to maintain equipments in a high state of operating efficiency with change in technology and increased mechanisation. The colliery Managers’ dependence on the machineries becomes greater and with the current shortage and cost of skilled workmen, the problem becomes a real challenge. This challenge can be met by the application of a systematic organisation of a maintenance and a formalised control of
colliery engineering services. The achievements of these controls and the part they play in the furthering of production have been proved. There is, however, common agreement that the main principle of planned maintenance is that by regular and systematic inspection, servicing and overhauling, it is possible to forestall breakdown and ensure continued efficient operation. This is not a new principle but with the increase in the complexity of colliery engineering the additional administrative burden on the colliery Managers and Engineers, a systematic and new approach is required at the colliery in order the Management could cope with the administration and efficient reviewing of maintenance.

A basic maintenance Plan in a colliery should indicate trends and faults, so that Management can take positive remedial steps. Such features as maintenance and result, breakdown records, utilisation of engineering employees outstanding workload, should be known not only by the Engineers but also by the colliery Manager, if the later is truly in control of his jobs.

**Planned maintenance should include therefore -**

- Control of all non-schedule work.
- Control and deployment of all skilled and semi-skilled engineering employees.
- Comprehensive breakdown reporting procedures.

No colliery Manager can hope to cope with the detail of administrative Planned maintenance. It is the full time job of Engineering Assistant under Colliery Engineer. Depending on the size of the colliery, it is essential that the maintenance Assistant or Controller should be a man with adequate experience as well as efficient.

Besides training, the Maintenance Assistant should have persistence, persuasion and orderly mind.

The Maintenance Assistant or Controller may co-ordinate between production and Engineering activities. Joint meetings may be conducted by Manager each week, where previous performances are discussed, maintenance holdups are resolved, future work planned in relation to available employees and equipments. The maintenance Assistant or Controller will consult the Operator and Fitter for the status and condition of each equipments. Probably no one is so competent to advise
on the probable life of a particular pump impeller as the Fitter who looks after this from standpoint. Therefore, he should be made a contributor to the Maintenance Plan by being consulted. The obvious way to secure enthusiastic co-operation from the Engineering staff is to place the responsibility for building up maintenance scheme on their shoulders. They then feel that the data is their own and they have confidence in it.

- For planned maintenance, following steps are to be followed:
  - To ensure that all equipments are kept in correct receiving order to allow for safe operation.
  - To determine engineering manpower requirement and to deploy them to the best economic advantage.
  - To establish physical control of engineering employees, engineering services.
  - Workshop control.
  - Up-to-date inventory of all plant & equipment.
  - Effective follow up system.
  - Breakdown reporting procedures.
  - Inspection procedures to control the quality of work.

As maintenance is a vital part of production, too little or too much maintenance will increase overall production costs. It must be controlled on an economic basis according to the needs of each item of plant. However, there must be adequate trained Engineering personnel to achieve these targets. The planned maintenance procedures to the outlined must not be accepted as the final word, but must be the subject of increasing research to meet any change. Most of the problem relating to control of maintenance and engineering services do not consist of engineering know-how. They are bound up with human relationships. Thus, the critical weakness of such control systems are the resentments, hostilities and motivational reactions which they tend to evoke.
Maintenance Administration

The administration of this co-ordination of maintenance office will largely depend on planned maintenance control centre.

<table>
<thead>
<tr>
<th>Planned Preventive Maintenance</th>
<th>Engineering Supervision at planned maintenance control and recording centre</th>
<th>Planned remedial maintenance, Mining requests Engg. requirements.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Full Engg. employees utilisation on allocated planned work</td>
</tr>
<tr>
<td>Break Down</td>
<td></td>
<td></td>
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<tr>
<td>+</td>
<td></td>
<td></td>
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<tr>
<td>Engg. Calls</td>
<td></td>
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</tr>
<tr>
<td></td>
<td></td>
<td>Completely work</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Engg. Inspection</td>
</tr>
</tbody>
</table>

It has been mentioned earlier that efficient engineering control depends on the extension of the defined field of scheduled maintenance to include all other engineering work.

With routine inspection various job requests may come. Job requests arises from :-

- Reported defects from inspection, examination and testing under routine maintenance.
• Mining supervision
• Installation work

However, verbal requests for work to be done, need to be avoided, as there may be communication gap and it will be difficult for the Foreman Incharge to plan the work of his men satisfactorily unless he has a written record of what has to be done. Very rarely training is given to Foreman Incharge in organising their work and without such training it is also unfair to expect Foreman to become a competent organiser.

There is some evidence in the mines today to suggest a need to hear and speak the truth plainly relating to breakdowns. Apart from any other points it is quite impossible to assess the progress of the maintenance plan unless a factual record of breakdown is kept. Breakdowns include all equipment failures whether involving loss of output or not.

**Collery Co-operation**

It would be of little use to attempt to establish maintenance on a full basis if no one in the colliery is keen on the idea. If management is enthusiastic, however, such enthusiasm can and will be conveyed to all ranks. Enthusiasm, by itself of course, is hardly sufficient. It must be translated into action. Primarily this action takes the form of co-operation between the production and engineering personnel.

The changes required by these controls may be in conflict with the traditional methods and beliefs especially at supervisory level. It is required that supervisors should not only understand the operation of the controls within the range of their responsibilities but also the way in which these controls may be used to assist them in this work.

***
MANPOWER MANAGEMENT

The process of evolution through which the coal mining industry is passing is one in which the wages content of the total expenditure is in the order of 50% and the charge of each shift worked increases annually. Therefore, it is Management’s duty to ensure that men’s skill are not misdirected due to lack of proper deployment.

Manpower planning consists of

- taking stock of existing manpower resources
- working out future manpower needs
- identifying what should be done to ensure that future manpower resources match those needs.

Manpower planning

Best utilisation of available human resources, manpower distribution and gainful deployment will be important in setting the efficiency level of a mine. Manpower Planning is an integral part of action programming and is fundamental to the efficient operation of the colliery.

Manpower planning is essentially a two stage process. The first is to identify the number of jobs, and hence men, required to carry out the work specified in a colliery’s Action Programme.

The second stage is concerned with identifying the action needed.

- mainly training and placement to achieve and maintain the required levels of manpower with the appropriate skill.

The basic elements of any system of colliery Manpower Planning and control are:-

(i) Establishing and regularly updating, standard job performance.
(ii) Converting the jobs identified in these plans to the number of men on roll required by skilled categories.

(iii) Preparation and maintaining record of actual manpower for comparison with requirements.

(iv) Ensuring that day-to-day deployment is related directly to the current standard job plan.

Manpower planning should be conducted in ways suited to the size and nature of the units and should be

(i) backed by the management at the highest level.
(ii) integrated with other aspects of planning of the organisation.
(iii) based on adequate and up to date personnel records.

**Standard job Plans**

A standard job plan is a list of all the jobs specified and implied by the activities in the Action Program. It should detail the number of jobs by type at each workplace during each shift. Care must be taken to ensure that only whole job requiring the whole of a man’s time in shift are listed. Minor jobs requiring less than a man per shift to complete, should be grouped into convenient whole jobs.

The most convenient way of establishing a standard job plan for a pit, in the first instance, is by means of a detailed job survey, based on the work required in the Pit’s current action programme.

Regular overall re-appraisals of job plans should be taken place at each Action Programme review. Job plans will also need regular minor updating within a period probably weekly, depending on the progress in operation.

**Converting jobs to Men Required**

The calculation of the number of men required to carry out any job plans must take into account non-attendance. Allowance should be made for all the reasons for men being absent on days when the colliery is working e.g., due to sickness, accident, training, unauthorised absence, trade union business, individual rest days, holidays. The total absence percentage is known as the non-attendance percentage. It is usual to apply the average actual non-attendance percentage for a
preceding period for each category - updated to reflect current and expected trend of men availability.

The application of such non-attendance percentage should be selective. Not all jobs require to be manned up each day. Some jobs are of low priority. There are other jobs which because of their specialised nature have to be carried out even by overtime when regular men are absent. There are jobs which may be fitted by redeployment from lower priority jobs.

It is the function of colliery Management to identify the jobs which-

- will not be filled when attendance is poor;
- will be covered by drawing trained personnel from manpower pool;
- will be filled by redeployment from lower priority;
- so exceptional that will be covered by overtime workers (to restrict as far as possible);
- will be shared by other men.

For all jobs like these, the number of men required will be the same as the number of standard jobs.

Thus, the non-attendance percentage will be applicable to those jobs which must be manned up everyday, and cannot be manned by the above methods. The calculation of the number of men on books required to cover the number of essential jobs in each category is as follows:-

\[
\text{No. of men required} = \frac{\text{No. of essential jobs}}{100 - \text{Non Attendance percentage}} \times 100
\]

The statistics required for this purpose has to be maintained by Personnel Department of the colliery.

Manpower planning will be both of short term and long term basis. Considering the production plan-mechanisation programme,
availability of machines and method to be adopted, productivity level has to be set and keeping in view the cost part, forecast of manpower requirement jobwise could be made.

Manpower Record

It is necessary to compile an inventory of the number of men available at the colliery by skills. Uptodate records covering all workmen supervisors, are essential out of various registers, following two are essential -

1. Manpower Register - Name, Designation, Grade/Category, date of birth, training attainment, statutory qualification and certificates etc.

2. Register - In alphabetical order. This will require for cross reference purpose.

Once the basic records are established, they must be kept up-to-date.

Comparision between manpower requirement & availability

Having established the detailed job plans and hence manpower requirements and knowing the number of men by skills currently available, the next stage will be to match these to ensure that sufficient men are available. This is done by allocating man to each job in the standard job plan by district, activity and shift.

Manpower Deployment

The word “Manpower Deployment” have widely different meaning to each individual. The term over the course of time used to describe a system of manpower recording. “Deployment” can best be defined by using it in its original military context of setting out troops from column to line, according to a devised plan of the military campaign.

The Manager in his capacity of commanding officer, deploys his workmen to the best advantage from the front line right back to the supporting areas. As each workman comes to the colliery, the Manager must ensure that -
1. Each man is fully occupied befitting skills, experience and ability.

2. He must so direct the operation that the input of labour, materials and equipments are aimed towards the target which will provide the most profitable form of return within the limitations imposed by the physical condition of his colliery.

In devising the system therefore, the following consideration must be made -

- Pre warning of attendance
- The ability, skills and other relevant information of all workmen in the form of labour plan should be made available.
- The order of priorities of output and development should be agreed and form the basis of an output plan.

The factor that must be taken into consideration in preparing for satisfactory manpower deployment chart are :-

(a) Rate of absenteeism, in respect of each grade of workmen, facewise.

(b) Overtime worked as substitution for absenteeism.

(c) The cost to the industry of compensation for industrial injuries if rapidly rising, such accidents are contributed to by deployment of personnel to jobs without adequate training.

Every development job to be undertaken at the Colliery will be listed with the number of men to be required for such job.

A manpower deployment statement is presented for every job at the colliery. This is to be drawn by the team on the basis of the men required to produce the standard daily output, maintain the rate of development. The place of work of every man employed on the surface is to be shown on the plan of the surface layout.
Priority Number may be given for each job e.g. 1a job means, it must be manned even at the expense of production, job 1b and 1c must have the Manager's/Under Manager's permission to take off men from the job. 2a, 2b means an Overman can use men in emergency: 3a, 3b, 3c means men can be used by Mining Sirdars or Senior Fitters who must provide reasons for doing so.

“Where shall I begin your Highness”-

“ .......... Begin at the beginning and carry straight on until you come to the end and then stop” - said the King.

Like the King in Alice, the plan to begin is at the beginning and that a simple and yet a fundamental analysis of the meaning and implications of the expression “Manpower Economy” is worth attempting. If it begins with the statement that the economic use of manpower means that the service of each man according to his inherent abilities and training should be utilised in such a way to make the maximum useful contribution to the undertaking can any pointer be drawn towards improvement?

The point may be placed in reverse - what are these factors which lied within our control which operate against the maximum useful contribution being made.

These factors are not only by means, all physical in nature, some are organisational, some historical some even psychological. The principal reason why the maximum contribution is not made by a man are -

(a) He may be restricted by time;
(b) He may be restricted by facilities or equipments;
(c) His labour may not be satisfactorily coordinated or controlled
(d) He may be inadequately motivated.

The above factors are rarely independently operative, however, motivation and time are often linked and co-ordination overlap.

Coal mining activities like military operations can frequently show startling improvement in results, by the concentration of effort at one or
two points, rather than by a dispersal effort over a wide front. In particular, depending on the mine condition, concentration of coal getting operations underground into one section of the pit may offer a fruitful source of economy in manpower and equipment, leading to rapid improvement in the overall productivity.

The saving in manpower achieved between the Pit-Bottom and coal face by this type of concentration will be apparent. There is a tendency for development work for face replacement to take place at several points simultaneously.

This leads to an expensive dispersal of conveyor transfer point attendant, supplies transport staff.

Manpower Budget

Productivity may be fixed considering the production programme and previous years achievements.

Formulas and Formats of Manpower

\[
\text{Daily production} = \text{OMS} \times (\text{Output/manshift})
\]

\[
\text{Manshift} = \frac{\text{Daily Production}}{\text{OMS}} = \text{Manshift} + (20\% \text{ Leave/sick reserve})
\]

Taking into consideration:

For Loaders

30% - 35% average Leave/Sick, Absenteeism reserve and
15% for others
Total 20% overall
The ratio between PR to TR is preferred to be 1:1.5 in u/g

Redistribution of workload and change in system may help in rationalising manpower strength.
MANPOWER PLANNING

For proper manpower planning, management activities aim at co-ordinating the requirements and availability of different types of employees. This involves assessing the right kind of people at the right time.

Manpower planning constitutes an integral part of corporate plans and serves the organisational purpose more than one. It helps to:

- capitalise the strength of its human resources
- determine gap between availability & requirement
- anticipate redundancy
- determine optimum training level
- cost of manpower
- assist productivity determination
- assure right sizing of manpower

The process of Manpower Planning:

<table>
<thead>
<tr>
<th>Objectives of organisation &amp; strategic plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Market Forecast</td>
</tr>
<tr>
<td>Time (Short/long term)</td>
</tr>
<tr>
<td>Manpower Demand Forecast</td>
</tr>
<tr>
<td>Number</td>
</tr>
<tr>
<td>Skill</td>
</tr>
<tr>
<td>Action Plan</td>
</tr>
<tr>
<td>Monitoring/Control</td>
</tr>
</tbody>
</table>
The starting point is Sales forecast and targets. Based on these production plans are drawn, specifying quantity-quality/gradewise over a specified period. This is followed by assessing number of people required skillwise gradewise considering the technologies, process of production.

Before carrying out Manpower planning exercise, it is to be decided how and what is to be performed. The several tasks are to be carried out and divided into work units called job.

Assessing tasks to job is known as job design.

Work study techniques are appropriate to measure work, set standard/norms and calculate number of persons required.

The method of ratio trend analysis is helpful which refers the ratio between executive to supervisor, supervisors to workers, PR workers to TR workers, underground workers to surface workers etc.

Managerial judgement is important to prepare guidelines in this account.

**The phases to be followed:**

- Target of sales
- Target of Production
- Actual process of production technology to be used
- Number/Type of equipments to be used
- Capacity of the unit - Pattern of operation - material flow
- Organisation of work - grouping of jobs/activities
- target production - Manpower planning
Manpower flows:

- Transfer in -
- Recruits in -
- Promotion in -

Manpower Position

- Transfer out -
- Retirement -
- Voluntary Retirement-
- Discharge/Dismissal/Termination -
- Resignation -
- Promotion out -

Manpower Planning

Information required

<table>
<thead>
<tr>
<th>Colliery</th>
<th>Year</th>
<th>Saleable output</th>
<th>Effective Manpower</th>
<th>O M S</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Face</td>
<td>Transport</td>
</tr>
</tbody>
</table>

The tabulation of the labour detail enables management to preserve continuity of thought and continuity of control.

Year

<table>
<thead>
<tr>
<th>Total face</th>
<th>Manshifts working</th>
<th>Wages Cost per tonne</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transport</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Engineering service</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other UG labour</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total UG other than face</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total UG</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Overall</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total OMS</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

37
**Manpower available**

<table>
<thead>
<tr>
<th>Jobs</th>
<th>Type of people available</th>
<th>No.</th>
<th>Designation</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Supervisors</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mining</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Elect.</td>
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<tr>
<td></td>
<td>Mech.</td>
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</tr>
<tr>
<td><strong>Highly skilled</strong></td>
<td></td>
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</tr>
<tr>
<td></td>
<td>Elect.</td>
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<tr>
<td></td>
<td>Mech.</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Mining</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Skilled</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Machine Operation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Workshops manufacrturing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fitting</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Repairing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Semi-Skilled</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Roof support operation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Coal Face</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Operator</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Face Workers</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Manpower Distribution Plan**

Name of the Mine ..........................................................

<table>
<thead>
<tr>
<th>Shifts</th>
<th>1st</th>
<th>2nd</th>
<th>3rd</th>
<th>General</th>
</tr>
</thead>
</table>

**Surface Installation**

1

2

3

4
CHP
Quality Control
Workshop
Loading
Store
Pit Head
Security

Underground
Coal Face
‘Machine Gang’
Coal Transportation
Material Transport
Elect. Plant
Mech. Plant
Development
Safety

***
TRAINING MANAGEMENT

Mines have undergone lot of changes over a period of last twenty years. During the next few years, many more changes will come. While every effort to keep abreast all these latest technical development has to be made, it is necessary to use the new technique that have been developed as aids to more effective management. With this in mind, the methods of training and supervision should be kept constantly under review and to take prompt action to improve them as and when need arose.

In Training and outlook, the industry must be ready to meet these changes. The future presents a tremendous challenge. The Managers must keep pace with the new techniques, but yet must not forget that very often the whole success of total operations very largely depend on the Men. It is one thing to manage machines; it is another thing to manage men in such a way that manpower is conserved and utilised efficiently and a high degree of respect in human relation is also engendered. The progress as machine users can only lead to disaster, unless progress is made as human beings.

Training practice cannot be static in these times. It must be related to the rapidly changing methods of work. It is to be borne in mind that the greatest problems of training and education is to give the new entrants and budding miners invisible weapon of personal pride and morale to make him feel that he is not a pawn in the game, but a member of an honourable and distinguished profession, whose password is service to the country and his fellowmen. It would be the task of Managers to see that the aim of this industry must be to have employees so nurtured and brought up that they will think better, feel better and act better than they have ever done before.

Mining is a constant struggle with nature and because of that it attracted men who did not like being “Feather Bedded”. The Nation has good cause to be proud of the men who worked in coal mines and of the people who managed them. The flexibility of Indian coal miners and their adaptability had made possible the use of new and mechanised methods with the corresponding increase of output.
In the past, the members of coal industry were completely behind the drive to make the industry pay its way. Those who are now associated with this industry have to meet the future with confidence and determination to see that Indian Coal Industry will not only be the progressive industry but will maintain the industry’s favourable competitive position with other forms of energy.

The members attached to this industry have to therefore feel involved and for this it is necessary for the improvement of their social, scientific and intellectual position. An organised Management has to protect and support the character, status and interests of their members. A vital necessity of any organisation is a settled and secure employees.

**Training**

Today we have reached a stage when most operations are subject to some form of mechanisation. All classes of coal can be extracted and loaded by proved machines of a type to suit most of the varied conditions.

This involves not only consultation but a new training scheme which recognises that every mine worker is potentially a Craftsman, and that indeed he must be a Craftsman if he is to be of any real value in modern mining.

The industry's prime objective is to obtain output at a level consistent with the present and expected future demands for coal. To meet this objective, the industry must make the fullest use of all its resources of which the most important are its people and therefore, requires from those in management, the most effective contribution of which they are capable.

In a colliery, the right number of appropriately experienced and qualified employees in the right jobs at the right time are needed, if the mine has to achieve its primary objective. To achieve this, requirement of manpower and training plans of the available employees have to be worked out and updated at regular interval.

To get economic results, concentrations of the working of a colliery will require to be more intense than it has been in the past.
The aim will be to take from a face a larger output over 24 hours than has been past practice. It follows of course, that any hold up of such a face will result in a correspondingly greater loss. Therefore, to prevent hold ups, all work in connection with such faces will need to be of very high standard. The obtaining of such standards should automatically bring about safer working conditions and go a long way towards reducing accidents. Colliery Manager will never be able to obtain and maintain proper standards of work unless they have Junior Officials who know what Proper Standards are and know how to obtain them through proper training.

Managers and the superiors often think that the present day junior officials, overmen, are not upto the same standard as they were when they were junior officials. This is only more because they are now looking at the picture from another standpoint or if present day standard are lower, it is because they themselves are training their under officials as well as they themselves were trained by their superior. The real difference is that today’s under officials are working in quite a different atmosphere from that of 15 to 20 years ago.

To be able to cope with prevailing conditions, junior mining officials and overmen require to have a considerable amount of technical knowledge. They need to know, how to obtain and maintain good standards in their districts, and they need the backing of their superiors in their efforts to obtain and maintain high standards of workmen.

A great deal can be done to train these under officials, overmen and colliery Manager should do all they can to help and facilitate the training course instituted for juniors and overmen.

It is vital for the industry and the country that objectives of the industry are achieved. To do this, efficient Management is must and one of the pre-requisites for this is an effective management development system as well as effective Training programme. This can help to ensure that every individual has the opportunity to develop his personal qualities and potential to the full so that he can make greatest contribution in his present job and be given the opportunity to develop these for the benefit of his future career. Management Development as well as Training for our employees are the basic means to make the best possible use of most vital resource - the people in the industry. Managers have to recognise their vital role in building Management team and employee development.
**Management Team Building**

(a) Assess the individual’s ability and potential to improve his performance and develop his present post.

(b) To assess whether individual has potential and to what extent to progress further in his skills.

(c) To make better use of his ability, to assess what the individual needs in the way of experience and training.

Considering all these, training and assignment may be finalised for under officials.

It is the prime responsibility of all those in Management to ensure that their employees and staff know at all times, what their jobs are, to apprise continuously and seek to improve the performance of their employees and staff, and to try to ensure that the abilities and skills of their employees and staff are developed and used as effectively as possible. It is necessary, that employee should be made fully aware of what is expected from him in his present job as well as how best he can contribute in future with added training. It may be remembered that while all depreciate, men appreciate with the passage of time and experience.

Managers will identify type of training needed and training required to match the skills for standard job performances. It will be both short and long term depending on the manpower Planning drawn for the mine.

Identification of training, type and number of individual to be trained to be planned well in advance by training officer in consultation with the Manager as soon as Manpower Planning is finalised.

**Training for supervisors/overmen & Foremen**

Maximum support for standard performances comes from Supervisors Group. They need to know Management and Supervisory techniques much more, as they handle matter at the spot and from
amongst them, next group of Asst. Manager, Engineer and other officials will be developed.

Therefore, preparing a strong Supervisory Team is equally important as it is necessary to have an effective Management Team.

**Training Area**

1. To appreciate the need to maintain good industrial relation within the sphere of his jurisdiction.

2. To know the terms and conditions of his personal employment and know the terms and conditions of his workforces employment.

3. Understand the difference between consultation and conciliation.

4. To know ‘standard task’ and ‘standard manning’ as they apply to his district.

5. To know the existence of colliery emergency organisation in the event of major incidents.

6. To understand colliery plan, i.e. Production, Manpower, Budget, etc.

7. To know the importance of good leadership.

8. To recognise the need to develop a team spirit within the group and to appreciate that they are part of a larger group in achievement of collieries objectives.

9. To acquaint with production, maintenance and marketing problems.

10. To appreciate safety provisions and their enforcement.

11. To recognise that effective conciliation is an essential tool of management. Many more other areas may be convened by the Managers for developing team of supervisors.
Training for Clerical staff serves equally important. They are required to acquire clerical skills to adopt to a wide range of clerical jobs.

- Need to know about office equipments such as Typewriter, adding machine duplicator, telephone, wireless, punching machine, numbering machine, photocopies, word processors, computer, comptometer, calculators, etc.

- Office aids such as keeping diaries of events and talks, external, internal telephone directory, knowledge of office procedures, ready reckoners, emergency contact, time table, dictionary, organisation chart. Knowledge and training in calculation, wage calculation, leave/sick wages, allowances.

- Communication-Ability to attend and receive the visitors, taking message accurately, effective use of telephone.

- Ability to draft or write letters, memorandum, report, meeting notes.

- To check documents of all types for:
  
  (i) accuracy
  
  and

  (ii) meaning

- Filing - To place documents of all types in the system maintaining, index, recording, splitting up and closing files.

- Sorting - sorting documents.

Management has no option to select people through recruitment according to their need. Over and above, skilled hands are going away from the industry through natural wastage and therefore Management has to depend on these young persons. It is more important now to involve the young entrants in training. They must get instruction in safe method of working and travelling below ground and to teach them technical and practical skills necessary to enable new recruits to carry out their jobs. Young recruits are trained in one of the following schemes.
• To become skilled face workers.
• To become skilled fitter and Electrician.
• To become efficient mine workers and underground jobs.
• To produce potential Supervisors.

**Skilled face workers**

(a) Pre coal face training at training centre to introduce them to the environment of the coal face. It allows them to perform face operations under simulated conditions and to appreciate the individuals contribution to team effort.

(b) Basic coal face training - Coal face training should be continuous for a few months, leading on completion to skilled face workers.

(c) Mine workers - General underground training including specific training in a particular skill which his age and aptitude enables him to do.

(d) Skilled Fitter/Electrician - Basic training as well as practical training to become Colliery Fitter, Electrician, Turner, Machinist, Blacksmith, Welder, Moulder, Machineman.

(e) Supervisors - Training for Surveyors, Sirdar, Overman, who have potential and educational background to match such trade.
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7. Method Study

8. Mechanisation & Strata Control

***
SYSTEM MANAGEMENT

The management of mining industry is complex, compared to the other industries for various reasons such as locational disadvantages, hazardous and unsafe operation having risk factors and the mineral resources itself is wasting asset in coal industries. Managers therefore have to work with all these constraints.

Since internal management structure is not designed scientifically, the deficiencies in the management system have resulted in a fall back to meet the desired expectation of the nation. Colliery Manager have not been able to adopt scientific management system due to conventional management style and inherent resistance to change.

Management decisions are based mostly on facts and not substantiated by figures. However, modern information technology with advanced technique of computers simulation can deal effectively and help in taking management decisions.

The Computer will help in -

1. Quick supply of relevant datas on -
   (a) Production
   (b) Cost
   (c) Despatch
   (d) Sales
   (e) Stores items
   (f) Manpower availability
2. Feed back system with memory
3. Monitoring and comparision.

Management information system can be developed by using computer at mine level to store the following details -
- Customers’ detail requirement and transport order
- Production standard
- Personnel statistics
- Engineering details
- Inventory of materials
- Capital Budget

By systematic processing and analysis of data, decisions can be formulated. MIS has had moderate influence on the decision-making process, little impact on job content, and no influence on reducing or increasing the number of top managers required. The major responsibilities of top management involve long and short-range planning, resource and capacity analysis, settling of profit and budget goals, and in general establishing the business objectives of the company. There is heavy planning content as opposed to heavy control content at the lower management levels. Information systems have been more effective in the control than in the planning area. Control functions tend to be more structured, more programmable, more straightforward, and therefore, more receptive to automated information systems.

The decision-making process consists of the following six elements:

1. Identify areas of improvement
2. Analyse their areas
3. Develop alternate solutions
4. Evaluate alternate solutions
5. Make decisions
6. Implement the decisions

The steps most influenced by computer systems are the development and evaluation of alternate solutions. Automated MIS can make decisions on lot sizes and length of production runs, but they are not yet utilised to any major degree in making final decisions on the introduction of new products or the need for additional factors. MIS plays an important role in the implementation of decisions once made. There are some basic reasons for the relatively limited effect of MIS on decision-making to date.

Unstructured nature of data i.e. data required by top management is unstructured, non-programmed, future-oriented, inexact and external need to be avoided. System Management is important and essential as information processing has become the dominant theme of this age.
MANAGEMENT INFORMATION SYSTEM (MIS)

“The information we have, is not what we want,  
The information we want, is not what we need,  
The information we need, is not available.”  
- Prof. Finagle’s Law of Information

Managers are to devote long hours to deal large number of problems and therefore, information system is to be designed in such a manner that vital ingredients are presented systematically for a meaningful analysis in little time. MIS should provide such information data.

The information must contain something that Manager already did not know. The new information must cause Manager to take action which otherwise would have not been taken.

The action taken must lead to higher pay off - e.g. more gains, increased profit, reduced risk, greater safety or improved image.

The primary objective and purpose of MIS is to help decision-making, control/planning and co-ordination.

Information on Productivity - Number of machines, equipment & their performances,  
Production status  
Production cost  
Physical flow of materials, labour quality.

Sales - Total sales forecast - actual sales and differences qualitywise/consumerwise sales, cash & credit sales.

Purchase - Source of supplies, terms of delivery/discount, flow of material, machines, equipments parts.

Stores - Stock categories, classification, codification, moveable-non-moveable items, ABC categories, post consumption, cycle time
consumption, overstocking.

**Finance**
- Accounting department creates, processes and retrieves data related to profit & loss, cash flow, inventory control, pay roll, cost allocation, expenses classification, cost of labour, material and overhead.

**Personnel**
- Information of Personnel records, Training, Pension, Pay roll, Manpower Budget and utilisation - deficit - surplus position.

Today’s successful Manager needs the system approach to Management with the ability to participate efficiently in the analysis, design, utilisation of computer based information system.

In this area of competition, right information is the major resource for which Managers are the end users. Managers need to make quick and correct decisions based on relevant updated and organised information. Designing effective management information system is essential for obtaining strategic solution to managerial problem.

***
FINANCIAL MANAGEMENT

The basic objective of a business unit is to earn a satisfactory return on its assets in real terms after payment of grants. Therefore, it should be the aim of coal mine to maximise its long term profitability by securing those sales which are profitable on a continuing basis in competition with other fuels, and that it should plan its marketing, production and capital investment accordingly and bring production capacity into line with its continuing share of the market.

Also over the next 5 years, operating costs per tonne are reduced in real terms of deep mine and opencast production considered separately.

We always come across various financial terms during the course of running business.

A. Cash
   It is just like oxygen of business. Without this, business is stifled, suffocates and ultimately comes to a halt. The cash is raised in the form of LOAN or SHARES.

   Loan
   Fixed interest rates, fixed terms

   Share
   Non-repayable, dividend in accordance with the performance. Share holders are owners not creditors.

With the cash raised from loans, shares or grants, the amount if invested either in fixed assets or in working capital.

B. Fixed Assets
   Assets to be retained in the business for a longer than the normal operating cycle which are not converted into final product. Capital Expenditure e.g. land and buildings, plant and machinery.
C. **Working Capital**  
Assets acquired for conversion into goods or cash within the normal operating cycle. In particular, the cash needs to be invested in stock to store and in a buffer stock of finished products.

Two other items within working capital: business does not settle its transactions immediately and in case: Survey reveals that business takes some 60 days before settling its bills for purchase of goods and materials. During this period the suppliers of materials are ‘Creditors’ of the Company. Similarly company usually pays wages and salaries in arrears. The workforce is also a creditors. Creditors provide finance for the company in same way as loans, grants, shares.

As company takes credit from suppliers for goods and services, company have to give credit to the customers. The amount outstanding from these customers is categorised as DEBTORS.

In case of seasonal shortage, each company makes use of short term borrowing facilities: over draft.

D. **Balance Sheet**  
Balance sheet represents a snap shot view of the Company’s financial position at one particular date. It shows on the one side the cash raised and kept in the business and the capital employed and on the other side the uses to which cash (or capital employed) has been put.

E. **Profit & Loss Account**  
Whereas the balance sheet shows the financial position, the Profit and Loss A/c reflects financial performance in a specified period. Profit and Loss a/c for an individual pit represents the value of production less than the cost associated with the production. Profit and Loss a/c does not show:

(i) Who controls different items of cost  
(ii) grants and interests  
(iii) Colliery contribution (net proceeds less costs excluding Area & HQ overheads)  
(iv) cost behaviour.
F. Cash Flow  It is important to realise that profit does not represent cash generated. Net proceeds may contain credit or coal produced but not sold. Even if all coal produced and net proceeds are entirely made up of sales revenue, profit still does not equal cash generated.

G. Depreciation  An example of depreciation is shown here. It may be noted that although an amount of Rs.1,00,000 is charged as a cost in the P&L Accounts in years 1-8. The cash (Rs.8,00,000) flows out of the business when the machinery is actually purchased at the start of year 1. The amounts of Rs.1,00,000 p.a. represent notional charges not cash transactions. Hence, to move from profit or loss to cash, depreciation charges must be excluded. An equation may be derived.

Profit or (Loss) + depreciation = Cash generated.

Assets and Liabilities

1. Fixed Assets (in Rupees)
   - Property
   - Mines and Surface works
   - Plants and Machinery
   - Assets in course of construction
   - Investment in collieries/subsidiaries
   - Deferred interests.

2. Working capital (in Rupees)
   - Stock of products
   - Stock of stores
   - Debtors
   - Cash
   - Creditors
Every enterprise, public or private, large or small, profit earning or loss-making, is a financial concern. Its success depends to a large extent on the quality of its financial decision. For appropriate financial decision ‘Accounting’ is a must. Accounting is an information system and acts as a business language.

**Accounting Methods**

- Transaction Supported By Document (Voucher)
- Recording of Transaction (book of accounts)
- Classification Under Different Heads (ledger accounts)
- Summerisation (Trial Balance)
- Presentation of Final Account (P&L Account & Balance Sheet)
- Auditing of Account Books (Audited P&L Account & Balance Sheet)
**Financial Accounting**

It mainly relates to recording and processing of financial data affecting the business unit Balance Sheet and P & L account are the end results of financial accounting.

**Cost Accounting**

In order to control cost and to assess profitability and efficiency of the unit, the cost of the product or service are ascertained.

**Auditing**

Accounts are required to be audited by auditors to examine the accuracy of accounting books and records.

**Capital & Revenue Items**

Capital items are non-recurring in nature. Revenue items are recurring in nature. Expenditure incurred for acquisition of fixed assets is capital expenditure. Payment made for acquiring fixed asset is capital payment.

Expenditure incurred for purchase of raw materials and stock of finished goods is a revenue expenditure. Expenditure incurred for production, administration or marketing is a revenue expenditure.

**Elements of cost and cost sheet**

- Material accounts for a significant part of the total cost and therefore it is essential to have proper material costing system to control cost.

- Labour is the second element of cost. Payments made to the employees are to be accounted for to ascertain labour cost.

- Overhead costs are those costs which are indirect cost and cannot be identified easily.
Cost Sheet is simply a means to ascertain cost of production or cost of sales by adding the different elements of cost in an orderly fashion.

In today's fast changing economic environment, competitiveness in terms of cost and productivity is the key to success for any productive unit. A smart financial approach for managing finance and cost for the best advance of the unit is, therefore, essential.

***
MATERIALS MANAGEMENT

Materials Management is the process of purchasing materials and service for the unit where they are economically useful. Materials Management include the entire range of functions which effect the planning & programming purchasing, flow, conservation, utilisation, quality and cost of materials.

There has been considerable misconception about material management. Some confuse it with inventory control, some other confuse it with purchasing of materials, and some consider it as store keeping.

Objectives of Material Management

1. To maintain production and operation by ensuring flow of materials.
2. To reduce materials cost.
3. To reduce recurring expenditure.

In summarising briefly the activity of Material Management, it is the procurement of materials of -

right quality
right quantity
right price
right source
right delivery

with protection against unforeseen failures of supply and protection against increase in demand during hard time.

The purchasing function may be centralised or decentralised. The major advantage of centralisations are -

a) Duplication of efforts are minimised.
b) Consolidation of orders benefits in quality discounts.
c) Effective control on inventory

d) Line Manager can get support from Material Managers.

e) Record keeping is reduced.

In spite of advantages, it is not always possible to adopt centralised purchase system.

Decisions regarding quality, quantity, urgency and essentiality of materials are decided by the Managers who uses -

1) Standard regarding quality & quantity are laid down generally by the planner.

2) Urgency is demanded by Production Manager.

3) Essentiality is demanded by the Technical experts.

The Manager has to ensure that for improved production, urgent materials ensuring quality are made available at right time. It is, therefore, essential to ensure that -

i) authorised materials are procured.

ii) proper inventory control is maintained.

iii) receipt, inspection and identification of materials are carried out.

***
SAFETY MANAGEMENT

The new outlook towards various matters concerning safety, favours a special safety consciousness which reaches right down to the roots of the cause of the injury.

A properly organised safety scheme whether at Company level or colliery level, should do much to bring the safety department and its purpose into better co-operation and good faith with management and workmen and would stimulate all officials and workmen at least to pull their weight towards a common end.

Coal mining with its eventful tradition has attained distinction in the history of industrialisation of our country. With the course of time, coal mining has undergone changes in approach, purpose, methodology as well as in its objective. With the changing technology, culture and outlook, specially after nationalisation, the objective has also been shifted. This remarkable change confers lot of responsibilities and warrant commitment and involvement of all associated to this industry. Now coal mining industry, a prime source of energy is engaged for economic prosperity and growth of the nation. The success of this industry largely depends on collective and joint effort of all who serve.

It is a challenge of the day to restrict the incidence of accident. In order to limit the rate of accident a great deal of research will be necessary.

After nationalisation, mines have come under one umbrella and taken a shape of largest organisation in the country and a coal family has emerged. The joint responsibility of both management and workers are of great importance in dealing with the safety matter and accident aspects in the coal mining. Both side has to develop culture of working with close co-ordination, understanding with clear conception and sincere intention to tackle the adverses. To recognise the following aspects will seem to be of importance.

(i) Regard to human life.
(ii) Invisible cost of accident
(iii) Safety policy in clear term.
(iv) Responsibility of the management
(v) Responsibility of the workers’ representative.

Protection of health and life in the mine is necessary and there should be concern to implement safety measures.

The employers’ liability is the direct cost. There will be also indirect or hidden costs to the company, which are incurred as a result of an accident. Those costs include safety administration, medical services, lost time of injured employees, lost time of other employees, replacement labour, welfare and other payments to injured employees, loss of production, repair of damaged plant, replacement of damaged materials. Once the cost of accidents have been evaluated, the recognised budgetary system can be implemented. The charges to be made against the departmental Managers budget can then be calculated and allocated on monthly basis. This will enable him to plan any action necessary to maintain the level of safety within his mine.

Any deficiencies would be highlighted in cost terms rather than frequency rate which may be increasingly questioned by Management as measure of safety. (Perhaps the addition of economic accountability will help to minimise the losses resulting from accident).

**The responsibility of the Management**

It is necessary to have clear policies guideline for safety

Testing the safety policy - a guide -

**A. The policy statement**

(i) Does it give a clear unequivocal commitment to safety ?
(ii) Is it authoritative ? Has it been agreed to by the Company ?
(iii) Has it been agreed by the trade union representatives ?
(iv) Are there effective arrangements to draw the attention of employees ?
B. The organisation of safety

(i) Is the delegation of duties local and successive throughout the organisation?

(ii) Is the safety performance of Managers an ingredient of their annual review?

(iii) Are key functional Managers identified -
(a) Safety Manager (b) Training Manager

Are their duties clearly understood?

C. Training

(i) Is there system for identification of Training needs?

(ii) Does training cover all levels from senior Manager to new entrants?

(iii) Are refreshers courses arranged?

D. Safe system of work

(i) Are those tasks for which a system is required to be identified?

(ii) Are those system properly monitored?

E. Emergency procedures

(i) Are the areas of major hazards identified and assessed by experienced and qualified staff?

(ii) Are there adequate first-aid arrangements?

(iii) What arrangement are there for fire fighting?

F. Monitoring

(i) Are there adequate staff for monitoring? Is it understood that monitoring will be carried out?

(ii) Are all the causes investigated?
(iii) Organise to meet those objectives?
(iv) Make effective arrangement to deal with risk?
(v) Monitor the effectiveness of the organisation and arrangement?

**The Company will recognise-**

(a) The need to provide for all employees working surroundings which are as healthy and safe and reasonably practicable.

(b) Their responsibility for creating and maintaining such conditions.

Their objective is continually to reduce hazards to health and safety in all activities under their control.

The company will expect from workers representatives:

(c) Total involvement of all employees in working towards this objective.

(d) Management to aim to achieve the standards set by the company and to provide the resources and services necessary to achieve them.

(e) Employees to have constant regard for these standards and comply with them at all times.

**Responsibility of Trade Unions**

For implementing safety policies and extending co-operations in all matter with regard to reduction in accident rates, the functioning trade unions can play a vital role. Better knowledge of accident and its causes demand training of the employees.

(i) Trade union representatives have to co-ordinate with the Management such training programme of the employees to make workers conscious about safe working practices.

(ii) Joint participation Council, safety may be given priority and discuss the possible system to be introduced for eliminating chances of accident.
(iii) Responsibility in preparing workers Inspector to work effectively.

(iv) Trade union and Management of each mine may draw a Safety guideline for both surface and underground workers considering the technology introduced in the mine and the risk involved in the operation.

(v) Trade union has a role to look after injured workers family while they are out of employment.

(vi) To uplift the morale of fellow workers trade unions will have to play a major role that the industrial relation is not allowed to be deteriorated in case any accident takes place.

In fact, to promote safety consciousness, adoption of safety measures and attempt to reduce accidents, are the joint responsibility and with the co-operation of both the parties-Management and Trade Unions, a zero accident potential will be possible to achieve and productivity rate of the mine will be maximised.

Those who have had to perform the most odd duty of telling a woman that her husband has been killed in the pit; know something of the resultant grief to the family. The tremendous effect upon the family at the loss of the Bread winner is enormous.

Accident means a tragic incidence followed with mental and physical grief to a person and his family. Loss of life, the price of injury, cannot be counted in terms of money. Some items could be achieved, replaced, such as machinery, loss of production, its cost can be calculated. But loss of a Father, Brother or Son to a family could not be compensated.

The accident rate is reflection of conditions in the mine either natural, man-made, or combination of both.

It is not an under-statement to say that Safety and production go hand-in-hand. At a mine, where accidents are prevalent, the OMS and total output set for, will suffer proportionately.
As production has been increasing, output per man-year has also increased considerably. High standard of equipment, watchful management and efficient safety department can contribute eliminating risks of accidents, provided, all men connected to underground work, are suitably trained and made conscious of safety need. What will be necessary to prevent injuries in mines are:

(a) A strong department with adequate status;
(b) A suitable training plan;
(c) Safety campaign to reach grass root level.

All who are working in mines and associated to coal mines want to see that:

- Mine works safely.
- Having steady production network
- Human safety insured
- Constant watch on safety items
- Contended workmen return home happily after work

This entrusts heavy responsibility on those who manage offices in mines. To achieve all these, while production planning seems must, enforcement of safety items will be also equally necessary.

A check list of safety matters must be available in a mine, which should be monitored by Safety Department of a mine. Safety Department should be allowed scope to use its ability to aid the colliery Manager. The aim of this department is to assist officials in achieving higher production without any injury or casualty to anyone. To do this, the Safety Dept. must have trusted, unfettered scope. The Department cannot function if strangled by routine or procedures and should be consulted at every planning stage of projects to ensure all factors. Installing safety appliances, dust suppression equipments as well as special training of operations etc. after the project has started, can never hope to be successful.
Safety Departments’ duty must be injury prevention on its widest sense and to ensure that the Act, Regulations and good practices at all times carried out with the right spirit and intention.

The Safety Branch has, up till now, not enjoyed the best of treatment and the mine Safety Officer does not have the status to which he is entitled. The Safety Officers’ work is strenuous and exciting. His responsibilities cover every shift on everyday and relate to every part of mine. The Safety Officer must be a man in whom management and trade unions and workmen have every confidence. A successful Safety Officer should be promoted and given responsibility to work as Mine Manager. In other way, no one should be a Mine Manager unless he serves successfully as Safety Officer and whose position should be No. 2 in the Mine as Deputy Manager.

In view of the new outlook to work, various matters concerning the Safety Department, it is favoured that a Special Safety campaign provided which reaches right down to the cause of injury where an atmosphere of goodwill prevails and there is genuine desire for co-operation to reduce injuries, promote safety and further the welfare of all concerned, success will be achieved. A Joint Committee of representatives of Management and workmen is a suitable medium of machinery for giving effect to the desire. It will provide a channel through which the interest and enthusiasm can reach all ranks. At a regular interval, the committee should discuss cause of injuries from accidents and consider suggestions to prevent their recurrence.

The importance must be emphasised of the necessity for the closest co-operation between management and trade unions. Their interest is basically the same that is of giving greatest possible protection to employees and if the maximum success in providing safe and healthier conditions is to be achieved, then there must be joint endeavour.

The following steps may be taken to accelerate Safety campaign:-

(i) To promote thought and discussion about safety amongst the workers.

(ii) To help to formulate good communication so that the above is possible.

(iii) To try and enlist the Specialists knowledge and experiences.
(iv) To give publicity to the campaign through industry’s own Newspapers.

(v) Mobile safety exhibition to be organised.

(vi) Safety competitions/trophy, award for best suggestions, safe worker, persons’ contribution for safety matters, etc.

(vii) To have booklets prepared by Safety and mechanisation branches and issued to all men employed on mechanised face indicating special risks as well as safe practices.

(viii) Safety Exhibition may be designed by the HQ Safety Department which may visit each Area in turn to be shown at one or more suitable centre and this should be visited by as many as mine workmen and officials as possible. The Area may be free to add to the exhibition materials of particular local interest of importance.

(ix) Special Safety Film of 5/6 minutes duration, may be shown in colliery Canteen.

(x) To avoid campaign lowing down or fizzling out, the campaign must be in no sense be allowed to appear as “Nine Days Wonder” arousing merely temporary interest.

Safety is a constant challenge, demanding unremitting vigilance on the part of all concerned. The campaign should, therefore, aim to stimulate the workman’s interest in his own and his colleagues safety, to focus attention where necessary, intensify existing safety activities and procedures and to promote a continuing interest in the need to reduce accident.

It should be made certain that with the efforts to increase productivity, safety standards are not allowed to slip. Mines are worked for production, but in any case, it must never become production at any price.

***
DIAGRAM MANAGEMENT

ACCIDENT claiming human life is always a sad affair. It not only upsets the members of ill fated family, but also adds miseries for the future days to come. Since there is no chance of preparation in advance to face such odd eventualities, the helpless members, after accident, have to live for the rest of the period with memories of the victims.

Even though accident is an undesirable event, it does take place, now and then, here and there in some corner of the country. Accident occurring on road, in industry is a regular feature. But when such accident claims large number of human lives, it turns to disaster.

Disaster is dreadful and devasting. It creates a situation of dejection, distrust and frustration amongst those who suffer. Circumstances of disaster may be different due to accident taking place on road, industry, railway or due to plane crash, yet the effects are same. However, management and handling of social and economical problems in all such cases, though difficult may not be that tough as it happens in case of disaster arising out of operation in industry or mine. The victims of road accident may or may not be known to the people who assemble near the spot and in absence of attachment with the victims, the inquisitive people show resentment and indisciplined behaviour. Generally no one remains to receive blames from the crowd on the spot and hence they disperse after a shortwhile.

Railway accident which turns in to disaster creates a different situation. Passengers are not known to each other and have different destinations. In case of disaster, passengers who survive, try to escape and seek quick relief. The relatives of the victims are generally away from the spot and the people available from nearby, normally extend help to rescue team, instead of becoming hostile.

Identical position does arise in case of plane crash or drowning of steamer. Therefore, rescue operation in all such cases though difficult but not complicated.
Mine disaster takes altogether a different shape. It has a prolonged effect over hundreds of people located nearby in the place of occurrence. Generally mines are situated in remote corner, surrounded by workers’ colony and cluster of villages at a distance. Due to close association, employees are intimately known to one another. They share their sorrows and happiness during bad and good days. Any such unfortunate occasion like a disaster disrupts the normalcy.

Let us imagine what happens immediately after the disaster in a mine. Mishap triggers off shock waves in the surrounding areas of a mine. Fear dawn on workers, numbed by the disaster. A pall of gloom hangs low over the nearby area. Though mining operations continue round the clock, at whatever hour the information of disaster, involving life of a large number of workers comes out of the pit, apprehension spreads like wild fire. It travels faster with distortion. Workers, relatives, villagers in number, arrive at the spot and plead with the officials for immediate safe recovery of the miners involved. Due to large number, the crowd may go out of control and any sort of emotional outburst may take place.

But situation at that hour demands:

- Rescue teams to arrive in shortest possible time.
- Technical experts to take charge of the mine to guide and handle operations to save life and mine.
- Medical team to arrive to extend medical assistance.
- To have continuous electric and water supply in the mine.
- Effective communication system to establish contact with Rescue organisation, law and order authorities, technical experts, Dept. of Mines Officials and with underground districts.

Thus, in one hand a tense environment contrary to carry out effective emergency work exists and on the other hand, quick and faster actions are required for recovery of workers involved.

It is a challenging situation, difficult and tough to handle.
In such disaster, boundary management is vital and of prime importance. Unless some normalcy is restored, rescue team can’t enter the spot, medical team can’t arrive and technical emergency work may get delayed.

Disaster Management with regard to social, economical aspects is therefore, appears very essential and important. It is also essential and important to have such leaders and team of dedicated personnel who continuously, from the time of occurrence, will effectively carry out functions and attempt to provide normal environment.

The task may be identified as under:

**Internal Tasks**

(a) Communication to rescue organisation, law and order authorities, technical experts, Dept. of Mines and medical team.

(b) To organise the security personnel to guard the spot of occurrence and entrance of the mines, if any.

(c) To form teams to take charge of Control Room, Information Centre and co-ordinate rescue and technical operation.

The teams to formed to handle social and economical aspects will have following

**Tasks at the 1st phase**

(i) To contact Trade Unions and get their representatives at the spot.

(ii) To enforce security and to get police personnel to man various strategic points, in order to prevent any ugly situation to happen.

(iii) To get Ambulance, as many as possible with the Medical Team.

(iv) To get the workers lists prepared jointly with the Union Representatives and to announce the names for information
of the co-workers and relatives.

(v) To inform local public representatives the position and detail available about the disaster.

(vi) To intercept wild and wrong information and to ventilate news through sensitive loyal employees about the correct position of mine and workers involved.

(vii) To appeal for co-operation and to engage various groups from amongst the employees, to start round the clock telephone system/section, canteen, survey section, stores, laboratory and office for any other support.

Thus, to get more and more people involved in the process quickly in order to counter the force bent upon dislocating operation.

**Tasks in the 2nd phase**

The team will ensure that:

1. Telephone system is effective and all corners can be contacted.

2. To establish contact with the relatives of the victims, and to explain them that all care will be taken.

3. To organise groups to carry the injured workers and in case of death of employees to carry the dead bodies to Hospital.

4. Opening of Emergency Ward in nearby Central Hospitals which is equipped to meet up such situations and can extend all possible medical attention

5. To open canteen and arrangement for food and drinking water for all those who will be engaged in various operational and rescue job.

6. To vacate nearby buildings and to arrange beds for rest purpose of emergency personnel who will have to stay round the clock.
7. To safeguard the residence and family members of executives who are always in the workplace.

**Tasks in the 3rd phase**

To make Trade union Representatives available when injured persons are to be brought out. In case of recovery of dead bodies, more precautions need to be taken at the pit top so that workers and crowd assembled are not emotionally surcharged.

Nearby Central Hospitals are to be alerted to extend medical assistance before carrying the injured persons from the pit top.

Govt. help to be taken to bring the post mortem team in the Hospital so that when dead bodies are taken to hospitals, post mortem part is undertaken without delay.

It will be necessary to set up temporary offices in the Central Hospital for -

(i) receiving the injured persons or the dead bodies;

(ii) to see the requirement for medical treatment of injured persons;

(iii) post mortem of the dead workers and after post mortem handing over dead bodies to relatives;

(iv) for identification of dead body, help of union personnel, welfare officer and cap lamp no. to be taken.

At this stage, it is necessary to establish an office with the Police and Magistrate for issuing various certificates for the purpose of carrying dead bodies to distant places.

Few other offices are to be opened at Hospitals:

**Office-1** : Will receive the relatives and keep them in a waiting place. A team of officers including lady officers should be available to look after the relatives, specially the female members. Those who have to perform the duty of telling a woman that her husband has been killed in the pit know something of the resultant grief which rises to almost
dementia. Hence, a team with human approach should look after the relatives at hospital. Arrangements for their feeding while they are waiting at the hospital, are to be done.

**Office-2**: Will look after the allotment of vehicles for carrying the dead bodies, issue of death certificate, certificate from the police and magistrate for transporting the dead bodies to inter-state, arrangement for ice, wooden boxes for the dead bodies.

**Office-3**: Will arrange for immediate cash payment in presence of the representative of the Trade Unions so that after due identification, payment is made to the right persons for carrying out cremation and to meet up incidental expenditures.

These arrangements will establish a credibility before the relatives and concern of the management will be reflected.

**Establishment of Control Room**

This will remain open round the clock to monitor:

- Rescue operations.
- Make contacts wherever essential for the purpose of recovery operations.
- To arrange adequate copies of mine plans for rescue teams.
- To maintain uptodate information.
- To maintain duty roster.

**Establishment of Information Centre**

This centre may be opened in a convenient place where from employees, their relatives get all information about the victims or injured persons.
Tasks in the 4th phase

The Personnel Dept. will contact the family members in the colliery quarters and will send telegram to their relatives at house addresses for information about the injury or loss of life of employees whose family stay away.

The team so formed will visit the quarters of victims -

- To arrange their ration
- To extend medical help, if required
- To give the grief struck family members mental and financial support so that their helplessness can be reduced to some extent.

Opening of special Office to deal Economic aspects

- To make arrangements for payment of due wages, leave wages, PF, Gratuity, payment under life cover scheme, Workmens’ Compensation, etc.
- To contact PF Commissioner to open their office at colliery on temporary basis.
- To request Compensation Commissioner to establish office at the colliery to make payment of compensation to the nominees.
- LIC official may also be approached for similar purpose.

All these actions will raise confidence amongst the relatives of the victims.

It is also essential that the members of the family to be explained as to how best they can save their money in Bank or Govt. Institutions
after they receive a considerable amount from the company as compensation package.

It is important that while handling socio-economic problems, due care has to be given with sincere concern for the family members whose bread winner will never return.

**Tasks in the 5th phase**

It is essential that immediately after the occurrence, frequent meeting with the Trade Union representatives need to be carried out to inform the latest position of mine and rescue operations. They are also required to be consulted before initiating all future steps.

Their participation will be added strength for the managerial team.

The union representatives have greater control on workers and without their active support nothing can be really achieved. Hence they must be treated as important part of the disaster management team.

The correct position of mine has to be unfolded before the union representatives so that credibility is earned which goes long way during such crisis.

Handling of Press is an important task. The Press and media have responsibility to highlight the real position before the countrymen. Morning and evening meeting with the Press personnel will seem essential when all their queries may be replied clearly.

During such occasion, important persons and VIPs visit the spot.

To manage their visit smoothly is an important function.

The objective of Disaster Management is to bring normalcy faster for initiating recovery work of employees and to save the mine as early as possible. This can only be achieved if the team leaders are sincere to their approach, have courage to face any eventuality and above all have respect for human feelings and sentiments.

Mine disaster is an unwanted affair. With the modern and advance technique, by implementation of safety rules and with determination efforts have to be made so that chances of such occurrence are
eliminated. The human lives are precious and their loss while at work is painful.

The members who will have to associate in managing social and economical aspects in case of such happenings, have to generate a sense of missionary zeal to get the sufferers out of the situation of helplessness.

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13

PROJECT MANAGEMENT

Project Management process has the following series of steps:

SET GOALS - PLANS - SCHEDULE - ALLOCATION OF RESOURCES - ORGANISE - CONTROL

In Project Management, main thrust lies on control. Control is the process of reducing the deviation between planned performance and actual performance in a time frame. The three factors - time, budget and performance form the basis of project control.

Factors affecting

- TIME - Supply Delay - Time consuming - Missed milestone.
- COST - Inflation - High labour cost - Poor timing of cash flow.
- PERFORMANCE - Poor design - Poor quality - conflicting objective - poor functioning - employee’s morale - complicated technology.

Control can be achieved through tracking, measurement and evaluation.

Steps for control

- Specify - the specific aspects are to be measured.
- Set standard of Performance - keeping in view industry practice - work analysis.
- To measure actual performance - measurement scale to be determined.
• Comparison - between the actual and standard performance.

• To identify - variances and sources of performance.

• To determine appropriate action - so that poor performance are rectified and does not recur further. The variances observed are overcome.

**Monitoring of Projects**

The Project Progress Reports will mainly include:

• Material supply schedule

• Cash supply schedule and cost performance plots (Planned vs. Actual)

• Work done schedule and time performance plots (Planned vs. Actual)

Prevailing level of communication, co-operation and co-ordination decides the quantum of success of Project Management. When these are tied in logical manner, the results achieved measures close to planned schedule of the project.

***
FOR the purpose of steady and faster economic growth, plans for development in all fronts including industrial units appear to be important. In deciding priority concentration on viable scheme with concrete plan of action will be essential. Coal, the prime energy source will be dominating industrial front for a few decades to come, and therefore, attaching importance to new Coal Projects will gain priority.

New Projects, especially in Coal sector is directly dependant on the prime parameter-land. Land of various size is required for coal extraction either from underground, incline or opencast. With the acquisition of land for coal projects through various laws, people associated with the land become affected and may cause shifting of settled people. For economic growth and in the interest of nation while new Coal Projects are essential, land acquisition and consequent effect disrupts the traditional, social system and source of livelihood of the people associated to such land. Displacement of people involuntarily may give rise to severe social, economic and environmental problem because :-

(a) In the relocated environment, productive skill of the people may be less applicable.

(b) Productive assets and sources of income are lost.

(c) Social structures may get disrupted.

(d) Cultural identity may diminish.

**Effect on People and Need for Rehabilitation Plan**

Since settled persons are generally displaced with the acquisition of their land for coal projects of different sizes, they lose their earnings from the produce of the land.
(i) The land that is acquired for the purposes of project by CIL is for the national interest and the displacement of persons is involuntary. Often for the purpose of implementation of project jobs, eviction are faced by the affected persons.

(ii) Due to industrialisation, the age old rural environment gets often transformed to semi-urban environment within a short spell of time and usually follows with rise in cost of living. The traditional sources of income is likely to be reduced and in most of the cases, the persons affected, face difficulty to cope with the new situation.

(iii) Land acquisition and consequent displacement disrupts the traditional social system and source of livelihood.

(iv) Due to change in the pattern of land substantially the agro-based rural economy and lifestyle of people changes. Many a time they do not find easily the alternative source of income.

(v) Only proper resettlement and rehabilitation of the displaced persons can remove discontentment which in fact help to derive co-operation from the people affected.

The objective of the Rehabilitation Plan is to resettle the affected persons and also to ensure measures for restoration of their income.

**Change of Rehabilitation Plan**

The rehabilitation plan will cover -

- Objectives
- Detailed plan of the land
- Socio-economic survey
- Community participation
• Mechanism to select alternative sites, evaluating losers and allocation of compensation.

• Plan and programme for resettlement and rehabilitation.

• Estimated cost of resettlement and rehabilitation and financial plan.

• Organisation to deal and undertake such responsibility.

• Time schedule for implementation of rehabilitation plan.

• Monitoring and evaluation.

• Legal instruments and regulation.

The rehabilitation plan and resettlement package may differ from project to project and from state to state. But in all cases, compensation for the land lost and other losses are payable as per market value of the asset. Regarding restoration of income, the objective is to generate scope of employment in the project and to create various avenues for self-employment.

Rehabilitation of project affected person involves two distinct aspects;

(i) Compensation for losses in terms of land, cash and other forms should be provided to the head of the household, his adult son and daughter.

(ii) For restoration of income, the plan lies in starting a new life in terms of opportunities, training, credit and community services for schooling and health and new employment opportunities for project affected people.

Unless the human problems are resolved in time with honest and sincere approach, Project implementation will be a tough task. It is, therefore, essential to identify factors responsible for unusual delay in implementing project activity.
**Problems and Effect during Project Implementation:**

Various problems that crop up during implementation of project activities are -

(i) Concentration on project preparation tends to leave gap for detail planning of land acquisition. This leads to

(a) delay in acquisition of proposed land
(b) complications in getting physical possession of land.

(jj) Land acquisition through various laws takes time. This factor not only contributes in time over run but also subsequent escalation in the cost structure.

(iii) Due to delay in the land acquisition process and procedure, people become reluctant to accept the terms offered through State Land Machinery.

(iv) In absence of systematic and regular consultation people do not participate in discussions and their involvement is less. People do not respond positively when acceptable alternatives are offered.

People learn about project from sources other than project authorities, thus misgivings and wrong interpretation on offers create biasness.

The shortcomings and effect may be classified.

<table>
<thead>
<tr>
<th>Problems and short comings</th>
<th>Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>(i) In preparation of project report, proper planning of land acquisition remains absent.</td>
<td>(i) a. Delay in acquisition of land. b. Complications arise in getting physical possession of land</td>
</tr>
</tbody>
</table>
(ii) The land Acquisition Act, 1894, is the main legislation governing the acquisition of private land for public purposes and for companies.

Property is part of the concurrent list of the Indian Constitution. This central Act has several state amendments.

(iii) The land acquisition process under LA Act is long drawn and the district collector decides about the amount of compensation taking into account claims and other evidences.

When the quantum of land is more such procedure complicates and claim counter claims come forward.

(iv) Land Acquisition under the Coal Bearing Areas(Acquisition and development) Act is advantageous. The District Administration is only involved in obtaining copies of land record and company has to rely on the help of District Administration in the process of land acquisition.

Due to resistance for physical possession of land, friction between the Industry/Centre and State Government may occur.
(v) In CBA Act, land ownership is transferred to the Govt. after the declaration of land acquisition has been issued without stipulation that compensation should be paid before taking over the land.

(v) People generally do not like acquisition of land under CBA Act.

(vi) The acquisition process is carried out by the land acquisition department and people get various information about proposed project from third agencies.

(vi) Stiff resistance grows with the apprehension of long term hardship.

(vii) Absence of systematic consultation with the land associated people from the initial stage

(vii) People generally do not respond positively.

(viii) No selection of group leader or representative of people to be affected at appropriate time.

(viii) Outsiders with various interests try to gain ground by raising issues and bring political bias for their short term gain.

(ix) Chances of subsidance, fire over underground, surface, incline mining working and noise, dust pollution from Opencast working.

(ix) Local habitants feel threatened and uncongenial atmosphere persists.

(x) Absence of scheme for protecting environment in the mine areas

(x) People anticipate environmental and land degradation, presents unsatisfactory image
Absence of proper resettlement policy creates a barrier. There is no resettlement plan. Various agencies create a barrier and normal situation gets disturbed.

Absence of proper socioeconomic survey of the local people associated to land. The project cannot identify the categories of people affected, and their details for the purpose of calculating compensation and other benefits.

Inadequate administrative arrangements. Various agencies create a vacuum in handling land matters, and the handling of land becomes difficult.

Lack of training of officials dealing with project-affected people. Implementation of resettlement plans becomes difficult, and the objective of the project to “grow with the neighbours” does not gain ground.

Classification of Persons Affected

Project-affected persons may be classified under the following headings:

(i) a. Persons whose entire land is acquired
    b. Total agricultural land
    c. Some part is cultivable.

(ii) A person owning land which is not economically viable after acquisition.

(iii) A person whose homestead land is acquired

(iv) A person whose homestead land and household is acquired.
(v) A person who is in actual possession of land as tenant, tiller and which is acquired.

(vi) A tribal owning the land or deriving livelihood from the land.

(vii) A person having leased ownership and land is acquired.

(viii) A person having occupation ownership and land is acquired.

(ix) Properties vested with trustee and such land is acquired.

(x) A landless person cultivating Govt. land which is acquired.

(xi) Joint holding of family members and land is acquired.

(xii) A person having land but staying outside which is acquired.

Classification of land

(a) Cultivable

i. Irrigated-two crops/three crops producing land

ii. Non-irrigated one/two crops producing land

iii. Barren land

iv. Vested land

v. Forest land

vi. Pond

vii. Homestead land

Acquisition of land generally to be done through Land Acquisition Act, through Coal Bearing Act, Chhotanagpur Tenancy Act, keeping in view various provision of Law in practice at different locality.

Action Strategy

It is necessary that the course of action be decided for successful completion of project activities keeping in view the human problems associated to land acquisition.
Actions may be classified as under:-

(i) With the selection of projects and identification of area of operation for coal extraction, requirement of land and its sizes to be determined.

(ii) To determine priority-wise phase wise, land acquisition with the time schedule. Blueprint of land scheduling need to be prepared where possible with readjustment, alternative planning may be done for minimum displacement of people.

(iii) Government land department to be intimated for processing acquisition as per schedule.

(iv) Project in-charge may form action oriented informal managerial team for co-ordinating the following activities:-

(a) To establish contact with the people associated to land.

(b) To identify ‘carrier’ from the local inhabitants, to highlight project matters and objectives.

(c) To select appropriate “Co-ordinators” who understand the villagers, their language and have fair idea of socio economic position of the localities. The co-ordinator will be selected from the industry and will work through “carriers”.

(d) Identification of leaders and representatives of various groups and people from different social strata.

In order to develop a sense of trust and goodwill amongst the people to be affected, Community work need to be undertaken by the corporate officials. Simultaneously a group of officials having aptitude for doing social work around the villages may have to function and organise the following activities:-

- Organising polio camps in the surrounding villages.
- Developing child and mother care centres
- To initiate literacy drive
- To form an effective administrative group for settling compensation issues.
- The social work group will implement self employment scheme for project affected people considering their background, age and aptitude.

**Dealing with various agencies**

- **GR 1**: Implementation of self employment scheme.
  - **GR 2**: Social Workers groups
  - **GR 3**: Group for socio economic survey
  - **GR 4**: Informal group with-
    1. Village representative
    2. Public representative
    3. Representation of District
  - **GR 5**: Project Team
  - **GR 6**: Administrative group for compensation
  - Monitoring Group
It is important to strengthen the Project Team, preferably Area office to guide the project team, in all matters as it will help:-

(i) To eliminate the tendency of taking up Project matters at Company level.

(ii) The problems are localised and tackled at Project level.

However, Corporate level and Higher Levels are to delink from negotiating and handling all resettlement matters at appropriate time and thus allow Project Team to resolve local problems without giving scope to turn such problems as national issue.

- A group may be formed from the industry and localities to work as enumerater.
• Socio economic survey will be necessary to ascertain number of people to be resettled and will receive compensation.

• Every information group will carry out socio economic survey involving village Chief, Mukhia or accepted group leader

• Associating Panchayat people and Block official for authentication of records and information.

With the objective to restore the income of the project affected persons, a specific survey to be made before the resettlement. This would include the income-source and level of income of such persons.

SURVEY

The project design, including an analysis of alternative designs aimed at avoiding or minimising resettlement.

In order to solve the problem of information loss and misinformation comprehensive attempts to be made to check the response of the respondent through secondary interview. This approach is to establish the validity of the survey method and reliability of the responses together.

FOR SOCIO ECONOMIC SURVEY

A. Name of the Head of the Family

<table>
<thead>
<tr>
<th>Name of the Family</th>
<th>M/F</th>
<th>Age</th>
<th>Skill/Training</th>
<th>Daily Income</th>
<th>Education</th>
</tr>
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<tbody>
<tr>
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</tbody>
</table>
B. Landed Property

<table>
<thead>
<tr>
<th>Land measure</th>
<th>Block/Area</th>
<th>Irrigated non-irrigated</th>
<th>Agriculture Non-agriculture land</th>
<th>Yearly yield</th>
<th>Type of ownership.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>

C. Details of Live stock

<table>
<thead>
<tr>
<th>Cattle</th>
<th>No.</th>
<th>Daily monthly earning if any</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goat</td>
<td></td>
<td></td>
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<tr>
<td>Pig</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chicken Birds</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

D. Details of household

<table>
<thead>
<tr>
<th>Type of House</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Plinth Areas</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No. of Rooms</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Area of homestead land</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Area of Kitchen Garden</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trees</td>
<td></td>
<td></td>
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<tr>
<td>Ponds and Annual Yield</td>
<td></td>
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</tbody>
</table>

From the Socio economic survey the following position will emerge

- No. of persons will lose land of various types. Loss of earning from land etc.
- No. of persons will lose home-stein household.
• No. of persons will lose both cultivable land and homestead land
• No. of people associated to land and are beneficiaries of the land
• No. of people who have no land/or homestead land but earn livelihood from the village land.

On ascertaining the position it would be clear to identify:

**Details of Landless People**

<table>
<thead>
<tr>
<th>Tribal</th>
<th>From lower strata of social groups</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tenant</td>
<td>Land Labour</td>
</tr>
</tbody>
</table>

This survey followed by an estimation for creation of jobs and market potential. Thereafter, a specific rehabilitation plan to be drawn, in term of restoration of income. The plan will contain the pattern of self employment like Dairy, poultry, handicrafts, shops etc. The awards of petty contracts are also included in the self employment programme.

**SELF EMPLOYMENT SCHEMES**

<table>
<thead>
<tr>
<th>Schemes</th>
<th>For Whom</th>
<th>Training by.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Agriculture &amp; scientific methods of cultivation</td>
<td>Land less labour/ Tiller</td>
<td>Mission, Institutions Non governmental organisation.</td>
</tr>
<tr>
<td>2. Reservoir aquaculture</td>
<td>People having such aptitude</td>
<td>State Organisation</td>
</tr>
<tr>
<td>3. Development of green belt nursery</td>
<td>Females having no landed property. Land</td>
<td>District Forest Deptt. and Environmental cell</td>
</tr>
<tr>
<td>Trade</td>
<td>Eligibility</td>
<td>Center</td>
</tr>
<tr>
<td>-------------------------------------------</td>
<td>------------------------------------------------------</td>
<td>-------------------------------------------</td>
</tr>
<tr>
<td>Carpentry, Masonary</td>
<td>Young persons of the age group of 16 and above</td>
<td>Craft Centre</td>
</tr>
<tr>
<td>Weaving/Operating Hand loom/Cane basket manufacturing</td>
<td>Female of age group of 16 yrs and above</td>
<td></td>
</tr>
<tr>
<td>Cycle repairing/Watch/TV repairing/Scooter repairing</td>
<td>Young boys those are drop out.</td>
<td>Local Vocational Training Centre.</td>
</tr>
<tr>
<td>Brick/Coal briquet/manufacturing</td>
<td>Persons having skills in clay making</td>
<td>In plant training</td>
</tr>
<tr>
<td>Poultry, Dairy/Goatery</td>
<td>Male, Female over 30 years</td>
<td>Block Office</td>
</tr>
</tbody>
</table>

**Conclusion**

Rehabilitation and Resettlement Programme becomes successful, when “Just and Fair” approach is adopted and human aspects are given priority with the objectives to ensure that the population displaced by a Project receives benefit from it. All involuntary resettlement has to be conceived and executed as development programme, with resettlers provided sufficient investment resources and opportunities to share in project benefits.

With action oriented team it will be possible to resolve the problem of land acquisition and resettlement. The timely action with human approach will assure a better community life for the affected people and will generate sense of confidence for successful running of the Projects.

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COMMUNITY DEVELOPMENT

Development in the community around the mine is essential. Manager of mine has to give special attention to this aspect. With the goodwill of the locality, things become easier in many front and working environment is not dislocated.

- To keep constant touch with the neighbouring localities to make them aware about certain development programmes.

- To extend possible assistance in developing educational institutions.

- To arrange extra curricular activities for generating social awareness by way of organising various health programmes.

- To utilise waste mine water for cultivation purpose in the nearby land.

- To encourage in development of Green Belt in the waste land around the mine.

By way of motivating, mobilising and involving more and more people in planned social activities and utilising local resources, good will may be earned.

Managers are to endeavour upliftment of social life and economical condition of the people residing around the Mines operated by various coal companies. The prospects and growth can be shared and positive support of the people would forthcoming for implementation of the welfare schemes.

Community work in villages attached to mine area to be initiated as regular activities by the Area. The jobs of protection of environment, reclamation of land, land shaping and land scaping etc. are to be carried out.
For Establishing Better Image of the Industry

Community development work to be initiated as regular feature by Corporate office through Area.

- Diversion of Mine waste water for irrigation purpose
- Excavation of pond by involving villagers.
- Development of community Building-Library
- Development of village link road
- Opening of Health service unit in co-ordination with district level Health Services Agencies.
- Family welfare scheme
- Organising free eye operation camp
- Supporting educational institution
- Installation of hand pump-Tubewell where needed
- Sinking of well
- Any such other jobs for the benefit of the Community

Schemes for Protection of Environment

- Protection against possible subsidence
- Suppression of dust and elimination of noise
- Developing green belt
- Blanketing of underground fire
- Cultivation of waste land
Our community interest is the pit, the people who live by it, and the Community which exists around it. From our common interest, we hope to evolve common affections, and from our common affections, thus created, if not common opinions atleast a greater identity of purpose and closer unanimity of outlook will evolve.

“No man can act with effect who do not act in concert.
No man can act in concert, who do not act with confidence.
No man can act with confidence who are not bound together with common opinion, common affection and common interest”

- Edmund Brooke.

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16

INDUSTRIAL RELATION

1. It is important in accelerated rate of progress which is not being witnessed, that Management and men should take one another into confidence and go forward with a joint understanding of what is to be undertaken.

2. Opportunities will seem wasted unless technical development and Managerial reorganisation are matched by a labour force eager and able to work with them.

Industrial Relation

INTERPRETATION of laws, wages and allowances, promotion, placement, working condition disputes, legal matters are the major aspects of Industrial Relation.

Matter related to Industrial Relation problem in coal mines should have been fewer in number. With the implementation of Wage Agreement and timely payment of wages and allowances, there remain hardly any scope for adverse IR in the industry. Even the IR problems do arise because of delay in implementation of agreement, dispute in interpretation of wage part, legal matters, labour court cases, disciplinary action.

Certain issues of Industrial Relation problems lead to sudden strike and stoppage of work. These sort of actions, however, are detrimental to industrial progress. A suitable Industrial Relation machinery in the colliery may tackle such issue and with joint consultation with various functioning unions, both formally and informally, may ensure congenial Industrial Relation in the mine. Desired response may not be available all the time but once the employees are made to know the economic status of the mine, its commitment and need to earn revenue to meet up various expenditure, support and effort from workers side will be available.
The principal aim of management is to conduct the business of the undertaking successfully. Good industrial relations need to be developed within the framework of an efficient organisation and they will in turn, help Management to achieve this aim.

One of the Managements’ major objective should be, therefore, to develop effective industrial relation policies which command the confidence of the employees. Manager, at the highest level should give as much attention to Industrial Relations as to such functions as Production, Finance, Despatch, Engineering. Good industrial relations are the joint responsibility of management and of employees and trade unions representing them. But the primary responsibility for their promotions rest with the Management. Colliery Managers, therefore, have to take initiative in creating and developing them.

Managers should see that like them, junior officials including Supervisors should receive training in the Industrial Relation implications in their jobs.

Effective organisation of work is an important factor in good industrial relation.

Manager should, therefore, ensure that -

(a) Responsibility for each group of employees is clearly defined in the organisational structure

(b) Each under official understand his responsibility and has the authority and training necessary to do his job.

The supervisor is in key position to influence industrial relations.

Managers should ensure that:

- Supervisor is properly selected and trained;

- Has a charge of group of workers to that size which he can manage effectively.

- Is fully briefed about Management’s objectives.
No Colliery Manager can hope to be successful completely unless he has given much thought and study of Industrial Relations. It is a wide subject but establishment of congenial Industrial Relation become easier if the mine Manager develops attitude of free, fair and firmness.

It has become almost impossible for any Manager to know off hand all the details of Labour Laws or Agreements. But he should make himself acquainted with the main Acts, Laws and Agreements.

There are, of course, many facets of Industrial Relation and improvement can be achieved if one concentrates on the following aspects:

- Environment
- Implementation of Agreements
- Welfare activities for employees and their family
- Recognition of employees’ capacity and their ability.

In the widest sense, Industrial Relation do not confine only to procedural matter such as collective agreements and negotiating machinery. It is also concerned with human relations and, therefore, with the policies which directly affect the individual employee in the performance of his job, the effectiveness of Industrial Relation policies depends on two main themes -

(a) The vital role of collective bargaining carried out in reasonable and constructive manner between employees and representatives of trade unions.

(b) The importance of good human relations between employer and employees in every working unit based on trust and confidence.

Management need to use its resources efficiently, while employees look for sincerity in the employer, continuity in the earning and satisfaction in their jobs. Both have common interest in the success of the organisation because without which their aims will not be achieved. But some conflicts of interest are bound to arise and, with good Industrial Relation those can be resolved in constructive and responsible way e.g.
(i) where appropriate, to maintain jointly with unions concerned effective arrangements for settling disputes

(ii) to take all reasonable steps for use of agreed procedures and

(iii) to identify trend of Industrial Relation, collection and analysis of information and remedial measures worked out.

For effective Industrial Relation measures required to be taken are mainly Negotiation, Consultation, Collective Agreement, Decision making.

Task for negotiation is an important part of the management process. Demands are made by group and unions of employees. Many a time, due to lack of proper attention, situations go adverse and Managers find longer time to handle matter. Effective negotiation is an important aspect.

Negotiation should be held with free mind and all sincerity. Any type of over-cleverness has dislocated the process and the negotiator loses his credibility.

It is necessary to

1. Create Environment
2. Bringing out the real demand and
3. To decide priority of demands.

Manager would be wise to study the art of negotiation - for this is indeed an art. For negotiation purpose, a Manager should -

1. Maintain jointly with trade unions effective arrangement for negotiation, consultation and communication for settling grievances and disputes.

2. Before meeting workmen or union officials about any question or points, a Manager should make sure that he has all the correct information on the matter to be dealt with. The word “correct” is emphasized because there is nothing more disconcerting than to find in the middle of a discussion that he
has been urging on the basis of something which is not a fact.

3. As far as possible, the discussion should be kept to the point. This will save time and often temper.

4. The Manager should never become personal to anyone during the discussion and never allow anyone else to become personal. This will save lot of ill-will and bad-feeling.

5. The Manager should make sure that all present understand what he is saying. Use the simplest language and explain any technical details in a way that will be understood by all.

6. If solution is reached, make certain that what has been agreed is understood by everyone. This can prevent many misunderstanding and the resulting trouble.

7. The Manager should try to see both sides of any question and in making decisions try to hold balance evenly, thus being fair for both the Company and the workmen concerned.

8. It will be found that the easy solution to an employee’s problem is seldom the correct one and it is very wise to keep in mind that these problems concern directly men and not machines.

9. Colliery Managers are faced today with many problems which become more and more complex as time goes on. They cannot hope to deal with all these themselves and if they are to do their jobs efficiently, Managers must make full use of service Departments.

Every worker in the mining industry has a stake in its well being. Everyone has the right to say how he thinks the work of colliery can improve. Management for better running of the colliery, may like to hear the ideas, suggestions and constructive criticism. This can be done most effectively through the machinery of consultation - when Management and mine workers meet to discuss problems and policies, good ideas continue to emerge. Consultation mobilises the collective common sense of everyone and provide a means to put it to good use. Success in consultation depends on the men and the method - on what sort of men are in the joint consultative committee. Consultation is based on mutual respect. The idea is not to impose one’s view points but to try to find a common view and the right one, of course.
Those sitting in Consultative Committee, should work as a Team.

The range of possible topics for a colliery is very large. If too many different subjects are raised at one meeting, there will be not enough time to deal with them properly. The important thing is to make sure that committee discuss that really matter at the pit. Such points should be presented properly so that the meeting do not become a dull routine.

Consultation cannot succeed without full and accurate information. Most disagreements arise because different people know different parts of the facts about a subject.

There must be enough accurate information to spot weakness and scope to consider how to put them right. However, information required to be presented in time, so that committee members can digest and concentrate on points. Good committees are always anxious to get the view of specialist, who may be often invited to attend the meeting and answer the questions.

Managers can solve many problems if in a colliery such environment can be created where consultative committee work effectively and meaningfully.

The co-operation and involvement of the employees required in

(i) maintaining output and productivity
(ii) improvement in underground productivity
(iii) coal face organisation
(iv) safety standard
(v) loading points, quality loading
(vi) manpower utilisation
(vii) welfare and
(viii) economics.

**Consultation**

Success in consultation depend on the men and method.
Consultation in the coal industry has been practised most effectively through consultative committee and councils. Consultation means jointly examining and discussing problems of concern to both management and employees. It includes seeking mutually acceptable solution through a genuine exchange of views and information.

Consultation is successful when this is based on mutual respect between the participants from either forum of management and trade union.

The discussion on a topic should be full, frank and free. It should be so conducted that talk keeps to the subject under discussion. Whether the topics are on production, productivity, accident accurate information needed to spot the weaknesses and consider how to put them right.

The area of conflict are to be sorted through consultation and in the area of agreements, immediate steps to be taken. We must remember that in our country we are to look after a large population, a certain percentage of those are not having square meal a day. Therefore, those are having means to earn through the industry, they should learn to take total view of the economy, rather than a sectional view.

People

Trade unions in our country have a social responsibility to day. It must be also understood that workers are the section of community and no sectional interest should be such which may jeopardize the interest of the community as a whole. Promotion of the workers must be upto that level so as to harmonise with the larger interest of the community.

With some section of the management there has been an attitude in terms of Master. There need to be change in such attitude and for developing a favourable environment the management group has to take initiative without any preconvinced ideas and conventional thinking.

Perhaps the most significant feature of our social and normal philosophy is that we tend to define our basic human impurities mainly in terms of right. We speak and think of human right, constitutional right, political rights, trade union rights, labour rights. The whole motivation of social behaviour clamour for rights, which we use to assert as our due. The demand for rights act as fuel for the machine of our ambition and at the present situation generate friction and discontent.
If we are to develop environment, for achieving the goal of the industry, what is needed then is to reverse the work of restlessness and frustration. If for instance, Management felt that the onus of improving workmen lot rested more on management than labour demanding them, and if the workmen sensed the urgency of deliberating on how better to serve the industry by increased productivity and a greater pride in work, possibly the industry may overcome economic crisis.

In a Public Sector, instead of ascertaining rights at the expenses of others, one has to assert duties in own expenses.

In the past most of the organisation theory had expected individual to conform to the wishes of organisation. Now it is having a reverse trend, organisations have now to conform more to the wishes of its member.

A positive trend, however, can be developed in this situation through participative management. The result can be achieved, once people are involved in a positive way instead of merely in a reactive way.

The test of our leadership must be whether all the various organisational and bureaucratic management tools are ‘on switches’ or ‘off switches’. It is needed to assess repeatedly, whether the effect on people is to get them willingly and freely to accept the challenge or to turn their wit, ingenuity and energy to defeating the intent of the system, which we seek to manage them. The future need is to have federation of freely committed willingly, self-aligning people, conscious of their own freedom, choosing to commit themselves to the achievement of shared common goals and to be able to use their own individuality to help the group.

**Motivation**

A world without change is a world without hope. To reject change is to reject to-morrow. Mind works only when it is open.

To get the right impact, the right motive for every employee, we have to find out a common denominator. The crux of the motivation question and effort is to create and maintain a climate, in which the people want to contribute their energies and talents towards the industry’s goal. It is in the nature of man to be creative and try for
achievements that gives him satisfaction. Success becomes second alternative when all levels of management speak the same language.

If people are not treated and do not enjoy their work and consider it as necessary evil, then there is bound to be conflict, it would lead to discontentment amongst people - inefficient organisation, poor productivity and, in turn again loss for the mass.

In an atmosphere of participative management, people function better. When they are a part of decision making process at levels both below and above.

Democracy is only possible when the members themselves and they alone own and are responsible for the control of the reasons of the enterprise.

Betrand Russel compares -

“to be a billiard ball whose relation to another billiard ball is only co-existence or collision. But men must learn to enter into each other and work in harmony with each other in co-operation and team spirit. This is achieved through spiritual growth from individuality to personality.”

Human values manifest spontaneously in ‘man as person’. When man as person as an enlightened citizen, becomes an employee of public service institution, human value become prominent and enrich the work qualitatively. If the employees are taught and inspired to devote themselves for country’s betterment through improvement of the industry, result will come. This may be achieved through the following values:

(i) Service to Nation
(ii) Fairness
(iii) Continuous struggle for betterment

When work is done with a citizen’s mind and attitude, the work does not become drudgery but it elevates both the work and workers.

Such persons will not think himself/herself as an employee only, but as a free citizen of the country, performing a particular task and
service for the people at the call of nation. Thus work is transformed to worship, transformed to mission and also as National Commitment. From being a mere employee or paid servant employee turns to an instrument of human purpose.

PHILOSOPHY OF INDUSTRIAL RELATION

The background of Management aspects with regard to Philosophy of Industrial Relation in brief are as follows:

**Weber (1864-1920)**

Weber was a German Sociologist, Philosopher whose theory of bureaucracy is often presented alongside the work of administrative management writers as Fayot, Gullick and Urwick. He was not a Manager, or Engineer but his interest was in the process of social change and in particular, in the effect of rationality on religious thought and capitalism.

**The Weberian Model**

For Weber, the bureaucratic form of organisation possessed the features of specialisation, heirarchy, rules, impersonality, full time officials, career focus and a split between public and private activity.

**Taylor (1903-1958)**

Taylor was the one, who proposed the theory of scientific management. Time and motion study techniques gave Taylor's ideas the claim to be a science. He based his work upon the accurate and scientific study of unit time. His aim was to increase productivity by improving the performance of the workers by selecting annual tasks and fragmenting them into their simplest and smallest components.

**Administrative Theory**

The primary focus of this theory was the types of specialisation and hierarchy which would minimise the efficiency of organisations.
Administrative management is built around four key pillars. They are :-

- The division of labour
- Scaler and functional process
- Organisational structure
- Span of control

Additional concepts are :

- Discipline, unity of command, unity of direction, remuneration, the sub-ordination of individual interest to common interest, centralisation and Espirit-de-Corps.

**Human Relations**

This idea arose from the American wish to humanize the society without interfering with free operations of market forces.

**The main proposition of Human Relations are :-**

(a) A focus on people rather than mechanics or economics.

(b) People exist in an organisational environment rather than an unorganised social context

(c) To motivate people.

(d) Motivation should be directed towards teamwork, which requires both co-ordination and co-operation of the individuals.

(e) Human relation seeks to fulfill both individual and organisational objectives simultaneously.

(f) Both individual and organisation seeks for efficiency i.e. minimum input and maximum output.

**Neo-Human Relations (1950)**
The basic idea was that, above all, the worker wanted the opportunity to grow and develop on the job. The writer visualised this idea to be the one which would bring an end to industrial conflict. This is when the workers are given responsibility and do meaningful work, their attitude towards Company would be entirely positive and would share goals of the management.

**Abraham Maslow (1943)**

*Need hierarchy of motivation theory:*

Maslow presented his theory of human motivation based on hierarchy of seven sets of needs. He addressed social issues in terms of the effect of social factors upon the mental health of individuals. His idea was in the realm of science or prescience rather than personal philosophy. His theories were never conceived with management or organisations in mind.

**Douglas McGregor (1960)**

*Theory X to theory Y:*

McGragor shares with Maslow the distinction of having an incorrect interpretation of his theory gain wider circulation than his original ideas. He presented a set of assumption about human motivations and behaviour which he said were implicit in management literature and practice. He named these Theory X. It said average human beings disliked work and would avoid it. That because of this people had to be coerced, controlled, directed and threatened in order to get them put their efforts to achieve organisational goals.

Finally, the individual wished to avoid responsibility, had little ambition, wanted security above else and preferred to be directed. These led the managers to rely on promises, rewards, incentives or threats and other coercive devices.

**Fredrick Herzberg (1959)**

*Motivation Hygiene theory:*


Said that two sets of variables (called hygiene factors and motivators) together influenced worker motivation. What he did not say was that hygiene factors were less important than motivators.

**Renesis Likert (1967)**

**System 4 theory:**

He said that democracy paid in Management. He advocated the integration of individuals into the organisation through groups, which in turn, were integrated into the organisation’s officials structure of decision making by being made to overlap by means of their continuing ‘linking-pin’ members who belonged to more than one group.

Likert sought to establish a single cause linking people’s attitude and performances. His theory emphasized connecting of work groups, their interactions and practical considerations of profit and loss. The measures he used for scoring the dimensions of human organisations were motivation, communication, interaction, decision making, goal setting, control and performance.

**Robert Blake and Jane Morton (1964)**

**Managerial Theory**

Grid theory owed a strong intellectual debt on studies of leadership which examined the dimensions of consideration and “initiating structures”. The Michigan researchers first conceptualised two leadership dimensions which were “employee orientation” and “production orientation”. These were independent and leader could be high or low or both.

**Chris Argyris (1964)**

**Goal congruence theory:**

The basic idea was the necessity for organisations to create circumstances in which adults could develop healthy personalities. This “self-actualisation” theme was the heart of neo-human relations movement.

**Paul Mersey and Kenneth Blanchand (1969)**
**Situational leadership theory:**

It is originally called the life cycle theory of leadership which used a contingency approach and stated that the effective leadership style was the one that fitted the particular situation.

**Guru theory**

A close observation to this theory gives credence to Heller’s (1990) suggestion that the central contention of this Management idea is that the only object of business is to compete with others for the favour of customer as kind. Since Guru idea relies for its authorisation upon the individual who developed and popularised it, the term of “Guru theory” is used to refer to these different contribution that have been influential for the past years. Among the best known academic management, Gurus of 1950s and 1960s, are one Michael Porter (competitive advantage), Kenneth Blanchand (one minute Manager), William Ouchi (Theory Z).

The second category of Gurus are consultants among those Australian born Peter Drucker is the best.

The third type of Gurus are hero-managers. They are successful Chief Executive Officers (CEO) who have committed their thoughts to print.

**The Profit and Productivity oriented ideas of Business**

Management practised in USA and other countries of West for the last few decades produced a number of “go-getter” Managers, whose only aim was to bring material success at any cost. Ethics was either ignored or given the second place. In 1985, Peter Drucker in his book “The Changing world of the Executive” wrote:

“.......... there is only one code of ethics, that of individual behaviours, for price and pamper for rich and poor for the mighty and the weak alike”.

Ethics in the Judio-Christian tradition is the affirmation that all men and workers are alike creatures.

In 1988, new thoughts emerged. Kenneth Blanchand and Vincent, Peals brought out a book - “The Power of Ethical Management”. It is
written on the cover of the book that - Integrity pays. You do not have to cheat to win.

By 1989, value free and profit oriented Management started cracking. American business began to go down.

By 1980s, Japanese had completely upset the US industries and Management. Japanese are highly patriotic and the common slogan is “Long Live Japan”. They accepted all work as meditation.

In the book “The Art of Japanese Management” by Richard Tanner Pascale and Anthony Gathos, spiritual values have been discussed.

Western concept of Management based on Western concept of man, where man is “born sinner”, the Greeks thought of a man as “political animal” etc.

The Indian ethos disrules this and its concept is man as “Amritasya Putra”, son of the heavenly father. According to Vivekananda, man was power of endless dynamism - “Arise, awake and stop not till the goal is achieved”.

Vivekananda brought a new idea of service as the means to both individual and collective perfection. He defined -

“The National ideals of India are Renunciation and service, a new ethos to work a new “Sadhana” for bringing prosperity in the national life”.

Unfortunately, nearly thousands years of foreign rule, the system of westernised educational and the ignorance and prejudice of modern intellectuals to anything of Indian heritage, led to situation where Indian heritage is not only neglected and conciously relegated as irrelevant. Vast treasures of thoughts and wisdom expanded in Upanishads, Brahmasutras, Bhagwat Gita, the two epics, eight Puranas and several teaching and commentaries by Buddha, Mahabir, Jesus, Nanak, Kabir, Chaitanya, Shankara have contributed to Indian heritage. Ancient thoughts expounded by Ramakrishna, Vivekananda, Auravinda, Raman are suited in modern times. Indian heritage has relevance to modern management science.

**Human Relations**
It has for a considerable time been accepted at all level in industry that the establishment of good human relation is a basic perquisite to success and it is fairly well recognised by now that the greater responsibility towards the achievement of this rests on Management. The mining industry employ a comparatively higher number of workers than most other industries and most of these workers, by the very nature of things have to work in less congenial conditions than workmen in other industries. This being so the Human Relation is bound to have a considerable impact on the results achieved by the mining industry.

Management has to recognise that each employee has his individual needs and aspirations at work. This should be taken into account in its day’s conduct of business. In particular, Management should recognise the employees real need to achieve a sense of satisfaction in his job and should provide for it, as far as possible.

Man has an inner desire and need for appreciation. He wants to receive affection, which makes him feel important and valuable. It makes him feel he has a place in the order of people. It is necessary to extend employees support, love, understanding and, in turn, they would give back best of their capacities.

All are craving for opportunities to express in various creative ways. None will be happy if one is not constructive at his work or leisure.

Majority of people are busy with some kind of jobs. Some keep on fitting, repairing, patching up what would break if unattended in time. This creative process involves a dignity and fill one with intellectual, moral and spiritual joy. This human urge has to be realised and continuous efforts has to be maintained, so that excellence through creativity is achieved.

In the same way, all feel a need for recognition. It is an established truth that just and sincere praise are essential to the progress, well being and efficiency of every man.

All expect credit for the good that is done and look for recognition of merits in time; one will feel rejected when they are denied.

“Be quick to praise, be slow to censure”.

Factors for dissatisfaction have been shown in the order:-
The following factors have been identified providing greatest satisfaction at work :-

(a) Achievement  
(b) Recognition  
(c) Work itself  
(d) Responsibility  
(e) Advancement  
(f) Growth

Grievance handling

It is necessary to enable the individual to air grievances. Endeavour is to be made to establish circumstances causing dissatisfaction. To attend the grievances, it would be necessary -

- To allow adequate time  
- To put employees at ease  
- To get feeling as well as facts  
- Not to evade the issue or belittle it  
- To investigate facts
To get employee to suggest solution
Not to commit too quickly and
To state proposed state of action-if known at that time.

Action can be decided after having facts and details. However, such decisions should not affect company policies.

**Persuasion**

The more Manager knows the other person, i.e. how he thinks, what he likes, what he dislikes, his ambition, how he sees himself, the more likely Manager will be able to persuade him.

Persuasion is a matter to be handled with patience and free mind.

To inform people is to try helping them to see things that either they had not noticed earlier or to make them see thing from a different standpoint in a different light. Therefore, it is very essential to prepare thoroughly.

One has to be sure before persuasion is set out that active and genuine desire for service to the other party remains.

It is necessary to eliminate emotions and proportions put forward is judged with facts only.

People always want what will enhance or benefit their ownself and images. They will change their ideas and attitude when they will believe that changes will satisfy needs.

To get others to accept your views without their feeling resentment towards either you or their own changed attitude, is the art of persuasion.

These factors have very little to do with money and status.

They have much to do with achievement and responsibility and are connected with the job content i.e., the things that people do at work.
People are not machine; the use and organisation of people in ways which do not recognise their abilities and wishes, will result in considerable low performance. It is well known that to get things done in industry is to win the freely given commitment, belief and acceptance of shared aim by the people who are involved. Beyond a certain level of dissatisfaction people will withdraw themselves from work, and involvement will be less.

With the daily routine, life passes very quickly, suddenly one realises that he does not count. Thus depression sets in and one feels that he is just a cog in the wheel. A feeling of nobody persists. This situation of helplessness and inferiority complex in the mind of people need to be handled carefully.

1. Allow a workman to start thinking and accepting himself as worthwhile.

2. Allow him to think a new physical attitude.

3. To allow him to develop a fresh outlook to his job as important.

4. Allow him to build a philosophy of his life that is greatest.

5. Not to follow same routine. To devise ways and means of doing things better and quicker.

6. A new look towards life—dignified and of tremendous important. (Such perspective will not allow any room for inferiority complex).

All employees have a right to seek redress of grievances relating to their employment. Each employee must be told how he can do so. In the colliery, Manager will have to see that arrangements are there under which individual employees can raise grievances and have them settled fairly and promptly. There should be a formal procedure.

Individual grievances and collective disputes are often dealt with through the same procedure.
**Individual Grievance Procedure**

The aim of grievance procedure should be to settle the grievance fairly and as early as possible nearer to the point of origin. The grievance should normally be discussed.

Managers have to apply particular attention to the kind of tasks that they expect employees to do, as job satisfaction comes from involvement in doing what is considered is worthwhile and challenging.

**Managers preparation**

- Presentation should be easy and clear in his language and in terms of his environment.
- Ask his opinions
- Open queries find out what is in his mind.
- To be realistic
- show interest in him
- Sell the benefit
- To consider in his position and judge his views.
- Design the approach to the needs of the other party
- to prepare others to accept the views.
- To be flexible and adjust your objective
- This will apply
- to make him a party to the idea
- sell the benefit positively
- you sincerely believe in it.
- once aim is achieved not to lose it by dragging discussion longer than necessary.
**Take prompt action on decisions**

An attempt may be made to follow the approach while persuading type of man of different attitude.

<table>
<thead>
<tr>
<th>Type of man to be persuaded</th>
<th>Traits</th>
<th>Approach to Positive(+)</th>
<th>Approach Negative(-)</th>
<th>Approach</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Able and Clever</td>
<td>Neutral</td>
<td>Dignified brief, sincere, firm, factual</td>
<td>Negative(-)</td>
<td>Neutral</td>
</tr>
<tr>
<td>2. Self important</td>
<td>Positive(+)</td>
<td>Eliminate yourself, plug facts, guide his conclusion</td>
<td>Negative(-)</td>
<td></td>
</tr>
<tr>
<td>3. Argumentative</td>
<td>Positive(+)</td>
<td>Not argumentative, calm, patient, guide his conclusion.</td>
<td>Negative(-)</td>
<td></td>
</tr>
<tr>
<td>4. Obstinate</td>
<td>Positive(+)</td>
<td>Limited objective, avoid dead lock, Switch attach, make another date</td>
<td>Negative(-)</td>
<td></td>
</tr>
<tr>
<td>5. Weak and unable</td>
<td>Negative(-)</td>
<td>In writing, question at every stage firm</td>
<td>Positive(+)</td>
<td></td>
</tr>
<tr>
<td>6. Silent</td>
<td>Negative(-)</td>
<td>Logical presentation, question at every stage, firm</td>
<td>Positive(+)</td>
<td></td>
</tr>
<tr>
<td>7. Not so bright</td>
<td>Negative(-)</td>
<td>Slowly, simplify use emotion</td>
<td>Positive(+)</td>
<td></td>
</tr>
</tbody>
</table>
Problem solving

Problem solving at the first instance may appear to be no more than a common sense even then the following stages of process may help in structuring problems and decision making.

- Problem analysis
- Direction and control of action
- Decision making

Once individual problems have been recognised, it is necessary to decide the priority by considering urgency, seriousness and trend.

A problem is a deviation between what should happen and what actually happens. The cause of the problem is always a change that has taken place.

After the causes are detected and problems are analysed, Manager has to be clear about action to be taken.

(a) Interim - to keep things going.
(b) Adaption - to break the link between cause and problem
(c) Corrective - to eliminate cause.

Decision making

Decisions may be taken on the following lines -

1. Managers may solve the problems or make decisions himself using the information available to him at the relevant time.

2. Managers may obtain any information necessary from his subordinate, then decide on solution to the problems himself. He may or may not tell subordinates the purpose of his queries or give information of his problems or decision he was working on.

3. Manager shares the problems with relevant subordinates individually getting their views and suggestions without bringing them together in a group and then he makes a decision.
4. The Manager shares the problems with his subordinates in a group meeting and obtain their ideas and suggestions. Then he makes decision which may or may not reflect his subordinates’ influence.

5. The Manager shares the problems with the subordinate as a group. He then generates and evaluates alternatives and attempt to reach agreement on a solution.

Hence, Manager plays the role of co-ordinator, keeping the focus of discussion on the problems making sure that critical aspects are discussed. The Manager will provide necessary information to the group as well as ideas but will not press to adopt his views. The Manager here will be ready to accept and implement the solution which has the support of the group.

A problem which should be studied by senior Management and those responsible for administration is the number of meeting a Colliery Manager has to cope with especially at the larger collieries. He is required to attend meeting with Production personnel, Trade Unions, Safety Committee, Planning meeting, Pit Meeting and of course, in addition to his meeting with various under officials. Part of the problem simply is that there are not enough days in week to fit these in.

Colliery Managers are faced to day with many problems which become more and more complicated as time goes in. They cannot hope to deal with all these themselves and they will have to make full use of Specialists and Service Departments, if they are to do their jobs effectively and efficiently.

**To handle stressful situations**

When situation creates stress and body and mind get into various types of physical and mental problems then,

(i) Use of knowledge; it is essential to know causes of the stresses and also ways to prevent or manage situation. We should get a total perspective and better understanding on the basis of facts and not just feelings.
(ii) By systematic analysis - by studying logically and systematically, we can arrive at realistic explanation and answer.

(iii) To adopt the right attitude and stay calm.

It is to cultivate that during trouble, one should be calm and grace. Under pressure, it is to practice that during difficult situation in the industry one is steady and stable. It is to control emotion during adverse situation, remaining silent and cool gives one opportunity to find out solution to overcome the odd.

When a mistake happens and deadline is missed, nothing can change that. On this issue losing temper only makes matter further worse and makes things complicated. Energy should be harnessed in finding solution rather than to letting off anger. Any crisis required discussion this one has to put in the right frame of mind to make the right decision.

- It is to think and not just to react
- To be ready mentally to resolve the task
- To turn the crisis into opportunity
- While recurring major crisis not desirable, occasional unavoidable crises are necessary for mental health.
- To review and analysis what went wrong and there by to help prevent future problems and crisis

**Communication**

In these modern days, complexity of organisation attach much importance on proper circumstances. Communication is the central and critical chord which can get the people working together in the pursuit of common and well accepted goals. In order to improve effective communication, it needs understanding of the environment, the organisation and the employees associated to the organisation.

Communication includes communication with (i) individual (ii) with small group and (iii) with total workforce.

Communication process becomes critical when behavioural angle is taken into account. This is applicable in both cases of vertical and
horizontal communication. Factors like physical and psychological distance in the hierarchy, status, mental makeup, background play vital part.

Communication is, however, the major instrument for achieving success with people and through people.

Sensitivity to communication problem gets intensified with social interaction and political circumstances.

Besides, behavioural aspects, four forms of internal communication are there: (i) Top down, (ii) Bottom up, (iii) Lateral communication and (iv) Diagonal communication.

**Communication from Management to employees**

*Top down* - Commands, communicating procedural practices and policies, instructions, advices, praise, discipline.

This will involve talking, informing

All human relations essentially depend on proper communications. Manager’s success as leader depend on how best they communicate. Poor communication may invite misunderstanding, strained relationship. Whenever effective and proper communication build the moral of people, develop trust and understanding.

(a) Oral communication, face to face method

Method: talk to everyone once a month going through section, department in rotation and explain organisation position, policy, performance or briefing in a session.

(b) Writing: Appreciation, a letter of congratulations to employees on achievement message of condolence, warning or praise.

*Upward communication*: Upward communication for employees to express their problems, suggestion, ideas.
Joint consultative committee is a forum for exchange of views and essential issues. Workers letter to Manager expressing their grievances.

Many people can talk but less number of people can carry out effective conversation.

**Meeting**

1. Colliery Managers will have to work through various teams of officers, group of employees during the course of running of mines. It is necessary to conduct various meetings with the groups.

2. Meeting is mode for communication and it is an essential part of effective administration. The objective of meeting is to secure co-operation and to save time and efforts. Meeting may be of various types;
   
   (a) Informative
   (b) Instructional
   (c) Motivational
   (d) Consultative
   (e) Decision making

3. To conduct meeting successfully, the following skills need to be acquired.

   (a) Expertise on the subject
   (b) Ability to talk effectively
   (c) Being prepared for the discussion by studying documents, information
   (d) Producing new ideas
(e) Being impartial
(f) Listening effectively
(g) Clarifying and developing others ideas and needs.

4. A Manager while functioning as Chairman, must have adequate preparation before the meeting.

As Chairman, he should gain sound knowledge of business to be discussed. He should also gain knowledge about the members who will participate in the meeting and this will help in holding the meeting smoothly.

The Chairman should know who needs to attend the meeting.

The meeting should start punctually and business like atmosphere should prevail.

5. The Chairman should :-

(a) keep the speakers to the point and check attempt to drag the discussion beyond the points.
(b) allow all members equal chance to speak
(c) allow all members to express their views
(d) be impartial and extend guidance where necessary

<table>
<thead>
<tr>
<th>The Right personal qualities</th>
<th>A knowledge of how to conduct the meeting and of the business to be discussed</th>
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Will make Chairman successful.

**Time Management**

Managers have to look after so many Areas of work and, therefore, it is necessary that unless they manage their time satisfactorily with better control over time, Managers cannot prove to be more productive and work more effectively.
Time is most valuable resource which cannot be allowed to waste, as it is irreversible, irreplaceable and finite. One can budget time but cannot borrow it. To waste time is to waste some part of life.

Effective Time Management is, therefore, a must. For this, it is necessary to

- Fix goals
- Set priorities

These can be set as long term (say for 2 years) “and” short term (for next 6 months).

Priorities set as ‘A’ , ‘B’, ‘C’ etc. where ‘A’s are items of high value, ‘B’medium and ‘C’ as low value. Once ‘A’s are decided, priorities to be set as A1, A2 aned A3 etc.

Over organisation, however, will lead to further waste of time.

Once the objectives are clear and goals set with priority, it would be required to prepare a daily ‘to do’ list.

To get the important job done first as per the priority list.

For decision making specific officers/employees to be contacted, relevant papers required to be seen, all have to be organised for quick decision making and disposing the “to do” list one by one.

Unless all the A jobs are complete, it is not necessary to do other A1 at own cost. Any interruption has to be faced. Normally no set speed and it may be practised to handle each paper only once. Collecting too much information makes delay.

In order to save time for thinking, it is necessary to make short replies with points and take assistance from colleagues and Secretaries in reducing paper work.

It is necessary to have a background file for all important information for going through it when time available.
It is important to foresee the deadline of disposing a paper/

Delay, keeping paper unattended causes unnecessary anguish, guilt and pressure, so to do it now is the right attitude.

Time is most valuable resource and hence it cannot be allowed to waste.

It is necessary therefore

- to set priority
- to make a daily ‘to do’ list
- to start with ‘A’ and not with ‘D’ priority
- to ask self “what is the best use of time now”
- to handle each paper once
- to be brief and to do it now

Even with all these steps followed, one is liable to encounter unexpected barriers to achievements. There cannot be a totally organised day. What can be done to minimise the extent of and effect of interruption.

Interruptions are to be accepted as a part of normal daily work. These interruptions are to be treated also as job and not to think that these are taking one away from job. It is to control the controllable.

It is to keep interruption short while it is necessary to stick to time limit, it is also necessary to be gracious with people.

It is not to leave the interrupted with a problem unresolved either to refer him to other officers or to inform him to look into the matter later.

It is also to see that self interruptions are avoided - with constant cups of tea and coffee, gossip, encouraging people to drop in to chat or to make regular calls to family or friends.
Not to commit taking over new task on the spur of moment. Many pass through the years without recognising the value of time. One has to take charge of his time. It is necessary to change the old habits that waste time.

Four things never comes back - the spoken words, the sped arrow, time past, and the neglected opportunity.

Good Time Management means doing the right thing faster and better working smarter and not harder.

**Take time to**

live - killing time is suicide
work - it is the price of success
think - it is the source of power

**To sum up**

• Time is precious
• Crisis and interruption do happen
• To have a better attitude for them
• To say “No” when people ask too much
• To control jobs not to allow job to control
• Being relaxed one can do job better

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17

ROLE OF PUBLIC SECTOR

OVER last 45 years or so, the public sectors in India has been subject of discussion amongst intellectuals, politicians and common people for various reasons. To some people, enlargement of public sector is a movement towards Welfare societies, other have found in the Public Sector wastage, inefficiency instead of extension of social benefits.

The public sector in India have mixed results of failure, wastage of resources as well as pioneering impressive achievement. India having been left much behind industrial revolution during British regime, the country had, therefore, to catch up very fast in developing resources and industries. Despite its several handicaps, the public sectors have made a place for itself in the National Economy. Over the past years, number of its industries have gone up, the investment have increased manifold, and turnover multiplied. In fact philosophy of Public Sector of our country may provide a model for the developing world. The country is yet to solve problems of removal of backwardness in some part of our country. The process of which has started for accelerating industrial progress, contribution to infrastructure development like Gas, Oil, Minerals and Coal.

The general feeling towards public sector undertaking is not very positive. The impression that come to mind immediately are inefficiency, bureaucracy, huge losses, strikes/corruption, etc. In short, people feel that many public sector undertakings are a deterrent to progress. There are, of course, some notable exception.

Public sector undertakings are seen as complacent monopolies that lack accountability. They seem more a convenient first, because corporations fail to define the purpose of their programme. Second, they don’t measure the results. The majority fly behind.

Main difference between private and public sector seems to relate to attitude. In private sector, employees know company is vulnerable to failure. So too its Managers. There is a great incentive to survive. In the public sector these motivations are severely diluted and the enterprise has less edge.
The feeling of invulnerability, sheer complacency about the present and future, and also conviction at some level that Government would see the company and protect whatever be the circumstances. It is, therefore, difficult to inculcate a sense of realism. But realism is necessary, if problems are to be solved. Need to change attitude seems a major challenge.

Vacillation will take its toll and Managers will have little credibility in the eyes of shop floor. So it is not only a question of educating mass of employees but of changing the attitude of Managers who have grown up in an atmosphere of compromise and conciliation.

It is worthwhile at this stage to peep into the causes of the public sector inefficiencies and the main factors that emerge are: political interference in the public sectors' day to day functioning, an overcaution, bureaucratic management style unsuited to commercial undertakings, muddling of business and social priorities, overstaffing and labour indiscipline, below cost pricing of public sector output, and the 10% preferential consideration public sector firms extend to one another on tenders.

An important aspect of higher accountability is the high level of business ethics, morality and social responsibility expected of the public enterprises.

**Objective of Public Sector**

Public sector has been a part of the philosophy of socio-economic development in India. Public Sector has:

(i) To give an adequate return on investment to the Nation.

(ii) To generate surpluses to help in the socio-economic transformation.

(iii) To generate additional employment.

(iv) To promote balanced regional growth.

(v) To help develop ancilliary industries.
Micro-socio-economically, these objectives are stated to be to accelerate the process of economic development both, in industrial and agricultural areas and to give the country a self-reliant economy, to bring about better distribution and reduction in inequalities in incomes and the removal of poverty.

We advocate a public sector for the three reasons:-

“To gain control of the commanding heights of economy,
To promote critical development in terms of social gain or strategic value rather than primarily on consideration of profit;

and to provide commercial surplus with which to finance further economic development”.

- Mrs. Indira Gandhi

**Management Strategies**

It is an established truth that whenever for any reason, equilibrium gets upset, malfunctioning starts reversing the normal activities. It is applicable for nature, health, as well for the industry. Imbalance in any field causes various disorder. Whenever such imbalance emerges in the industry or equilibrium gets upset for any reason, malfunctioning starts. Main reason, however, is problem of management.

The problems may arise out of :-

(a) Management’s inefficiency.
(b) Weak Management.
(c) No Management’s Team.
(d) Management without objective.
(e) Unsettled Management.
(f) Huge organisation.
(g) Management with no experience.
(h) Management unaware of its functions and role.
(i) Management by mistake.
Whatever may be the causes for imbalance in the Management’s system and procedure, the net result is that the industry loses. If it is a public sector, then the public, the future generations, lose opportunity. They lose heavily due to price increase, inflation. There is no right of the people who are associated with such organisation, to allow the industry to drift at the cost of nation. The major responsibility, however, lies on the top executive and Managerial group with management theory, and planning clearly understood.

Since the 1950s, management theory received a great deal of attention. Again the post 60s, there has been shift from a production orientation to a marketing orientation; the discipline of marketing is now being accepted by many public sector companies too. Secondly, organisation and method was recognised as a management theory that had real applications in corporations. With the development of computer technology, operations research gained importance and was increasingly implemented within corporations. From the sterile area of computers, no surprisingly moved to behavioural theories. Many different behavioural theories of management, from Theory X and Theory Y talking about the positive and negative behavioural aspects of people in organisations to theories on managerial grids.

In the seventies, structural theories gained increasing recognition. Should companies be centralised or decentralised? This led to the birth of strategic theories of management. Strategic management continues today as the dominant focus for both theoreticians and practical manager in corporations. Strategic management has evolved over the years and indeed, one School of thought suggests an evolution of strategic management.

“There is no strategy here”. This is basic management. Here one runs a company by having annual budgets and take a very functional focus on his activities: production, marketing and personnel. 2. It is a little more advanced. Here one starts taking cognizance of his future, budgeting for the current year and forecasting for one, two or three years into the future, and he is still allocating resources on a relatively static basis.

Step 3 the externally based management, says “Understand the fundamentals of your business and act dynamically”. Step 4 says, “Think. Think and behave strategically and build coherence”. Essentially,
it means: Educate, inform and advise. Step 4 says “shared goals, resulting in shared rewards.”

The Managers basically deals with the elementary ideas, things(Administrative) and people. These elements are reflected in the task of conceptual thinking, where one formulates new business ideas and opportunities, administration, where the details of the management process are handled and the leadership, where people are motivated to accomplish business objective.

**Organisation**

Today, we are living in an era of the most rapid technological change the industrial world has ever known. The key elements for any organisation are people, structure, technology and the environment in which the organisation operates. When people join together in an organisation to accomplish an objective, some kind of structure is required. People also use technology to help get the job done, so there is an interaction of people structure and technology as shown :-

![Organisation Diagram](image)

The objective of the organisation is to achieve a triple reward system in which human, organisational and social objectives are met. People find more satisfaction in work when there is co-operation and team work. They are learning, growing and contributing. The organisation is also more successful, because it operates more effectively. Quality is better and costs are less. Perhaps the greatest beneficiary of the triple reward system is society itself, because it has better products and services, better citizens, and a climate of co-operation and progress. For the effective functioning of all role players, people, structure and technology, it is essential that the objectives of each are clearly
understood in relation to the external stimuli. For this to be maintained in the desired manner.

Objectives must be set up
The objectives are :-

(a) To make the country self-sufficient in modern technologies.

(b) To help in breaking down the concentration of economic power in fewer hands.

(c) To raise the cadres of professional men in managerial and technological field.

(d) To reduce eventually dependence on foreign aid.

(e) High growth in assets, turnover and profit.

(f) A consistent reputation, within the industrial sector as leader. Others imitate and try to get their talents.

(g) A solid public reputation, where people generally feel good about the company and their operation.

To achieve the objectives organisation will need

- Right man in the right post

- Management culture

- Management skill

- Management standard

A group of executives of various level form the Management Team.

A strong management having leadership and quality to guide and advice, and to take decision in time is a must.
What trait we look for such Management team:-

(a) Physical make up : appearance, smart, vigorous, speech.
(b) Attainment: education, training and experience.
(c) General intelligence:
   (i) Fundamental
   (ii) General intellectual capacity
   (iii) Maturity of judgement
   (iv) Realism
   (v) Ability to pick up main issue
   (vi) How he reacts and confront with problems.

**Special Aptitudes**

Supplementary to general intelligence.

**Interest**

Preferred activities.

**Disposition**

- How acceptable does he make himself to other people.
- Does he influence others?
- Is he steady and dependable?
- Is he self-reliant?
- How does he fit in - how do other people take to him -Does he make a good member of group?
- Do others take notice of what he says - his opinions carry weight? - good at getting people to do what he wants them to do.
- Is his behaviour fairly predictable or not?
- Can he stand on his own feet, work things out for himself or need constant supervision.
EIGHT POINT PLAN

Characteristics

- Leadership
- Autonomy
- Control
- Involvement
- Communication
- Market Orientation
- Innovation
- Integrity

1. Leadership

- Demonstrated in varieties of ways, but particularly through visible top management.

- Top management believe that they have to be seen to be believed.

- Touring around the units, discussing where and how the business is going, is an integral part of every senior Manager’s routine.

- Leaders provide a clear vision which they believe in passionately themselves and incite others to subscribe to.

- Leadership thrives where people have clear objectives.

- Leadership involves being allowed to make mistakes, i.e. results in positive attitude towards problems, solving by making people accountable for solutions rather than just for the problem.

These help the company to extract extra-ordinary performance from very ordinary people.

Whoever makes a show of himself cannot shine.
Whoever is self-righteous cannot earn respect of people.
Whoever is self centred cannot be loved by other.
Whoever seeks glory cannot become a true leader.
2. **Autonomy**

- “I did not mind what they do as long as it turns out alright”
  - Lord Wienstock of GEC.
- Successful companies have small bureaucrats, informal system to keep units working together rather than against each other.
- Action oriented, informal teams.
- A positive attitude to risk taking.

3. **Control**

- Manager have the freedom to manage in their own way within a clear framework of necessary restrictions.
- Delegation down the line.
- Tight control over areas that matter, a balance between strict controls and the flexibility needed to reach quickly.
- Tight control on capital but freedom within budgets.
- Close attention to planning.
- A close understanding of where the company is continually pushed down the Management hierarchy.
- They have the right way of doing things rather than hefty rule books.
- Constant feedback on results.
- Creating the right framework of control and independence is one of the ingredients.
4. **Involvement**
- People here are committed because they are proud of what they are doing.
- Pride in ownership, its not only a job it is a hobby.
- Stress on training. Every Manager is a Teacher.

5. **Communication**
- To communicate is to commit and to commit is to assume responsibilities.
- Genuine respect for the individual.
- There is no bigger respect you can pay a subordinate than to hear his point of view.
- To create a company culture and that the workforce can identify.

6. **Marketing**
- They have a deep understanding about the market.
- Huge emphasis on quality control.
- Swift attention to complaints by top Manager.
- Research and Development wholly market oriented.

7. **Innovation**
- New ideas and uncommon thinking for betterment of the industry.

8. **Integrity**
- More importance to integrity than ability. Employees know where they stand and they are dealt with firmly.
Tasks of Managers

The Public Sector of Coal Industry has major role to play for development and promoting growth for the country. A unique feature of this industry is inheritance of mines with large working force having different work culture. This formed heterogeneous group after emerging as Public Sector Company, where large number of people are associated and human factors play the major role and managerial group of Coal Sector will have to steer the Industries towards success giving due regards to commitment with national feelings. Success of the industry will mean -

(i) High growth in assets turn over. generating surplus
(ii) Consistent reputation within the industrial Sector and solid public reputation of the Industry.

To achieve such success in the Coal Industry, the Managers will have to concentrate on -

(i) Control
(ii) Involvement
(iii) Communication
(iv) Integrity & Leadership

Managerial Preparedness

Let us imagine colliery Managers’ position, some 30 to 40 years ago. The Mine Managers used to be the sole authority particularly for such collieries which used to earn profit. In general, collieries were not running in losses; as private owners would not allow their investment to go waste. Collieries normally were situated in remote areas and far from the town. The Managers used to enjoy better accommodation, car and other facilities. In turn, the Managers used to remain watchful about the activities of mines round the clock. Meeting with DGMS, Mine Planning, Production, Despatch realisation, etc., would all come under Manager’s purview. Though every evening owners would take the account of daily production and despatch report. The Managers were quite notable person in the industry for their responsibilities, prestige and perquisite. The general scenario of a mine was minimum number of workers on roll, and it was controllable. Generally emergency work used to be carried out by Contractors’ workers. System of seasonal and Badli workers were in vogue.
Hardly a union in a colliery used to operate and workers generally had to obey instructions of the Managers. Reward and punishment was not at all difficult. Less number of company’s quarters were available. Welfare facilities were not available in small or medium sized mines.

Managers had a team of Asst. Manager. In large mine there used to be one Labour Officer, a few PGPTs, highly skilled supervisors, Head Clerk, Store Clerk, besides other general Clerks, and a Medical Officer. In general, colliery used to maintain less number of time rated workers and surface workers. Mostly piece rated workers were there for underground coal loading as well as on surface for loading coal in the trucks and wagons.

Managers of a large mine used to be a very senior person. Other advantages in the earlier days were -

- There was no top heavy management.
- Decision was taken at the mine level.
- No major IR problem.
- Delegation of authority upto Mining Sirdar level.
- Regular discussion with Asst. Managers, Surveyor, Overman, by Manager regarding day to day performance, production, despatches, profit and loss.

There was wide gap in the pay packet of Managers and other officers, as a result successful Managers were regarded as superior most person and defacto owner of the mine.

If all the above were taken to be of advantage, there were many disadvantages; like obeying the owners and to safeguard owner’s interest. During those days barring a few successful companies, there was no promotional avenue. Managers used to remain as Managers for years. In larger mines under enlightened owners, Managers could aspire to become agent or Dy.CME.

Now a days, Manager is having a large number of superior officials above him like Agent, Area officials and General Manager and in the corporate office, Directors, etc.
These days, however, there has been avenues for promotion and scope to earn experience in various types of underground mines, inclines, opencast including having opportunity to work in mechanised systems, powered support Longwall Face. There are also scope for development in Planning and Design discipline and horizontal movement to other disciplines. Earlier days, a Manager used to retire as Manager which however has changed now and there is a scope for promotional growth.

A Manager wants to see him in some position as he is in a huge industry, where people in his grade are hundreds in number. He loses his identity in the company. He is sure that many senior officers in the corporate level do not know him even. Managers with such position without any identity, before the higher management, considers his position insignificant when he tries to assess himself in the holding company in totality. Therefore, first thing he tries not to identify himself as an officer of the total coal industry rather he makes himself identified within the local Area.

When this is the mental make up, he comes and joins a mine having 2/3 units at a radius of 1-2-3 Kms. He finds himself on assuming charges as the only new person in the colliery, who might have come to bring change.

The Head Clerk, Store Keeper, Lamp Cabin Staff, Surveyor, Loading Clerk, Mining Staff and all union men know the mine from inception possibly have been in the mine for a long long period.

At the same time, he has officer’s team - with a number of Under Managers, PGPTs, Engineers, Asst. Engineer, a dozen of supervisors in Engineering, Mining discipline and Office Superintendents and number of workers in various odd categories who, due to age, cannot be retrained. A group of youngsters are available, who did not come through selection but have entered the mine through some provisions of wage agreement in place of their parents who happened to be the employees of the collieries. Inspite of such situations, challenges need to be taken by the managers. There cannot be any readymade solution to achieve success but systematic planning, sincerity to the purpose, devotion to works and honest approach will make a Manager’s position strong.
The Tasks of the Managers

To transform the inputs through Managerial activities grouped into the functions of -

Planning
Organising
Re-energizing the system
Staffing
Facilitated by Communication that also links the organisation with the external environment
Leading
Controlling
To produce outputs
External Environment

Planning

Planning is essential for any human activity either at individual, family, society, organisational or at a national level. The very essence of planning is the phenomenon of time as defined subjectively by the occurrence of events. The future exists only as a projection of the present. The purpose of planning is to anticipate the future and in some sense, to fashion it according to the requirements for organisational survival and growth.

Corporate planning is process of setting objectives and then formulating strategies and action plans to achieve these objectives bearing in mind changes in the environment. The uniqueness of a corporate plan that distinguishes it from any other type of plan such as production plan, financial plan, project plan, etc., is its capability to integrate all these plans towards a common corporate objective. All these plans put together in no case mean that a corporate plan is ready but all these plans should be off shoots of corporate plan of a company.

Long range planning does not deal with future decisions. It deals with the futurity of present decisions. This decision making is under
ambiguous circumstances. This means that the planning takes place in an environment in which the goals, the constraints and the consequences of possible actions are not known precisely, i.e. the transition from membership in one set to another is gradual rather than abrupt.

**Organisation**

Mining management today has an obligation and challenge which never presented itself to its predecessors. In the early days of Nationalisation, a drive for coal at any price resulted in a certain complacency regarding financial results. At the same time, the much needed overhaul of the industry demanded the capital investment which has now become an embarrassment; nevertheless, the industry could not have continued to meet its commitments without such reconstruction. Early move towards increasing productivity were set back with the over-production of coal and resultant stocking, causing a change of policy and a reversion to more conventional form of coal cutting. Accepting all these points, it is now to realise that the wheel has turned full cycle and we are at the point in time when finance in the industry are predominant. Accepting the position as it stands, we have to get the very best from existing workings with existing plans. To overcome such a situation, solution must have to be obtained. We must accept that to survive, the industry has to show results in productivity considerably higher than anything achieved upto the present. Reconstruction and modern technology have already begun to pay off. The key person in this is the Man in closest touch with the situation, namely the Manager, at the pit. Direction and assistance can come from higher level but plan must be successful or failure in the majority of the cases as a result of organisation and implementation at pit level. For this purpose, Managers have to be given a team for his support.

**Staffing**

Considering the line management from Manager to Under Manager, Overman, Mining Sirdar, there is nothing basically wrong having four levels of line management at a pit; what is wrong is failure to appreciate that the number at each level must vary according to the extant of their responsibilities and to the number of subordinate that they can effectively control.

Considering the high concentration of machines and production, appointment for one under Manager for each face and one Overman for
each shift on that face is to be considered. This would elevate the Under Manager from the Overman, into which he too often degenerates to a man with time to think and to exercise his proper Managerial function. Mining Sirdar would be able to assist the Overman as required, but primarily, they would be freed to which tend to be aggravated by rapid advance. So far as functional staff is concerned, it is necessary to have adequate staff to provide detailed information to colliery manager regarding cost, store items, production, despatch, etc. In fact, the Manager of today now needs a Personnel Administration Department with officer and Staff of real calibre, if the work of the various functional staff under him is to be properly co-ordinated.

A Mining Engineer should be there in each pit as a kind of technical Assistant of the Manager with a variety of persons in method study, mechanisation and other specialist branches of information available to him so that Management are kept abreast of modern scientific development and knowhow. These developments to have effectiveness, Mine Managers should be posted with up-todate information by Area. This is a kind of technical intelligence service. In Military, it is called “Intelligence process” and breaks down into three heading: “Collection”, “Synthesis” and “Dissemination”.

In coal mines, information is collected in colliery but is collated at Area and in Corporate level it is synthesized. But what happens to disseminate possibly, it takes place rarely. With the changes in system of work, there is an increasing need for dissemination.

Manager of a Pit has neither the time to abstract relevant information nor to conduct own research of data available. Manager’s Clerk should do all this and may be attached to technical service section. He should prepare statement of production, despatch, break-downs, wagons supplied, etc. and all other statement of importance.

A further point which will require consideration is the need for increased supervision by technical and qualified staff.

To have cohesive teams of dynamism, good gesture and attitude, various groups are to be developed. Groups are to be allowed to go through natural stages so that ultimately they form into effective teams.

When a few members are called and asked to act in a group, the members pass through the phase of
i) Forming
   (i) They want to know purpose and goal of meeting. They may want specific points of objectives - clarification

ii) Storming
    (ii) Group members selling their ideas and try to consider other members to follow their proposed action.

iii) Norming
     (iii) Group form into team and active listening start, team spirit is generated. Members being to be participants in a ‘good’ team, “constructive questionering”.

iv) Performing
    (iv) Polite phase - people get to know each others mind - hear their points - conflict is avoided.

Spirit estimate - The Team shows high morale and intense loyalty. At this stage no new members should be included.

Controlling

While on the other side of managing task, things are not always straight, simple. Ideal conditions do not exist in course of Administration. Condition has to be, however, created and then according to analysis and careful study, action and steps need to be taken. Bigger the task slower the speed, when majority Assistants are allegiance then bigger discussion can be sorted out quickly and with less effort.

Condition 1

- When alone to try and establish a good image
- Low profile
to watch and start action

Condition 2

• when covered 10% assistants and earned their loyalty and could create an image.
• identify the problem
• to start persuasion jointly
• to have individual interview
• to appreciate Assistant who have clear image and reputation
• to identify constraints, negative attitude of Assistants and to have frequent group meetings.
  priority be fixed for task and to start work

Condition 3

• when above 50% Assistants respect is earned to identify the Assistants not in line
• to have open door policy

Need to Change Attitude is Major Challenge.

Colliery Managers often give lack of discipline as the reason for the low standard of workmanship prevailing at their colliery. This is probably true, but it is also probable that present day, Colliery Managers have not the weapons at their disposal to enforce discipline as had the colliery Manager in the past. It is certain that they have no wish to adopt the methods of days gone by but even at present day condition, discipline can be improved and maintained and so bring about greater safety and a high standard of efficiency.

How it is to be done? It is suggested that the colliery Manager should first discipline themselves.

• They should set themselves a high standard the manner in which they carry out their own duties and do their utmost to achieve this.

• They should control themselves in a proper manner when dealing with junior officials or workmen. Junior officials should also be taught how to discipline themselves.
The Manager should instruct them in the proper method of carrying out their duties and they should also be advised how to behave towards employees. When this has been achieved, the Management will be in a position to ask even insist that workmen behave in the same manner and carry out their work properly.

Colliery Managers will of course, need to take all steps possible to see that workmen understand what is required of them and why it is required. They should strive to improve communication between the Management and the men and between the men and the Management.

Though this is clearly the duties of Management, even colliery Managers should never hesitate to seek the help and advice of the appropriate trade union officials in improving and maintaining results and discipline at their colliery.

There can be little doubt that most workmen at any colliery are anxious to do their jobs in a workman like manner and like to see other workmen do their jobs in the same way. Employees like to see that where they work have

a. A consistent reputation.

b. High growth in assets, turn over and profit.

They also like to see good results being achieved at their colliery. In short, these men want to be proud of their pit and to be in a position to boast about the results being obtained there. Colliery Manager would be well to seek the help of these men in their efforts to improve discipline and to uplift the standard of work and efficiency.

To organise all these, a more scientific approach to Management is necessary. It lies, in fact, in the training of Managers and other executive personnel the art of Management. Management has been defined as “the art of creating Industrial Relations in order to secure co-operation”. The Managers own initiative in putting into practice modern ideas on Management and in endeavouring to allay mistrust and antagonism and hence in securing true co-operation, is undoubtedly one of the main factors contributing to improvement in Industrial life.
The factors that play a vital part in good management is Leadership. One can define the function of Leadership as

a. effective representation
b. initiative and initiation
c. sound administration
d. just interpretation

Leadership thrives where people have clear objective. Leadership involves being allowed to make mistakes; it results in positive attitude towards problem solving by making people accountable for solutions rather than just for the problem.

Leadership thrives where people have clear objective. Leadership involves being allowed to make mistakes; it results in positive attitude towards problem solving by making people accountable for solutions rather than just for the problem.

Leadership provide a clear Mission which they believe impassionately themselves and incite others to subscribe to -

Managers chose a Leadership style. For a Leader:-

• Less direct control the Manager has over specific courses of action.
• The greater the time available for considering major questions.
• Less time is required for routine issues.
• Greater is the freedom of the group to influence decisions.
• Greater the opportunity for subordinate development.
• Greater is the group acceptance of responsibility for its action.

There are atleast three aspects of the relationship between the leaders and his followers or subordinates which effect the likelihood of their voluntarily accepting his decisions. They can be thought of as basis of power from which a Leader can operate and which can enable him to be more autocratic in his decision making. They are -

1. **Legitimate Power** - Do subordinates think that the Leaders should make the decision, i.e.that it is his legitimate right to do so.
2. **Expert Power** - Do subordinates think that the Leader is the expert on the matter of questions.

3. **Attractive Power** - Do the subordinates greatly admire the Leader, value his approval and wish to model their behaviour after the Leader.

Leader, who in the eyes of subordinates, possesses any one of these basis of power are more likely to get the decision accepted than those who lack them.

It must be emphasised that - Leadership is not domination. The following are the comparison between the Leaders and a Boss as per F.A. Ryan.

<table>
<thead>
<tr>
<th>Leader</th>
<th>Boss</th>
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<tbody>
<tr>
<td>Develops his men</td>
<td>Drives his men</td>
</tr>
<tr>
<td>Depends and commands</td>
<td>Depends on authority</td>
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<tr>
<td>goodwill</td>
<td></td>
</tr>
<tr>
<td>Inspires initiative and</td>
<td>Evokes fear</td>
</tr>
<tr>
<td>enthusiasm</td>
<td></td>
</tr>
<tr>
<td>Says 'We'</td>
<td>Says 'I'</td>
</tr>
<tr>
<td>Says how it is done</td>
<td>Knows how it is done</td>
</tr>
<tr>
<td>Shows how to do</td>
<td>Knows how it is done</td>
</tr>
<tr>
<td>Makes it a challenge</td>
<td>Makes it a drudgery</td>
</tr>
<tr>
<td>Shows what is wrong</td>
<td>Shows who is wrong</td>
</tr>
<tr>
<td>Uses them</td>
<td>Abuses men</td>
</tr>
<tr>
<td>Commands respect</td>
<td>Demands respect</td>
</tr>
</tbody>
</table>
The skills required for quality leadership are -

- Professional technical academic knowledge, extensive, thorough and up-to-date.
- Considerable relevant experience.
- Quick to grasp the point.
- Expresses himself clearly and effectively.
- Good reasoning power and balanced judgement.
- Pleasant personality and acceptable.
- Shows persistence, energy, drive, ensure a job through.

Optimism is one of the most essential quality for being successful. This winning quality is essential for a leader. Every optimist may not be successful but every successful man is an optimistic.

An optimistic looks brighter side of every situation. It develops thoughts of hope and courage and also instills cheerfulness.

It is, however, necessary to think ahead and to assess the adverse consequences of decision.

**Problems of a Manager**

- Working environment - Underground work, Location of working place (remote)
- Family problems - Schooling of children
- Stress/strain - Large industry
- Psychological - Approach of Boss and Understaff, attitude of people towards work, competition and growth.
With all these, a Manager faces:

(a) Industrial
(b) Social and
(c) Psychological problems

To negotiate this, a group of young executives need to be given a strength, a power to fight and overcome problems.

There cannot be any “Ten Commandments” or tips for management in tackling human problems arising out of work. But definitely preparation can be made to face such aspects and with normal and spontaneous flow, things can be sorted out. However, the approach needs to be sincere, honest, straightforward. The preparations are actually to acquire and add such qualities within oneself and to have character, which will help to secure leadership and respect from others.

It is of paramount importance to management science. It teaches to develop the good virtues within the self. It preaches to manage yourself before you manage others.

If one can articulate the approach, the behaviour, management of work and person attached to work become simple. This is true for all the situations and all the periods to come.

Thousands of our youths joined the hard and continuous struggle movement for India’s political freedom and social upliftment of the downtrodden masses under the leadership of Gandhiji. Many suffered and were jailed and many lives were lost during freedom movement, ultimately the Nation achieved independence.

After the independence the free India saw number of unfree men. Most of our educated people now remain busy with their own affairs and material gain. They remain content at the low level of seeing “nothing beyond their little horizon of a few yards - the routine work, eating, drinking, earning and begetting, following each other in mathematical precision” - Vivekananda. When thousands and thousands of people of the country remain illiterate, underfed and are at sub human level, the so called educated of the society remain self centred and are busy for their pay, prospect and promotion, or running after wealth and more wealth for their families. Do all such people try sincerely to bring out poor people from poverty, they have hardly any time to think for the welfare of common people.
When persons associated to organisation and infused with awareness of their responsibility and function as enlightened citizen to public work, the entire society gains and common people get benefit. Progress and development can be achieved only through combined efforts and co-operation of all Industry is a part of society through which society achieves growth. In industry also the orientation and change in outlook makes management and administration dynamic. The philosophy of management is, therefore, the guiding force.

The basic objective, belief and values of any industry requires to be so understood that management’s philosophy is clear to all.

“Many of our people have no knowledge of their philosophy of life and work and we have been imitating our neighbours, or western methods. It makes us empty, hollow, vacant without any philosophy. It makes one indisciplined. A nation cannot become great without self-discipline: and self discipline is the mark of freeman as indiscipline is the mark of a slave. We are still indisciplined, people riddled with petty jealousies. We use our intelligence only to advance our own cause in total neglect of the nation. We forget that such life is empty inspite of high or low levels of money or power, such people are “dead than alive”.

- Vivekananda.

Most of our upper class people have been missing the opportunity to educate and raise the level of our common people and build up a great nation. Many of them, have built their career at the cost of common people.

This is a country backed with culture and heritage of ancient days. The spiritual base is rather unique to India and its ethos cover a wide range of thoughts - characters, moral, ideals, Indian environment provides opportunity for the Managers to equip themselves with virtues and activities backed by intellectual belief with disciplined way of developing oneself. Our heritage and culture has taught the following ways to prepare oneself.
• Set goals with high ideals.
• Work with a sense of altruism.
• To have faith in human endeavour.
• To develop wisdom.
• To be gentle to others.
• To overcome laziness.
• To develop character.
• To follow the path of righteousness
• To have good thoughts, deeds and words.
• To be balanced, and sensitive to the problems of others.
• To be free from envy
• Better cope with failure
• Be delight with vision
• Be tolerant
• To uphold morality
• Avoid waste
• Be concerned about improvement of human life
• Be fair in all dealings

CHARACTER

As per Peter Drucker

Importance of character in regard to Productivity -
“No matter how knowledgeable, how brilliant, how successful a man is, if he lacks in character and integrity, he will destroy. He destroys his people, the most valuable resource of the enterprise. He destroys spirit and he destroys performance”.

Lord Budha valued people attitude and their mental progress very high. Some verses from “Dharmapada” -

Better to live in virtue and wisdom for one day than to live a hundred years with an evil and indisciplined mind.

Better to live in goodness and wisdom for one day than live an ignorant and indisciplined life for a hundred years.
• Now is the time to wake up when you are young and strong. Those who wake and waver with a weak will and divided mind will never find the way to pure wisdom.

• Be vigilant, guard your mind against negative thoughts. Pull yourself out of bad ways as an elephant raises himself out of the mud.

• Guard your thoughts, words and deeds. These three disciplines will speed you along the path to pure wisdom.

They live for themselves and have forgotten others. Selfishness and the evils flowing from self-centredness, have brought no positive result to our country. The educated mass has to, therefore, work hard to reverse this downward trend by participating in nation building process.

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WAY TO SUCCESS

The success depends on

- A master mind determination
- Definite aim
- Self confidence
- Initiative and leadership
- Imagination
- Enthusiasm
- Concentration, Co-operation and tolerance
- Self control

Every one can, of course, talk but a few can make conversation which needs real skill and practice.

All that is required for effective conversation is simple, even day remark with smile that indirectly projects one’s desire to be friendly. This encourages other to be at ease and speak.

One who will make conversation has to be a good listener. It is no use of monopolising the conversation on one’s own: Others must be given chance to respond and express views.

- To develop self control skill
- To refuse to take insults personally
- To create a win-win position
- To compose thoughts whenever conflict arises and to act purposefully (Presence of mind, coolness and sense of proportion are necessary during sudden and unexpected situation)
• To control temper
• To recognise other person’s points
• To limit time with each associated

To fill mind consciously and deliberately with bright and cheerful thoughts.
• To face a day with confidence and courage
• To view the difficulties and problems as challenge
• If you want to keep-Keep your promise
• If you want to cultivate-Cultivate good manner
• If you want to read-Read good books
• If you want to dress-Dress wounds of others
• If you want to kill-Kill your pride

The single characteristic quality for success is positive mental attitude. There are many ingredients for winning attitude but the most important is self-honesty.

In order to cultivate self-honesty
• To assume responsibility of action
• To follow own goal
• Not to escape

To think positively about every thing.
• To build good habits. Good habits will help to achieve goal
• To be enthusiastic, enthusiasm attract other people,
enthusiastic persons radiate joy and make other to share.

- To be empathetic. Empathy is the capacity to share others' feeling. By being empathetic one can bring other round to accept his point of view.

- To think creatively, there are two types of people in the industry. One is work processor and other is thinker - a creative thinker.

- To be a good decision maker for a true achiever. It is to find out better answers to any problem.

Applying judgement and fairness one can make appropriate decision. No decision or “playing safe” is a bad approach. It creates problem and complication as solution get delayed. For a good decision, one must have a good grasp of the subject.

To delegate by design is essential. It is to be delegated to someone else who can perform well or even better.

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CONCLUSION

The Indian economy was highly protected from stiff competition of the global market forces till the mid-eighties. Though a strong foundation of the economy was laid by the Public Sector Undertakings, many of the PSUs failed miserably in achieving commercial success and became inefficient units.

Till recently, the Indian market was having limited opportunities because of too many government controls and restrictions. The government introduced a series of reforms in its economic policies from July, 1991.

With rising import cost, inflation and reduced purchasing capacity, many industries are facing recession. To stop excess money supply, government had to cut its expenditure in many areas and this resulted in spiralling recession as government is still the major buyer. Increasing competition from within and abroad has led many companies to reformulate strategies to survive and succeed.

Coal Industry has been passing through a critical phase. Production of required grade of coal and its regular distribution has become the major task before the coal Companies. Of late, the coal market has been fluctuating, which has led to financial set back in many coal Companies.

With the shrinkage and less paying capacity of coal consuming industries, a void has been created resulting sudden financial crunch in some of the coal companies. This situation has created a vicious circle.

(a) Less movement of coal so raised, will lead to accumulation of coal stock.

(b) Forced reduction in coal production.

(c) Production rate diminishes.

(d) Development of mine-project gets upset.

(e) The Industry’s paying capacity gets restricted.
To break the vicious circle, marketing department needs to be geared up to meet the present situations.

Industry aims for its position in the market through proper marketing of its products. Produced items can only command for its position through assured quality and quantity agreed in the supply contract. The consumer expects value for the investment and hence quality management assumes greater importance in the present day.

Quality management is based on the feedback from the customers about the product and service. The focus on quality through continuous improvement is the key concept to perceive the production process as an integrated system that originates with the customer and ends with the customer.

This industry of such huge magnitude with varieties of problems needs to have clear plan and specific mission which will spell out status of the industry, the structure of organisation and the standard of managerial teams for the next five years. The coal industry has to be ready to meet the challenges of future changes. Every individual, organisation, government face a single choice, that is to think - re-think the future or be compelled to think future. Those who choose the first option have fair chance to prosper. Those who choose second will be overtaken by changes.

The traditional coal industry which has faced ups and downs in the past 200 years has to occupy the position of an institution like visionary Company. The industry has to prosper over a long period of time and to establish to last being dependent with distinct values and ethics. These values are Respect, Excellence, Innovation and Ownership.

The industry will grow with real leaders, having ability to motivate others to the highest level of achievement. The industry will be successful if the employees are motivated by an ideology. With the empowerment employees may become responsible for success of the organisation. It is the Managerial group backed by motivated employees who has to steer the industry to tide over the present critical situation. This may necessitate coming together, keeping together and working together - as “coming together is beginning, keeping together is progress and working together is success”.

- Henry Ford.
With action oriented, informal team, it will be possible to keep units working together. A positive attitude to risk taking, freedom to manage with clear framework of necessary restriction and tight control over the areas that matter, will definitely lead the industry to success.

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MINE MANAGER’S MANAGEMENT MANUAL

Anup Krishna Gupta