

INTRODUCTION

Human Resources in any organization, big or small, public or private are the biggest and most valuable asset and tools of overall development, efficiency and effectiveness. Good and proper usage of these resources lead to technological, economical and ecological development of the organization. The present global scenario of corporate governance assigns the highest level significance to the organization's human resources or human capital. Akio Morita, the founder of Sony Corporation, which is the leading electronics giant of the world, once remarked, "there is no 'magic' in the success of Japanese companies in general and Sony in particular. The secret of their success is simply the way they treat their employees.

Not only the 'Japanese companies but the companies around the world, have realized importance of human resource management, popularly known as HRM. JRD Tata while assuming chairmanship of TISCO in way back in 1934, opined, "I firmly believe that great efficiency and co-operation can be got from men who are allowed to use their intelligence and initiative, who are made to feel that the company appreciates the value of their brain as well as their brawn." The Chairman of World famous IT Company Microsoft, Bill Gates has many times confessed that his company owes its success to its employees.

Human resource practices are found in every kind of organizations but their importance lies in their proper use and management. China is the most populous nation of the world and still the fastest growing economy of the world. The major reason for Chinese dominance in global business is the large investment made in the area of human resources and their management. Rensis Likert firmly holds the view that "every activity of any enterprise are initiated and determined by the persons who make up that institution. Plants, offices, computers, automated equipments, all else that a modern form uses are unproductive without human efforts and direction.

Human resources are referred to as the employees and workforce in any organization. It is a set of all categories of personnels in any organization, right from top management to the lowest ranked workers. N.C. Jain has regarded human resources as a assets for all an organizations public or private.

Human resource management is the new enhanced version of traditional term 'personnel' management. The traditional dictum of personnel administration or management was more concerned with enforcement of rules and regulations and was affected by hindrances of more hierarchy, less effectiveness, red tapism, orthodox attitudes and little attention to performance, output and efficiency. The term Human Resource Management has been elaborated by William F. Glueck as "that function of all enterprises which provides for effective utilization of people to achieve both the objectives of the enterprise and the satisfaction and development of the employees."

William F. Glueck made a distinction between Human Resource Management and Personnel Management. He opined that Personnel Administration, refers to only recruitment, promotion, transfer, salary and job

administration and industrial relations, whereas Human Resources Management is a sub system of a larger whole and besides dealing with traditional personnel areas, it deals with human behaviour, well being and growth at individual and group level.

The term Human Resources Management (HRM), was originated in mid of 1980's partly due to highly competitive product and market environment and very positive and strategically important lessons drawn from Japanese System of Management and significant works of writers on management like Pascale and Athos (1981) and Peters and Waterman (1982). Traditional Personnel management by then had failed to yield desired results in American organizations. HRM was viewed as a change or development driven by fundamental environmental changes to which traditional concepts, orientations and power of personnel management functions could not adequately respond.

HRM was recognized as a much broader and softer term in USA and later on at global level. Wendell French who gave theory held the view that HRM is the systematic planning, development and control of a network of interrelated processes affecting and involving all members of an organization. These processes include Human Resource Planning, Job and Work Designs, Staffing, Training and Development, Performance appraisal and review, Compensation and Reward, Employee Protection and representation and organizational improvement. To effectively manage these processes, human resources management is planned, developed and implemented through the combined efforts of all managers and human resource specialists along with all employees in organization.

The HRM as a concept and approach is very vast, broad and effective. It helps any organization to achieve all objectives and ultimately, organizational excellence. Paul Pigors and Charles Myers have rightly opened that, "It is through the combined efforts of people that monetary and material resources are utilized for organizational objectives.

Byans and Rue have defined HRM as it "encompasses those activities that are designed to provide for and coordinate the human resources of an organization.

N.K. Singh look a broader view regarding HRM and opined, "HRM refers to holistic approach to managing people. It has welfare, recruitment and establishment role, potential development in a composite framework of management.

Broad concept is based on the basic theme of considering the human resources as the most important tool for carrying changes, bringing new innovations and executing the process of growth and development of organization. It is the 'human energy' or 'human potential' which can tap other material resources to the maximum gain. So an effective handling of human resources can bring organizational excellence. Such factors have made the study of HRM all the more important.

Public sector has played a major role in the development of Indian economy since its independence. Pandit Jawahar Lal Nehru envisaged a model of Democratic socialism for development of a modern India which could provide large number of jobs and help in attaining self sufficiency. He assigned a major role to public sector for economic development of India. His model was in practice for nearly three decades, till the coming of Janata Party in power in

1977. Janata Party led by the ideals of Jai Prakash Narayan and Moraji Desai opted for Gandhian model of development which was different from the Nehru Model in the sense that it favoured small scale industrial development instead of large scale heavy industries. Congress again regained power in 1980 and reverted back to Nehru Model of development which favoured creation of heavy industries in public sector. Large scale corruption, heavy losses, bureaucratic hurdles and a rise of private sector in the economic scenario till 1980's compelled the government to end license quota system in public sector and a period of liberalization began under the leadership of young Prime Minister Rajiv Gandhi. Later on PV Narashima Rao stepped into his shoes. He faced the same economic compulsions like rising debts and losses incurred by public sector and the pressure of IMF and World Bank. He was compelled to go for new structural changes in Indian economy. Dr. Manmohan Singh was the Finance Minister who was assigned the task of preparing New Economic Policy. The Union Government came with New Economic Policy in 1992. The process of Liberalization, Privatization and Globalization (LPG) started in India . There was a serious debate over the rationale of public sector in India. The government reserved very few areas for public sector and opened the door to private sector in a number of new areas. Many critics were writing off the existence of public sector in India in the coming times. The two decades of that era had seen many ups and downs for public sector in India. The government wanted to encourage the profit making public sector on one hand and also wanted to revive the loss making units or disinvesting in chronically sick units. The Government came up with Navratna Scheme for public undertakings in 1997. It enhanced the powers of Board of Directors of high/profit making public sector undertakings in

order to give them more financial autonomy. These Navratna Public Sector Undertakings were given additional autonomy in functional areas after signing Memorandum of Understanding (MOU) with Government of India. Initially there were nine companies enlisted as Navratna in 1997. Later on many new public companies have been enlisted in this coveted list. Since 2010, the government has come up with Maharatna scheme as well. Today there are four such categories viz. Maharatna, Navratna, Mini Ratna I and Mini Ratna II. These different categories are fixed according to the financial and administrative potential and efficiency of the public company.

CENTRAL PUBLIC SECTOR ENTERPRISES :

Since inception, the Central Public Sector Enterprises (CPSEs) have been the mainstay of the Indian economy and were set up with the mandate to i) serve the broad macro-economic objectives of higher economic growth, ii) achieve self-sufficiency in production of goods/ services, iii) facilitate long term equilibrium in balance of payments and iv) ensure stability in prices and create benchmarks for prices of essential items.

Historically, CPSEs assume significant importance to India's economy, both in pre and post independence period. In the pre-independence era, the public sector enterprises were confined primarily to select sectors including Railways, Posts & Telegraphs, Port Trust, Ordnance Factories, etc. Post independence, on account of the economic status of the country being characterized by an agrarian economy with a weak industrial base, regional imbalance in economic development, low level of savings, inadequate infrastructure facilities; the development of Public sector enterprises was identified as a key driver for self-reliant economic growth in the absence of

significant private capital. Consequently, the Industrial Policy Resolution, 1948 and 1956 laid emphasis on constituting public enterprises by the Central Government for industrial development in the core sectors.

Consequent to the initiatives taken during the Five Year Plans, the role of CPSEs in terms of contribution to the Indian economy has increased manifold. Thus, the number of CPSEs as on 31 March, 2009, was 246, with a total capital employed of nearly Rs. 5.3 lakh crores as against 5 CPSEs having a total investment of Rs. 29 crores on the eve of the first Five year plan.

With the onset of economic reforms in 1991, the Government initiated a systemic shift to a more open economy with greater reliance upon market forces and a larger role of the private sector including foreign investment. Consequently, the CPSEs were exposed to competition from domestic private sector companies as well as large multi-national corporations. Given the competitive environment, the CPSEs undertook significant initiatives for up scaling technologies and capacities in order to operate at par with the private counterparts in the liberalized economy. With continued focused efforts towards achieving excellence, several of the CPSEs have become self reliant and are playing a critical role in building the Indian economy.

CPSE contributions to the Indian economy :

- As reflected in the figure alongside, the turnover of CPSEs have increased from Rs. 7.4 lakh crores in FY 2005 to an estimated Rs.12.6 lakh crores in FY 2009 registering a CAGR of 14.1% during the FY 2005-09 period. Further, the growth in CPSEs has been in line with the overall

GDP3 growth of the country, recording a CAGR of 14.5% during the same period

- Consequently, in terms of turnover, the contribution of CPSEs to the GDP has ranged between 22%- 23% during the period Ltd.

Contribution to the Central Exchequer :

- Over the years, CPSEs have contributed significantly to the Central exchequer by way of payment of taxes (direct and indirect), duties, dividend payment and interest on Government loans. As evident from the chart alongside, the total contribution by the CPSEs has increased from Rs. 1.1 lakh crores in FY 2005 to an estimated Rs. 1.5 lakh crores in FY 2009 registering a CAGR of 8% during the FY 2005-09 period. However, there has been a YoY decline in contribution by 8.5% in FY 2009 primarily on account of reduction in contribution towards customs and excise duty
- Of the total contribution, payment towards taxes and duties accounted for over 87% on an average during FY 2005-09 period while the balance is being contributed by payments towards dividend and interest on Government loans
- It may be important to note that CPSEs contribution towards total direct and indirect tax collection in India has been significant at around 22% on an average during the FY 2007-09 period. Further, CPSEs payment towards excise duty accounted for over 50% on an average of the total excise collection while contribution to the corporate tax accounted for

around 17% on an average of the total corporate tax collection during the period

Contribution to Foreign exchange earnings :

- CPSEs have contributed significantly to the overall foreign exchange earnings of the country through exports of goods and services (royalty, know-how, professional and consultancy fees) with average contribution being around 10% in the last five years
- In terms of growth trends, foreign exchange earnings by CPSEs registered a CAGR of 15.1% during the FY 2005-09 period as reflected in the chart alongside

Contribution towards employment generation in the Organized Sector:

- CPSEs have made significant contribution towards employment generation in the organized sector, although there has been a steady decline over the years. During FY 2007, CPSEs employed 16.14 lakh people (excluding casual workers and contract labours) accounting for around 6% of the total employment in the organized sector. With increased automation levels across key industries in manufacturing and services, the employee strength has declined to 15.35 lakh in FY 2009. However, out of the total 246 CPSEs existing as on March 2009, around 33 Ltd. CPSEs are yet to commence business implying additional scope for employment generation in future
- Although the employee strength in CPSEs has reduced over the years, aggregate emoluments have increased from Rs. 0.5 lakh crores in FY

2006 to around Rs. 0.8 lakh crores in FY 2009 with increasing salary levels.

Growth in Market Capitalization:

- Based on the growth witnessed in market capitalization of the listed CPSEs, it is observed that they have emerged as major wealth creators for investors/ stakeholders. As on March 31, 2009, market capitalization of 41 listed entities accounted for 26.4% of the BSE market capitalization compared to 21.8% of the same in FY 2008
- In the backdrop of the global meltdown in FY 2009, the market capitalization of CPSEs decreased by 27% over FY 2008. Even then, the wealth erosion in CPSEs was relatively lower than the decline in overall market capitalization (around 40% in the BSE) during the same period
- With the recovery in stock markets in FY 2010, the aggregate market capitalization of 37 PSEs witnessed an increase by Rs 5 lakh crore with a 68.7% growth during January to November, 2009. Consequently, CPSEs contribution to BSE's market capitalization has increased to 30% by the end of November, 2009.

Outbound Investment:

- On account of the progressive liberalization in India's overseas investment policy, FDI outflows witnessed significant increase with total outflows through investment in joint ventures/ wholly owned subsidiaries increasing from USD 6 billion in FY 2006 to around USD 18.6 billion in FY 2009.

- CPSE's contribution in outbound investment has also been significant primarily on account of investment made by ONGC Videsh Ltd. (wholly owned subsidiary of ONGC) involved in overseas Exploration & Production activities. Other key CPSEs with significant outbound investment include Indian Oil Corporation, GAIL, BHEL, NTPC, RITES etc. In addition to significant contribution towards the growth of the Indian economy, most of the CPSEs have been able to ensure viable operations on a self sustainable basis which is evident from the decline in budgetary support in terms of loan and equity from the Government over the years as presented in the chart below:

Increase in self reliance through decline in budgetary support from the Government:

- During the initial years and even during the nineties, a large number of CPSEs were dependent on budgetary support extended by the Central Government. However, the number of CPSEs in this category has gradually decreased over the years. The chart alongside shows Government budgetary support to CPSEs during the FY 2005-09 period. As shown in the chart alongside, the budgeted support (comprising equity and loan) increased from Rs. 17,000 crores in FY 2005 to around Rs. 23,500 crores in FY 2009
- However, the budgetary support as a % of the total investment outlays in PSEs has declined from 20% in FY 2005 to around 11% in FY 2009 indicating that the CPSEs have become more self reliant and have been able to raise funds through internal accruals and borrowing from banks/ financial institutions operations

Based on the Public Enterprises (PE) Survey, 2008-09, as on March 31, 2009, 213 CPSEs out of a total of 246 CPSEs operate in five sectors/ cognate groups, namely, i) Agriculture, ii) Mining, iii) Manufacturing, iv) Electricity and v) Services. Analysis of the market share of CPSEs further shows that, within these sectors, the key industries where CPSEs have significant/ dominant share include i) Coal and Crude Oil in the mining sector, ii) Petroleum (Refinery and Marketing) in the manufacturing / processing sector, iii) Power Generation in the electricity sector and iv) Telecommunications in the services sector.

STATE LEVEL PUBLIC SECTOR ENTERPRISES :

The (SLPEs) form an important part of state economies and have played a very important role in the development of different states after Independence. The Constitution of India has also bestowed the responsibility of infrastructure sectors, such as, roads, power & energy and irrigation etc upon the State Governments. Due to large capital investment required and lack of private initiative, the State Governments have had to step in to set up these infrastructure projects/public utilities in their respective states.

Besides the public utilities, the SLPEs have been set up in areas, such as, mining, public distribution /trading and marketing, warehousing, tourism, handicrafts and handloom development, forest and fisheries development, financial services and housing etc. A number of loss making manufacturing units in the private sector that were taken over to protect the interests of workers/ stakeholders, in the past, also constitute as SLPEs. While a number of SLPEs have been set up as 'statutory corporations' through the Acts enacted in the State Legislatures, a larger number of them have been set up as 'joint stock companies' under the Companies Act, 1956. A number of SLPEs in some states have been

set up as 'Co-operatives' under the Societies Act, 1912 with majority share holding by the State Governments.

As per the CAG Reports on various states, there were around 837 working SLPEs in the country as on 31.3.2007. The total (financial) investments in all these SLPEs, stood at Rs. 333441 crores (as on 31.3.2007). The main components of this investment have been 'paid up capital' (Rs. 115658 crores) and 'long term loan' (Rs. 217783 crores); the share of 'long term loan' being 69% of the total compared to 31% share of 'paid up capital'.

Investment in SLPEs amounts to 79% of total investment in the 246 Central Public Sector Enterprises (CPSEs). The total number of people employed in these SLPEs (> 18 lakh employees), moreover, exceed the total number of employees in CPSEs (15.70 lakh employees as on 31.03.2007).

Table : 1
Overview of SLPEs

(Rs. in crores)

Particulars	2006-07
1. Number of SLPEs	837
2. Investment	Rs. 333441
(a) Paid up Capital	Rs. 115658
(b) Long Term loan	Rs. 217783
3. Employment	1871805

Source: *Comptroller & Auditor General (Government of India), State Audit Reports, (Civil/Commercial), Various Issues.*

Pattern of Investment:

As high as 67% of the investment in SLPEs has been in 'power & energy' sector, as on 31.3.2007. This was followed by investment in 'industry' with a share of approx. 9%. Financial services claimed a share of 8%, comprising various promotional institutions catering to different sectors like handloom and handicrafts development, fisheries and forestry development and development of weaker section of society etc. This was followed by investment in 'transport services' with a share of 5% in total (financial) investment. Sectors, such as, mining(4.5%), trading & marketing / other services(3.5%) and agriculture (2%), on the other hand, had much lower investments.

Table : 2
Macro view of SLPEs
(as on 31.03.2009)

(Rs. in lakhs)

States of SLPEs*	(Nos.)	Paid up Capital	Long Term Loan	Total (Financial) Investment	Employment (Nos.)
Andhra Pradesh	35	681118.16	2618172.89	3299291.05	265081
Arunanchal	3	904.34	556.2	1460.54	563
Assam	39	96766.52	118330.78	215097.3	36349
Bihar	21	46307.8	74149.07	120456.87	24197
Chattisgarh	10	3900.68	227716.09	231616.77	19932
Delhi	12	84147	1045239	1129386	28613
Goa	16	19259.68	25601.1	44860.78	3418
Gujarat	45	2603380.63	2013531.85	4616912.48	135188
Haryana	21	383760.4	833447.82	1217208.22	38112
Himachal Pradesh	21	74946.48	313685.67	388632.15	42589
Jammu & Kashmir	20	39857.49	402230.13	442087.62	30098
Jharkhand	6	780	246607	247387	7879
Karnataka	65	1558263.21	2280441	3838704.21	158916
Kerala	89	344174.97	495458.34	839633.31	94885
Madhya Pradesh	35	487171.63	1482033.55	1969205.18	83232
Maharashtra	55	1022322.79	1419092.18	2441414.97	234588
Manipur	8	2934.26	1003.38	3937.64	265

Meghalaya	13	39797.05	89236.79	129033.84	5996
Mizoram	5	4629.01	3347.5	7976.51	267
Nagaland	5	2835	3635	6470	257
Orissa	32	197339.95	742527.3	939867.25	31586
Pondicherry	13	50535.18	4040.2	54575.38	5599
Rajasthan	25	509872.83	1137309.82	1647182.65	57727
Punjab	27	368786.28	1022715.13	1391501.41	91369
Sikkim	12	1671.26	367.52	2038.78	950
Tamil Nadu	55	252289.73	1270916.34	1523206.07	252898
Tripura	10	33770.65	788.05	34558.7	2246
Uttar Pradesh	55	1932364.74	875388.32	2807753.06	135381
Uttarakhand	18	67919.26	195090.56	263009.82	8129
West Bengal	66	653988.01	2835686.8	3489674.81	75495
Total	837	11565794.99	21778345.38	33344140.37	1871805

* includes working statutory corporations

Source : CAG Audit Reports

Table : 3

Investment in SLPEs sector wise

(as on 31.03.2009)

Sector	Investment (Rs. in crores)	Share in the total (%)
1. Agriculture	6792	2.04
2. Industry	31979	9.59
3. Mining	15071	4.52
4. Power	223771	67.11
5. Transport Services	17162	5.15
6. Financial Services	26968	8.09
7. Other Services	11668	3.50
Total	333411	100.00

Source : CAG Audit Reports

Top 10 states, in terms of Investments

Table show the top ten states with highest financial investments, as on 31.3.2009. Gujarat tops this list with 13.85% share of the total investment in all SLPEs, followed by Karnataka (13.19%), West Bengal (10.47%) Andhra Pradesh (7.32%), Madhya Pradesh (5.91%), Rajasthan (4.94%), Tamil Nadu (4.57%) and Delhi (3.39%).

Table : 4
Top 10 states in terms of investments in SLPEs
(as on 31st March 2009)

States	Investment (Rs. in crore) As of 31.03.2008	Investment (Rs. in crore) As of 31.03.2009	Share in the total investment (%) As of 31.03.2009
1. Gujarat	43496	46169	13.85
2. Karnataka	41207	43968	13.19
3. West Bengal	33695	34897	10.47
4. Andhra Pradesh	31704	32993	9.89
5. Uttar Pradesh	27128	28071	8.42
6. Maharashtra	18704	24414	7.32
7. Madhya Pradesh	18796	19692	5.91
8. Rajasthan	16108	16471	4.94
9. TamilNadu	14303	15232	4.57
10. Delhi	10478	11294	3.39
Total (Top 10)	255619	273201	81.93
Total All States	-	333441	100

Source: *Comptroller & Auditor General (Government of India), State Audit Reports, (Civil/Commercial), Various Issues.*

Higher investment did not, however, go hand-in-hand with higher number of SLPEs. As such, whereas Kerala has the highest number of SLPEs (89 SLPEs), it does not figure amongst the top ten states in terms of investments.

Table : 5
Top 10 states in terms of number of working SLPEs (2008-09)

States	No. of SLPEs
1. Kerela	89
2. West Bengal	66
3. Karnataka	65
4 Maharashtra	55
5. Tamil Nadu	55
6. Uttar Pradesh	55
7. Gujarat	45
8. Assam	39
9. Andhra Pradesh	35
10. Orissa	32
Total	536

Source: *Comptroller & Auditor General (Government of India), State Audit Reports, (Civil/Commercial), Various Issues.*

STATE LEVEL PUBLIC ENTERPRISES IN BIHAR :

There were 21 (working) state level public enterprises (SLPEs) including 4 statutory corporations in Bihar as on 31.3.2009. The total investment in terms of paid up capital and long term loan in these enterprises amounted to Rs. 7930 crore. The debt-equity ratio in this (financial) investment stood at 15.77 : 1. The investment in 4 statutory corporations was 82.40% of the total investment in SLPEs in the State. The total number of people employed in these 21 SLPEs stood at 24197 employees as on 31.3.2009.

Table : 6
Overall performance of SLPEs
(2007-08 to 2008-09)

	<i>(Rs. in lakh)</i>	
	2007-08	2008-09
1. Investments	763865	92991
a) Equity*	45974	47294
b) Loan	717891	745697
2. Capital Employed	–	253639
3. Turnover	–	133729
4. Net Profit / (Loss)	–	(12166)
5. Accumulated Profit / (Loss)	–	(150951)
6. Total return on Capital Employed	–	7741
7. Percentage return on Capital Employed	–	18.82
8. No. of employees	–	24197
9. No. of units	20	21

Source: *Comptroller & Auditor General (Government of India), State Audit Reports, (Civil/Commercial), Various Issues.*

* inclusive of share application money of Rs.366 Lakh and Rs.986 Lakh in 2005-06 and 2006-07 respectively

The total turnover of all these SLPEs stood at Rs. 1337 crore as on 31.3.2009. The net profit/loss against this turnover stood at (-) Rs. 122 crore. Amongst the profit making SLPEs, the prominent ones have been Bihar State Financial Corporation and Bihar State Mineral Development Corporation that showed a

profit of Rs. 17.34 crore and Rs. 9.29 crore respectively during 2008-09. As many as 12 SLPEs incurred losses during the year, with Bihar State Electricity Board leading the rest with a loss of Rs. 67.51 crore. It was followed by Bihar State Road Transport Corporation (Rs.50.90 crore), Bihar State Hydro Electric Power Corporation (Rs. 14.30 crore) and others.

Table :7
Profit / Loss & Employment position of SLPEs
(2008-09)

	Net Profit / Loss (Rs. in lakh)	No. of Employees
1. Bihar Rajya Beej Nigam Ltd.	(408.02)	129
2. Bihar State Electronics Development Corporation	(118.19)	60
3. Bihar State Forest Development Corporation	27.63	698
4. Bihar Rajyaj Matsya Vikas Nigam	(22.16)	42
5. Bihar State Minerals Development Corporation	929.04	1
6. Bihar Police Building Construction Corporation	(101.87)	408
7. Bihar Rajya Pul Nirman Nigam Ltd.	(127.62)	512
8. Bihar State Minorities Finance Corporation	(25.13)	21
9. Bihar State Backward Class Financial & Development Corporation	(29.42)	16
10. Bihar State Food and Civil Supplies	488.22	1,500
11. Bihar State Tourism Development Corporation	82.81	215
12. Bihar State Hydro Electric Power Corporation	(1430.44)	144
13. Tenughat Vidyut Nigam	–	NA
14. Bihar State Credit & Investment Corporation	(903.36)	67
15. Bihar State Text Book Publishing Corporation	(455.62)	240
16. Bihar State Film Development & Finance Corporation	1.87	8
17. Bihar State Beverages Corporation Ltd.	–	144
18. Bihar State Electricity Board	(6751.69)	14589
19. Bihar State Road Transport Corporation	(5089.59)	4730
20. Bihar State Financial Corporation	1734.13	367
21. Bihar State Warehousing Corporation	29.87	305

Source: *Comptroller & Auditor General (Government of India), State Audit Reports, (Civil/Commercial), Various Issues.*

The Budgetary Support provided to SLPEs during the three year. Loan had the major share in the budgetary Support to these SLPEs during these three years.

Table :8
Budgetary Support to SLPEs
(2006-07 to 2008-09)

(Rs. in lakh)

	2006-07	2007-08	2008-09
Equity	–	–	1120
Loan	77825	117624	25364
Subsidy	–	–	–
Total outgo	77825	117624	26484

Source: *Comptroller & Auditor General (Government of India), State Audit Reports, (Civil/Commercial), Various Issues.*

During 2008-09, Government had guaranteed loans aggregating Rs. 633 lakh and at the end of the year guarantees on loans aggregating Rs. 27080 lakh were outstanding.

Most of the State Level Public Enterprises are in the red. Promotional and financial enterprises have been the exceptions. The promotional enterprises have earned profits net turn over operations but owing to the fact that they have earned huge interest on deposit with banks.

The State Level Public Enterprises in Bihar have been set up in order to achieve some specific socio-economic goals and generate commercial surpluses not only for their own growth but for the growth of the State economy as a whole.

First, there are some SLPEs which are historical in nature e.g., the State Electricity Board and the Road Transport Corporation. These were set up to provide basic services and amenities to the public. Secondly, some SLPEs were

set up following central legislation which envisaged the creation of similar institutions at the state level. The Bihar State Financial Corporation and Bihar State Warehousing Corporation are cases in point. Thirdly, the SLPEs such as the Agro-Industries Development Corporation and Credit and Investment Corporation were set up to avail of facilities which the Government of India and central financial institutions were extending. Fourthly, the takeover of private industry culminated in the setting up of the Bihar State Sugar Corporation. Fifthly, a number of enterprises were set up by the state government towards sectorial development. These included the Leather Industries Development Corporation and the Electronic Development Corporation. Finally, a number of enterprises have been set up to improve the economic condition of the weaker sections of the society viz., Bihar State Minorities Finance Corporation and Scheduled Castes Corporation.

In addition to these, other public enterprises established by the state government were the result of ad hoc decisions taken by the government. The explicitly stated reasons for many such enterprises are that corporate form would enable the departmental functions to be performed more expeditiously and supplementary funds would be available from financial institutions resulting in less burden on state budget.

The SLPEs have a varied objectives. Besides contributing to the State Exchequer and providing the impetus for industrial development, these enterprises play a special role in the development of backward regions by way of generating employment, promoting local resources and skill, creating supporting facilities in respect of power, water, land, raw material and finance for industrialization. It is worth nothing have here that the private sector has not

responded enthusiastically to the demands made on it with regard to participation in the industrialization of the state.

Table :9
Growth of Public Enterprises in Bihar Since 1950

Name of Public Undertakings
<p>Established between 1950 to 1959</p> <ol style="list-style-type: none"> 1. Bihar State Khadi Board (1956) 2. Bihar State Warehousing Corporation (1957) 3. Bihar State Road Transport Corporation (1959) 4. Bihar State Electricity Board (1958) 5. Bihar State Financial Corporation (1954)
<p>Established between 1960 to 1969</p> <ol style="list-style-type: none"> 1. Bihar State Industrial Development Corporation (1960) 2. Bihar State Agro Industries Development Corporation (1966) 3. Bihar State Small Industries Corporation (1961) 4. Bihar State Text Book Publishing Corporation (1965)
<p>Established between 1970-79</p> <ol style="list-style-type: none"> 1. Bihar State Leather Development Corporation (1974) 2. Bihar State Electronics Development Corporation (1976) 3. Bihar State Textile Corporation (1978) 4. Bihar State Pharmaceutical and Chemical Development Corporation (1978) 5. Bihar State Dairy Corporation (1972) 6. Bihar State Sugar Corporation (1974) 7. Bihar State Handloom and Handicraft Corporation (1974) 8. Bihar State Agricultural Marketing Board (1972)

9. Bihar State Forest Development Corporation (1975)
10. Bihar State Export Corporation (1974)
11. Bihar State Beej Development Corporation (1978)
12. Bihar State Food and Civil Supplies Corporation (1973)
13. Bihar State Construction Corporation (1974)
14. Bihar State Mineral Development Corporation (1972)
15. Bihar State Housing Board (1972)
16. Bihar State Pul Nirman Nigam (1975)
17. Bihar State Police Building Construction Corporation (1975)
18. Bihar State water development Corporation (1973)
19. Bihar State Lift Irrigation Corporation (1975)
20. Patna Industrial Area Development Authority (1973)
21. Bokaro Industrial Area Development Authority (1972)
22. Ranchi Industrial Area Development Authority (1973)
23. Adityapur Industrial Area Development Authority (1975)
24. North Bihar Industrial Area Development Authority (1975)
25. Darbhanga Industrial Area Development Authority (1972)
26. Ranchi Regional Development Authority (1975)
27. Muzaffarpur Regional Development Authority (1975)
28. Darbhanga Regional Development Authority (1973)
29. Bihar State Pollution Board (1974)
30. Bihar State Sewerage Board (1979)
31. Bihar State Credit and Investment Corporation Ltd. (1975)
32. Bihar Panchayati Raj Finance Corporation Ltd. (1974)

Established between 1980-1984

1. Bihar State Fruits and Vegetable Development Corporation Ltd. (1980)
2. Bihar state Matsya Beej Vikas Nigam (1980)
3. Bihar State Tourism Development Corporation (1980)
4. Bihar Hydro-Electricity Corporation (1982)
5. Gaya Regional Development Authority (1983)
6. Darbhanga Regional Development Authority (1983)
7. Bihar State Film Development Corporation (1983)
8. Bihar State Minority Finance Corporation (1983)

Source : Report of the Conference of the Chief Executives of Public Enterprises in Bihar, Organized by Bureau of Public Enterprises, Government of Bihar, Patna, January 7-8, 1988.

Public sector units cannot have before them and profit motive as the sole or even the principal objective, as they have social responsibilities too, not only for economic growth but for balanced development, distributive justice, upliftment of weaker sections etc. In fact some SLPEs of a promotional/regulatory character have been set up to render certain services without any element of profit while some have been created or taken over in light of conscious decisions that although they may not be able to return adequate yields on investment, yet the imperatives of government's social and economic obligations require their creation/take over. Moreover some SLPEs are operating in functional areas which require a volume of capital and other inputs with the private sector is just not in a position to raise, and which involve long gestation periods, with low margins of profitability which the private sector finds unattractive. The large social overhead costs which SLPEs have to incur, by virtue of being model employers, also accounts for as inflated capital structure

and swells running expenses. Having said this however, it cannot be denied that the large majority of the SLPEs being commercial undertaking, a reasonable index of their financial health and efficient performance, is the return on investment they are able to show. Moreover in the light of the huge investments made, the SLPEs have a responsibility to fulfil their commercial objectives alongwith their socio-economic goals, such that a reasonable return on investments is achieved. The surpluses thus generated can then be reinvested to fuel the growth and expansion of the public sector, for the fulfillment of Government larger socio-economic goals, without taking recourse to Government budgetary support.

INDUSTRIAL PERFORMANCE IN BIHAR:

The Annual Survey of Industries (ASI) 2004-05 reveals that there are 1,675 industrial units in the state. However, in terms of net value added, food, beverages, tobacco and petroleum products account for more than 85 per cent of the total industrial income.

Though Bihar produces about 10 per cent of India's total output of fruits and vegetables, the state's share in processed output is only 1 per cent. This clearly shows that there is enough scope to develop this sector further. Tea and dairy are two major industrial sectors in the state. Other potential industries are sugar, makhana, leather, textile and handloom. Mineral production in Bihar includes pyrites, quartzite, mica and limestone.

Industrial centres :

The main industrial centres are Patna, Magadh, Muzaffarpur, Barauni, Bhagalpur, Munger, Darbhanga and Tirhut. According to the Department of

Industries, the number of large and medium industries in the state is only 259, of which the highest concentration (38.2 per cent) is in Patna division, followed by Tirhut (21.6 per cent) and Magadh (9.7 per cent). Out of 38 districts spread over in 9 divisions, 10 do not have any large/medium industrial unit.

India, exporting grain, sugarcane, sesame and medium-grained rice. It has also emerged as a big and rapidly expanding consumer market, both for fast moving consumer goods (FMCG) and consumer durable items. The government plans to develop Patna as the second international gateway in eastern India (after Kolkata) to exploit its tourism potential and for promotion of trade and commerce with neighbouring countries in the east. Muzaffarpur district is home to several industrial units, the major ones being Prabhat Zarda, Indian Drugs & Pharmaceuticals Ltd (IDPL), Bharat Wagon and Engineering Ltd., Leather Development Corporation and Muzaffarpur Dairy (a unit of the Bihar State Dairy Corporation). It is an also important trade centre for textiles, mango and litchi.

The Barauni refinery of Indian Oil Corporation Ltd (IOC) is one of the country's biggest oil refineries. It has a capacity of 6 million metric tonnes per annum (MMTPA). State-owned Bihar State Electricity Board (BSEB) signed a memorandum of understanding (MoU) with Vikash Metal and Power Ltd (VMPL), a Kolkata-based company, for setting up a power plant at Barauni at a cost of \$500 million. Bhagalpur is famous worldwide for its silk production. A silk culture institute and an agricultural research station are also located in the city, which has major road and rail connections. Other industries include rice and sugar milling and wool weaving. Gaya is another major weaving centre with around 8,000 power looms.

Table :10
Distribution of Large and Medium Units in Bihar by Industrial Groups and Division

Divisions	Food, Tobacco, Beverages	Cotton, Wool, Jute, Paper	Material, Metal, Machine	Rubber, Plastic, Chemicals	Total (Share in per cent)
Patna	22	18	52	7	99(38.2)
Magadh	6	1	9	9	23(9.7)
Bhagalpur	2	3	3	2	10(3.9)
Munger	2	3	1	12	18(6.9)
Saran	12	1	1	0	14(5.4)
Tirhut	21	6	16	13	56(21.6)
Darbhanga	9	9	-	1	19(7.3)
Koshi	-	-	-	-	-
Purnia	8	6	3	1	18(6.9)
	82(31.7)	47(18.1)	85(32.8)	45(17.4)	259(100)

Source: Economic Survey of Bihar 2006-07

Industrial infrastructure :

Bihar is aggressively working on building industrial infrastructure including an Export Promotion industrial park, Food Parks, an Air Cargo Complex, a Software Technology Park, an Inland Container Depot and Agri-Export Zones.

Export Promotion Industrial Park :

Export Promotion Industrial Park (EPIP), Hajipur, is being developed as a multi-product export-processing zone for north Bihar under the umbrella of the Union Ministry of Commerce and Industry and the Government of Bihar. It would be spread over 94 acres and cost about \$2.6 million with requisite infrastructure facilities for setting up export units.

Food Park:

The Union Ministry of Food Processing Industry has sanctioned the establishment of Food Parks at Hazipur and Begusarai to promote agro-based

and food processing units. The infrastructure will include cold storage units, refrigerated vehicles and effluent treatment plants.

Air Cargo Complex:

Though Bihar has considerable potential for export of agriculture/horticulture products, it has under-performed in terms of exports, partly due to the absence of air cargo infrastructure. An Air Cargo Complex is proposed to be built adjacent to the Jai Prakash Narayan Airport, Patna, to be promoted by the BIADA and Airport Authority of India. The complex will facilitate exports of fruits, vegetables and horticulture products, silk and other exportable items.

Software Technology Park:

The 45th Software Technology Park (STP) in India is coming up on the campus of the New Government Polytechnic Complex in Pataliputra Colony in Patna. The project involves grants-in-aid of \$200,000 and provision of three acres of land. The STP would have 5,000 sq ft of built-up space. The Biscoman Tower, where the STP is located, is a city landmark with excellent IT and social infrastructure.

Inland Container Depot:

Inland Container Depot, Sitalpur, is one of the mega infrastructure projects sanctioned and financed by the Union Ministry of Commerce and Industry, at a projected cost of \$5.1 million. It is being set up to facilitate export of fruits, vegetables, horticulture products and other exportable items produced in the state.

BARAUNI REFINERY :**Barauni Refinery (Bihar)-Indian Oil Corporation Limited (IOCL) :**

Barauni Refinery in Eastern India was built in collaboration with the Soviet Union at a cost of Rs. 49.4 crore and was commissioned in July, 1964. By 1969, capacity was expanded to 3.3 MMTPA and further augmented to 4.2 MMTPA in 2000. A Catalytic Reformer Unit (CRU) was also added to the refinery in 1997 for production of unleaded motor spirit. The refining capacity was further increased to 6 MMTPA in 2002 with the implementation of Barauni Refinery Expansion project, which also included Residue Fluidized Catalytic Cracking Unit (RFCCU) and Diesel Hydrotreating Unit (DHDT) along with Hydrogen Generation unit. MS Quality Upgradation project consisting of Naphtha Hydrotreater, 2nd Hydrogen Generation unit, Isomerization, FCC gasoline Desulphurization units etc. were commissioned in December, 2010 for meeting present Motor Spirit quality requirements.

GUIDELINES FOR LAYING PETROLEUM PRODUCT PIPELINES :

Transportation of petroleum products, crude oil and gas through pipelines is considered as the cheapest, safest and environment friendly mode of transportation. The network of under-ground pipelines in the country has grown in a big way in the last few decades. The network of pipelines is immensely helpful in maintaining the supply chain of crude oil, petroleum products and gas in the country. The onshore cross country pipelines are laid underground at a depth of about 1.5 mtr. in a corridor of about 18 mtr. Wide, and is operated normally at high pressure. In a major decision towards deregulation of oil sector and to attract investment in the petroleum product pipelines, in November, 2002,

Government had laid down a new Petroleum Product Pipeline Policy for laying pipelines in the country on common carrier principle.

Amendment Act, 2011 notified on 13.01.2012. The amendment provides for more stringent punishment to curb incidents of pilferage from, and sabotage of, pipelines and also to serve as deterrent to the emerging security threat to the pipeline installations including those from extremists and terrorists. The provisions of the above Act came into force w.e.f 01.03.2012.

In line with the Auto Fuel Policy, BS-IV auto fuels in 13 major cities including NCR w.e.f. 01-04-2010 and BS-III fuels in the rest of the country were introduced by September, 2010. BS-IV compliant fuels have been extended to thirteen more cities, viz., Puducherry, Mathura, Vapi, Jamnagar, Ankleshwar, Hissar and Bharatpur, Daman, Diu, Silvassa, Unnao, Rai Bareilly and Aligarh in line with strategic plan. Further four cities namely (i) Valsad; (ii) Karnal; (iii) Kurukshatra; and (iv) Yamunanagar have been identified to be covered by March-2013. Oil industry has invested over Rs 32,000 crore in upgrading facilities in refineries for production of BS-III/IV auto fuels.

Barauni Refinery to improve its overall performance, the Ministry submitted the following details in a post-evidence reply:-

“IOCL is implementing Motor Spirit (MS) & Diesel (HSD) Quality Improvement projects at its Barauni Refinery. Details of the said projects are as under:

Project	Salient features of the Project	Remarks
MS Quality Improvement Project at Barauni Refinery	The project is targeted for commissioning by Mar'10 at an approved cost of Rs.1492 crore. The project consists of installation of process units viz. Isomerisation,	With the commissioning of the project, Barauni Refinery will be able to produce 600 TMTPA Euro-III equivalent

	<p>Naphtha Hydrotreater, Reformate Splitter, FCC Gasoline Desulphurisation, Hydrogen Generation Unit, Revamp of existing Catalytic Reforming Unit alongwith related Utilities & Offsite. Work for all the new process units have been awarded and the work has commenced. The long delivery critical equipments viz. Reactors & Compressors have been ordered well in advance. Tendering for utilities like DM Water Plant and extension of Captive Power Plant is in progress. Commitment upto Jun'08: Rs.1256.76 crore Expenditure upto Jun'08: Rs.19.39 crore</p>	<p>quality of MS as per the requirement of Auto Fuel Policy of by Apr.' 2010.</p>
<p>HSD Quality Upgradation</p>	<p>The project is targeted for commissioning by Dec'09 at an approved cost of Rs.84 crore. The project envisages installation of 3rd Reactor in the existing Diesel Hydrotreating Unit to facilitate production of Euro-III equivalent quality HSD as per the requirement of Auto Fuel Policy of GOI. Reactor, the major equipment required for the project received at site. High-pressure piping is under procurement. Depending upon the opportunity of shutdown in refinery, erection of reactor along with the associated piping jobs will be completed by 3rd quarter of 2009-10. Commitment upto Jun'08: Rs. 81.91 crore Expenditure upto Jun'08: Rs. 7.08 crore</p>	<p>With the commissioning of the project Barauni Refinery will be able to produce 2040 TMTPA Euro-III equivalent quality of HSD to meet the requirement of Auto Fuel Policy”.</p>

Regarding capacity utilisation/expansion of the Barauni Refinery, the Chairman of IOCL enlightened the Committee during evidence as under:-

“Coming next to the Barauni refinery, it is not a question of expansion, the bigger challenge is the utilisation of Barauni refinery to its full capacity. If you kindly note, Barauni refinery had dwindled to two to three MTs processing. We have now brought it up to 6 MT. We are moving crude oil. It was supposed to be getting crude oil from Assam. We are moving in imported crude oil from Haldia. Now, we are going to move from down to Paradip. So, crude will come from Paradip, get pumped to Haldia, then to Barauni. The bigger problem is, utilisation of the products at that inland location. Inland refinery has to process the crude, which the market can bear. So, at more than 6 MT that we find that we will not be able to absorb the product in that region because we have a refinery in Mathura and Panipat. It is not possible to run this refinery at a higher capacity than 6 MT and export products because we will run into huge transportation cost”.

Petrochemicals complex near the refinery :

The Committee desired to know as to whether there is any proposal for setting up of a petrochemicals project near the Barauni Refinery. The Ministry stated the following in this regard:-

“The setting up of a Petrochemical Complex at Barauni essentially has to be based on naphtha. Availability of naphtha from Barauni refinery, after meeting the requirement for production of gasoline, is around 0.2 MMTPA, which is not adequate to sustain an economic size

Petrochemical Complex at Barauni. For planning an aromatics complex, a minimum of 0.5 MMTPA of high aromatic naphtha is required, while for planning of an Olefinic Complex, requirement of paraffinic type naphtha will be in the range of 2.3 to 2.5 MMTPA. Since such volume of naphtha is not available at Barauni refinery, planning of Petrochemical Complex at Barauni, be it aromatic or olefinic based, does not merit consideration on techno- economic grounds.”

When the Committee raised the issue of setting up of a small unit of petrochemicals at the refinery during oral evidence, Chairman of IOCL deposed as under:-

“We will examine in terms of its economic viability and come back to you”.

Indian Oil Corporation’s refinery at Barauni was built at a cost of \$10.9 million; it has a capacity of six MMTPA. A catalytic reformer unit (CRU) was added to the refinery in 1997 for production of unleaded motor spirit. A 943-km-long Haldia-Barauni pipeline receives crude oil at Haldia oil jetty and transports it to Indian Oil’s Barauni refinery. The crude oil requirement of Indian Oil’s subsidiary refinery at Bongaigaon is also partly transported through the pipeline up to Barauni.

REFINING CAPACITY :

Indian refining industry has done exceedingly well in establishing itself as a major player globally. India is emerging as a refinery hub and refining capacity exceeds the demand. The last decade has seen a tremendous growth in the refining sector. The country’s refining capacity has increased from a modest 62

Million Metric Tonnes Per Annum (MMTPA) in 1998 to 215.066 MMTPA at present, comprising of 22 refineries - 17 under Public Sector, 3 under private sector and 2 in Joint Venture (JV). During 2011-12, two new JV refineries of 6 MMTPA and 15 MMTPA were commissioned in Bina, Madhya Pradesh and Bathinda, Punjab.

The refining capacity is not only sufficient for domestic consumption but leaving a substantial surplus also for export of petroleum products. Since 2001-02, India is a net exporter of petroleum products. During 2011-12, the country has exported 60.5 MMT of Petroleum products worth US Dollars 58.2 billion. As per Platts assessment, India is the largest exporter of petroleum products in Asia since 2009.

EXPANSION OF EXISTING REFINERIES :

The Ministry of Petroleum & Natural Gas (MOP&NG) is entrusted with the responsibility of exploration and production of oil and natural gas, their refining, distribution and marketing. The Indian oil sector can be divided into three sub-sectors:-

- Oil and Gas Exploration & Production;
- Oil Refining; and
- Marketing (Gas & Refined Products)

Consequent on de-licensing of the refinery sector in June 1998, a Private or Public Enterprise can set up a refinery anywhere in India, depending on the promoters' assessment of its viability.

At present, there are 19 refineries operating in the country, out of which 17 are in public sector and two in private sector. Out of the 17 Public Sector

refineries, 7 are owned by Indian Oil Corporation Limited (IOCL), 2 each by Chennai Petroleum Corporation Limited (a subsidiary of IOCL), Hindustan Petroleum Corporation Limited (HPCL), Bharat Petroleum Corporation Limited (BPCL) (Kochi Refinery merged with BPCL on 21-08-2006) and Oil and Natural Gas Corporation Limited, 1 each by Numaligarh Refinery Limited (a subsidiary of BPCL) and Bongaigaon Refineries and Petrochemicals Limited (a subsidiary of IOCL). The private sector refineries belong to Reliance Industries Limited and Essar Oil Limited.

Location & capacity of refineries :

The Ministry of Petroleum & Natural Gas, in its brief note, has furnished information about location & capacity of various refineries as under:-

Name of the company	Location of the Refinery	Present Capacity (MMTPA)*
Public Sector		
1. Indian Oil Corporation Limited (IOCL)	Guwahati	1.00
2 IOCL	Barauni	6.00
3 IOCL	Koyali	13.70
4 IOCL	Haldia	6.00
5 IOCL	Mathura	8.00
6 IOCL	Digboi	0.65
7 IOCL	Panipat	12.00
8. Hindustan Petroleum Corporation Limited (HPCL)	Mumbai	5.50
9 HPCL	Visakhapatnam	7.50
10. Bharat Petroleum Corporation Limited (BPCL)	Mumbai	12.00

11 BPCL	Kochi	7.50
12. Chennai Petroleum Corporation Limited (CPCL)	Manali	9.50
13 CPCL	Nagapattnam	1.00
14. Bongaigaon Refinery & Petrochemicals Ltd. (BRPL)	Bongaigaon	2.35
15. Numaligarh Refinery Ltd.(NRL)	Numaligarh	3.00
16. Mangalore Refinery & Petrochemicals Ltd. (MRPL)	Mangalore	9.69
17. Tatipaka Refinery (ONGC)	Andhra Pradesh	0.078
Private Sector		
18 Reliance Petroleum Ltd. (RPL)	Jamnagar	33.00
19 Essar Oil Limited	Vadinar	10.50
TOTAL		148.97*

* Million Metric Tonne Per Annum

The capacity additions, planned to be made during the 11th Plan by the public and private sector refineries, are as under:

REFINERY	MMTPA
PUBLIC SECTOR	
1 Indian Oil Corporation Limited, Haldia	1.50
2 Indian Oil Corporation Limited, Panipat	3.00
3 Indian Oil Corporation Limited, Paradeep	15.00
4 Hindustan Petroleum Corporation Limited, Mumbai	2.40
5 Hindustan Petroleum Corporation Limited, Visakh	7.50
6 Hindustan Petroleum Corporation Limited, Bhatinda	9.00
7 Bharat Petroleum Corporation Limited, Bina	6.00

8. BPCL, Kochi	2.00
9 Chennai Petroleum Corporation Limited, Chennai	1.70
10 Mangalore Refinery & Petrochemicals Limited, Mangalore	5.31
11 Oil & Natural Gas Corporation Ltd. Tatipaka	0.08
TOTAL PUBLIC SECTOR	53.49
PRIVATE SECTOR	
12 Reliance Petroleum Limited, Jamnagar (New)	29.00
13 Essar Oil Limited, Vadinar	3.50
14. Nagarjuna Oil Corporation Limited (NOCL)	6.00
TOTAL PRIVATE SECTOR	38.50
GRAND TOTAL	91.99*

*HPCL – MITTAL ENERGY LIMITED

REVIEW OF LITERATURE :

The price of petroleum product is increasing day by day. This price rise will affect the economy as whole. The European commission forecasted the growth of oil industry of 2005 second time in the six months 1.6% from around 2%. predicted in October 2004 and it was due to the recorded oil cost & unemployment with 80% in oil prices over the past twelve months and a jobless rate of 8.9% reflecting consumer purchasing power and squeezing corporate profits. The researcher has also studied and reviewed the following existing literature. The Fortune India April- 30, 2005 has focused in its cover story about oil industry. This report includes the world crude prices, relation with a production growth rate of oil production import and field wise crude production in India.

The refinery in India is doing well but the government has created some blocks for the growth of the sector. Indian oil industry has estimated turnover 75 million dollar oil related market includes 30 % of India's total import bill. They contribute nearly 20% of the national Exchange through customs and excise. However the country has an insignificant share (less than 1%) In the world oil and gas production, but consumption wise it accounts for global 3%.

The Indian economy review may-2005 published by capital market focused mainly on production prices and market capitalization. India is 3rd largest in oil consumption after china and Japan. The current year demand has gone up by 3.7% compare to around 4% recorded for last year. In 2004- 05 the output of refinery showed arise of 1.8%, 33981 thousand tons and 4.32% to 118216 thousand tones respectively over the corresponding period of previous year. The OPEC country and their prices recorded highest 58 US dollar per barrel in 2005. In India total 8 refineries have been working and the performance is also decline.

Business India October 27, 2003 has overview the recovery growth of various refineries. In Business India August 16,2004 covered dictions with minister regarding oil sector.

In chartered Financial Analyst February-2005 has covered the industry report of Indian Oil Company. The Indian Oil Company 70% of this unit operated and control by state government. The ONGC is the largest profit making unit and ONGC Videsh Limited operates in Iran, Syria, Myanmar, Australia Russia etc. OVL has been major deals with 20% stock in the Sakhalin-1 block in Russia and OVL is forint runner in investing oil and gas field abroad. IOC is the second largest refinery and marketing company has entered in a international field. IOC has taken biggest ever deal of 3 billion dollar to develop

a gas block to sale LPG from south Pars gas field in Iran. This report covers the investment criteria of various companies.

Reliance Review of Energy Markets (December-2002) published by reliance industry–biggest refinery having larger tons capacity of refining oil and still expanding its project has covered full history of oil industry world wide. It has described refinery development process since its digging age till today. Worldwide oil demand growth, energy consumption, crude oil production and imports petroleum product distribution scenario, MS and HSD quality specifications can be known from that literature. In Business Outlook (Jan-2007) an article about Bio-fuel shows that It can also take a cue from Brazil where the government initially bore the high cost of 100\$ per barrel (without any subsidy) in 2005-2006. With this cheaper option we may soon see flex fuel vehicles crowding the roads. Business Standard (December 2006) presents the ranking of the 8 refineries and also presents the data of industry wise performance.

The history shows that oil markets have highly unstable even at the beginning of 20th century. After the world war II, the US and Britain signed a treaty to set up an international body which would control production and set Prices. However the US maintained its traditional domestic price travels in accordance with the cost of its marginal wells. Whereas the rest of the world price was allowed to fail, this resulted in the formalist of OPEC. The book also shows that oil prices with an upward tread for almost 30 years till the late, 1950s after which cracks to appear. “Refining profits” By Daksesh Parikh in ‘Business India’ (Dec.2006) writes about the profitability of refinery Industry. According to him, given the huge in global refining capacities most of which are running at close to 97%. Analysts expect the refining margins to stabilize at \$ 6 – 8 per

barrel. The article tells that at full capacity, the refineries will contribute Rs.20000 – 25000 crores to the top line growth depending on the crude oil price. Analyst that even at 4 \$ per barrel of refining margin the product would be making normal profit. Thus, it shows the level of profitability is very high of each refinery. It helps to understand the importance of profitability during the research work.

Prasad, L.M. (2000) in his book entitled "Human Resource Management" has tried to place proper emphasis on the HR of the organization; Management of people is as old as the existence of organizations. He tried to place proper emphasis on the human resource in organization and presents the most recent development in the field and tried to relate these.

Gupta, K. Shashi (2004) in his book entitled "Human Resource Management" tried to develop proper emphasis on Human Resource Management with human beings in an organization and also tried to emphasis on, no business or organization can exist or grow without effective management of human resource and also taking up different aspects of the subject such as Nature, Scope of Human Resource Management, Personnel Management, Human Resource Planning, Job Design, Job Analysis, Recruitment, Selection, Placement and Induction. According to Shashi K. Gupta Rosy Joshi Recruitment is concerned with developing suitable techniques for attracting more and more candidates.

Gupta, L.B. (2007) in his book entitled " Human Resource Management" tried to develop students knowledge of the basic concepts and practice of Human Resource Management. Recruitment is a process of searching for prospective

employees and stimulating and encouraging them to apply for jobs in the organizations.

K.A. Swathappa in his book entitled " Human Resource Management" tried to reflect the focus on HR Professional to play the role of strategy. Recruitment is understood as the process of searching for and obtaining applicants for jobs for jobs from whom the right proper can be selected.

Pattnayale, Biswajeet (2005) in his book entitled "Human Resource Management" tried to place the proper emphasis on problems in the organization are human related, as human beings are dynamic and complex, and also tried to Manage the Human Resource in any sector in a challenging job, according to the Pattanayak Biswajeet Recruitment is the process of searching for prospective employees and stimulating them to apply for the job in the organization.

Rao, P.S.V. (2009) in his book entitled "Human Resource Management" tried to place of Personnel function is itself symbolic of this change. The personnel function has acquired a unique status and reputation in almost all service sectors, including banking, finance, insurance telecom, software from the traditional manufacturing and engineering fields. The HR function has enriched itself. Over the years by including within it a development dimension and thus moved itself from a reactive and maintenance oriented function to a proactive path breaking development oriented relations.

“Dollar vs Oil prices – the changing equations” By N Janardhan Rao and very in ‘The Analyst’ in Sep.2006 writes about the changing equations of impact of dollar on oil trade. According to EMF, OPEC revenues estimated to have gone up form \$ 262 ton in 2002 to \$ 61.4 bn. in 2005. Such incentives would further

encourage the oil exporting nations to increase the price of oil in an attempt to preserve the demand of oil is increasing and will do so whereas an increase of in the level of global oil production appears to be close to its maximum the OPEC oil situation countries that largely trade with the dollar will be imported by increased energy cost.

In an article “India Sector – crude oil refineries soothing bands” in capital market in Dec 2006, published that the petroleum E & P, refining and allied service segment consist of industry heavy weights such as ONGC, Indian Oil, HPCL, Bongaigaon Refinery (BRPL) and Chennai petroleum (CPCL). The aggregates of 20 companies in the business of petroleum E & P, refining and allied service reported a strong 39% of growth to Rs. 168029 crores in its net sales in the quarter ended Sep 2006. These sector improved due to the accounting of oil bands. “A study of financial appraisal of refinery units” – Varsha Virani, M.Phil, Saurashtra University has analysed the two units namely BPCL & IOC. In her research there are various testing of hypothesis and multiple correlation, which shows the affecting financial factors of these two units. In Indian Journal Accounting –June 2006 issue Dr. Shantu Kumar Bose writes the importance of oil sector. He has told that oil sector plays an important role in refineries. They are thus catalyst for social and economic developments in any nation. This study is an addition to these literatures for the evaluation of the units undertaken for the study.

One of the major review objectives has been to get insights related to the linkages and the relationships of the variables and the sub- variables of both the dependent and independent variables through intensive research of the literature.

Excellence relates to best companies which have surpassed the best of the performance standards set by an Organisation in an industry. Three major approaches to Organisational effectiveness got developed in the West, namely Organisation development (OD), socio-technical systems, and human relations (Khandwalla 1992). All three have made inroads in developing societies; they integrate high Organisational performance with the well-being of the employees. The socio-technical systems approach seeks to relate and harmonise the social and technical aspects of the work (Trist 1981, cited in Khandwalla 1992). This approach originated at the Tavistock Institute in Britain, wherein the Organisation is viewed as an 'open system', that is open to external environmental influences. Changes within the Organisation are accomplished through action research. Organisation development is both an approach to Organisational functioning and a kit of tools designed to increase the effectiveness of Organisations (Beckhard 1969, Golembiewski 1988).

The term 'excellence' came to prominence with the book, "In Search of Excellence" by Thomas J. Peters and Robert H. Waterman in 1982, to which the New York Wall Street Journal cited as "one of the rare books on management". Peters and Waterman, while they were project leaders on Organisational effectiveness, way back in 1977, set up two internal task forces at McKinsey and Company—one to review thinking on strategy and the other to go back to the drawing board on Organisational effectiveness. Their work was initially borrowed from the idea expressed by Alfred Chandler, a business historian, who in 1962 said that structure follows strategy. In other words, a proper strategic plan evolves from the right structure. In the period following World War II till about 1970, Chandler's advice was enough to cause (or

maintain) a revolution in management practice that was directionally correct. However, Peters and Waterman later discovered that strategy rarely dictated structural solutions. In fact, crucial problems in strategy was that of execution and continuous adaptation: getting things done, staying flexible. Peters and Waterman worked to expand their diagnostic and remedial kit beyond traditional tools for business problem solving, which largely concentrated on strategy and structural approaches and focused to build some sort of major corporate capability—that is, to become more innovative, to be better marketers, to permanently improve labor relations, or to build some other skills that the corporation did not possess then. They finally concluded that any intelligent approach to organizing had to encompass, and treat as interdependent, at least seven variables: structure, strategy, people, management styles, systems and procedures, guiding concepts and shared values (i.e. culture). Subsequently, this popularly came to be known as the McKinsey 7-S Framework, where all seven variables starting with the letter ‘S’. Pascale and Athos (1981) assisted Peters and Waterman in their concept and also used it as the conceptual understanding for “The Art of Japanese Management”. Peters and Waterman after strengthening the conceptual understanding for the study of Organisational excellence undertook a full-blown research on the subject of excellence—which was defined by them as “continuously innovating big companies” —funded by McKinsey on an initially chosen 75 highly regarded companies. Finally, in-depth studies were carried out in more than 20 companies and in which eight attributes were identified that characterized excellent and innovative companies. They are (i) a bias for action, (ii) close to customer, (iii) autonomy and entrepreneurship, (iv) productivity through people, (v) hands-on value driven, (vi) stick to the knitting,

(vii) simple form, lean staff, and (viii) simultaneous loose-tight properties. The companies that were studied by Peters and Waterman (1982) had a preponderance of almost all eight attributes in some form or the other and were clearly visible and distinct. However, these eight attributes are conspicuously absent in most large companies today (Peters and Waterman 2005).

Khandwalla (1990) in another study of 'excellent management in the public sector', provided interesting insights into the working of the Indian public sector and the findings challenge many of the stereotype views held about the public sector, viz., that it is over-regulated, that it is incapable of professional management, or that it is destined to be sick. Khandwalla reported several examples of corporate excellence in the public sector besides also reporting growing rate of loss-making public enterprises beset with sloppy quality, rampant inefficiency, low productivity and government bureaucracy around the same time. Thus, in the late eighties, Indian Petrochemicals Corporation Ltd. (IPCL), owned by the GoI was the largest petrochemical company in the country, with a dominant market share in ethylene (basic material for petrochemical products) with high performance. Other examples of excellence included the State Bank of India (SBI), Petrofils Cooperative Ltd., etc. Examples of excellence among social development Organisations included the Comprehensive Rural Health Project, National Dairy Development Board (NDDB), Rural Education Programmes, Forestry, etc.

Maheshwari (1980) studied the decision-making styles of a dozen Indian corporations—half in the public sector and half in the private sector—and tried to relate decision styles to performance. Organisations that employed a participatory as well as an entrepreneurial mode of decision making were found

to be performing better than those employing authoritarian and conservative mode of decision making. Paul (1982) studied six large, successful developmental programmes and found that successful programs invested heavily in a learning strategy. They started with one rather than many goals and later diversified and expanded in a phased manner. The Organisation structure was found to be flexible to adapt to the overall strategy of the programmes.

Ganesh (1980) studied six Indian academic institutions, all teaching management, with a view to finding out the relationship between institution-building processes and the performance of the institution. The study revealed that different groups of processes contributed to excellence on different performance indicators. For instance, strong recruitment, enculturation, regeneration, and redefinition processes resulted in superior performance on capability development; strong processes vis-à-vis choice of model, decision making, structure, etc., led to excellence in innovative thrust; and strong processes concerning choice of early leadership, leadership style, dissemination of information about the institution led to excellence in market or domain penetration. The common measures of effectiveness, both within Organisations and the Organisation as a whole, focus on the extent to which targets or goals are met, e.g., sales achieved, units produced, profit generated, quality parameters achieved, etc. In well-run Organisations, well developed processes are in place, such as those related to individual performance appraisals, periodic reviews by sections, departments, functions, etc. Assessment criteria can be elements like low labour/employee turnover, good teamwork, high job satisfaction, high motivation, high commitment, low absenteeism, low grievances, less disciplinary actions (Cameron, 1980, Bramley 1986, Redshaw 2000), low attrition, high

engagement, etc. The review of literature will now focus on the three distinct types or sub-concepts of Organisational excellence.

According to Khandwalla (1992a), in a world of mediocrity and incompetence, human excellence acts like adrenalin. It dispels despair and galvanizes those who wish to do something worthwhile but are discouraged or intimidated by the odds against them. Human excellence comes in many forms: being best amongst competitors, doing much better than what one could in the past (where the competition is with one's own self, an example of a perfectionist), performing far better than a general standard, persisting and succeeding at a difficult task that can be accomplished only after a long haul, doing something unique, something no one has done before, etc.

Jha (2008) points out that companies which are applying total quality management strategies in a structural manner, by using an appropriate model for business or performance excellence, will have to achieve high strategic flexibility in human resource systems for moving towards excellence for competitive advantage. According to him, Organisations that are successful in developing flexible resources and processes are able to continuously improve and innovate in a never ending learning cycle.

Romig (2001) reports that today's Organisational leaders required a new kind of person having great managerial leadership talents and who did not depend on top-down Organisational superiority and subordination. Powerful leadership is about dealing with normal human responses such as fears, insecurity, self-doubt, confusion, etc firmly and sensitively, give support where it is needed and stand firm in the face of strong resistance. They help to create enhanced capacity in their people and who, in turn, become the steward of all the

Organisation's stakeholders (McLagan and Nel 1996). According to them, the new style of leadership requires changes throughout the Organisation and culture by looking deep within and transforming themselves, creating direct relationships with employees helping managers and front line to change, acting as focused visionary and increasing Organisational strengths.

A distinction at this point is needed to be made between an 'entrepreneurial leader' and a 'powerful leader'. Entrepreneurial leaders are those who are creating, managing and expanding the enterprise or the firm. When the enterprise becomes successful and the entrepreneur is known as a successful entrepreneur, these leaders become powerful. We can call those leaders as 'powerful entrepreneurial leaders'. Examples of 'powerful entrepreneurial leaders' are Kumarmangalam Birla, the Ambanis, the Tatas, Jaiprakash Gaur, etc. to name but a few. However, there are also some non-entrepreneur leaders who though have not created enterprises, but are at the helm of managing enterprises and competing with 'powerful entrepreneurial leaders' for survival, growth and excellence.

These non-entrepreneurial leaders are in fact intrapreneurial leaders and when their leadership becomes powerful, we can comfortably call them as 'powerful intrapreneurial leaders'. Examples of such leaders are Russi Mody, J.J. Irani, Ratan Tata, chairmen and managing directors of leading PSUs, etc. Powerful intrapreneurial leaders have to be in continuous and constant competition with powerful entrepreneurial leaders for a distinct competitive advantage and, therefore, they must have the competence and qualities of powerful entrepreneurial leaders. Since public enterprises leaders are not entrepreneurs per se, they are intrapreneurial leaders.

In achieving Organisational development and excellence, the role of a successful entrepreneurial and/or intrapreneurial leader is important and the leader has to be a powerful leader who can communicate and inspire by appropriate means, the level of competence necessary to influence a group of individuals to become willing participants in the fulfillment of innovational goals (Darling and Beebe 2007). They create new ideas, new products and services, new policies, new procedures and effective communication networks. According to Nurmi and Darling (1997) these leaders believe in “attention through vision”, “meaning through communication”, “trust through positioning” and “confidence through respect”. Through the vision they take their Organisations beyond the horizon and the established map.

Mendenhall (2008) strongly noted that while general findings of the studies on leadership have correlated with leadership behavior, they did not predict leadership behavior strongly enough to make them useful to the real-world Organisations. Scholars have realized that while traits play a role, other variables also are important in making leadership effective (Yukl 2006, cited in Mendenhall 2006). Behavioral approach focused on the initiating structure (task orientation) and consideration (people orientation) and studies carried out at University of Michigan and Ohio State University were not very helpful in providing insights to effective leadership processes (Bass 1990). It could not explain, for example, who could emerge as a leader among peers. The 1960s and the 1970s also saw an increase in studies as to how the situation (context, environment) affected the effectiveness of leadership. Various theories developed from this approach were Least Preferred Coworker (LPC) Model, Path-Goal Theory of Leadership, and Hersey Blanchard’s Situational Leadership

Theory—all focusing on delineating the relationships between the person, situation and leadership outcomes.

Goldsmith et al. (2003) list the following important leadership competencies to drive future Organisations towards excellence: genuinely listening to others, creating and communicating a clear Organisational vision, becoming a role model for living the very same Organisational values, uniting an Organisation into an effective team, clearly identifying priorities and focusing on vital few, building partnerships across the company, and constantly treating people with respect and dignity. Leadership competencies to lead Organisation in the 21st century in domestic Organisations can be drawn from McCall and Hollenbeck's (2002) model of global executives. The model is Transformational Self developed based on interviews with global executives (who are also global leaders) and focuses on the interaction and partnership between the individual and the Organisation. Most of the competencies are appropriate for leading public and private sector enterprises and a great deal of attention is paid to this model as these can be powerful drivers of Organisations towards excellence. The important competencies required to make a powerful leader, among others, can be: leading and managing others—selection; development, motivation and team building; dealing with problematic relationships—headquarters, bosses, unions, government, media, politics; and developing good leadership qualities within self and others.

Gupta and Govindrajan (1999) point out that globalization can be defined in different ways, depending on the level for which it is being talked. At the worldwide level, globalization refers to the growing economic interdependence among countries as reflected in increasing cross-border flow of goods, services,

capital and know-how. At the level of a specific country, globalization refers to the extent of inter-linkages between a country's economy and the rest of the world, as measured by things such as exports as a ratio of the Gross Domestic Product (GDP), inward and outward flows of foreign direct investment and portfolio investment, and inward and outward flows of royalty payments associated with technology transfer. At the level of a specific industry, globalization refers to the degree to which a company's competitive position within that industry in one country is independent with that in another country. The key indicators are the extent of cross-border trade within the industry as a ratio of total worldwide production, the extent of cross-border investment as a ratio of total capital invested in the industry, and the proportion of industry revenue accounted for by companies that compete in major regions. At the level of the specific company, globalization refers to the extent to which a company has expanded its revenue and asset base across countries and engages in cross-border flows of capital, goods, and know-how across subsidiaries. Key indicators are international dispersion of sales, revenues and asset base, intra-firm trade in intermediate and finished goods, and intra-firm flows of technology.

Yeung and Reddy (1995), in a survey of 1200 managers from 10 major global corporations in eight countries, identified articulating vision, values and strategy; acting as a catalyst for strategic and cultural change; empowering others; and having result and customer orientation as major leadership competencies. These competencies among leaders will make them more powerful and therefore, domestic leaders having these competencies will be powerful leaders and will make contributions towards the achievement of excellence. Bikson et al. (2003) —in structured interviews with 135 US HR and

senior managers in public, for-profit and non-profit sectors and unstructured interviews with 24 experts—examined the impact of globalization on HR needs, global leadership competencies, and policies and practices needed to produce sufficient global leaders. They found that integrated skill requirements, substantive depth in an Organisation's primary business, managerial ability (especially, teamwork and interpersonal skills) as important leadership traits and competencies to drive Organisations towards excellence. Responding to globalization issues towards the close of the 20th century, Kumarmangalam Birla pointed out that Organisations have to seamlessly relate to the international context for survival or be prepared to perish (Birla, 1999).

Hamel and Prahalad (1984, cited in Lynch 2000) have suggested five criteria for judging the appropriateness of a vision statement: foresight, breadth, uniqueness, consensus and actionability. The leadership role in creating a compelling vision, translating it into action and sustaining it has been highlighted by many researchers (Bass, cited in Northhouse 1997; Bennis and Nannus, 1985; Cardona 2000). It is not enough for leaders to be able to develop a simultaneously inspiring and realistic vision, but must be able to ably communicate and implement. Leaders must be effective, be credible and above all powerful. A large part of their power will come by their sharing the vision with their employees, involving them in implementing those actions desired for the fulfillment of the vision, whereby they are seen by their followers as people who can be followed and trusted.

According to Srivastava (2009), Organisational culture is a deep rooted phenomenon, which is the end product of several variables most of them being the offshoots of HR policies and practices. Based on a 'culture motivation' study

among managerial groups in two public enterprises, Srivastava reported different set of predictors of managerial motivation in two different public enterprises suggesting that each Organisation is a unique system operating in its own dynamics. According to the study, leadership and teamwork accounted for 53 percent of motivation among managerial personnel in public enterprises.

According to Rao (1999), any practice that deals with enhancing competencies, commitment and culture building can be considered an HR practice. These practices can be reflected in various forms like a process, an activity, a norm, a rule, an accepted or expected habit, or just a way of doing things. Similar to HR practices, Lawler et al. (1998) talked about the high performance work systems typically characterized by significant delegation of authority to lower level employees (empowerment), extensive training and development of employees, reliance on pay for performance, etc. Lengnick- Hall and Lengnick-Hall (1988) have emphasized the strategic fit of HR with business strategy. Schuler and Jackson (1987) have viewed HRM as a menu of strategic choices to be made by HR executives intended to promote the most effective role behaviors that are consistent with the Organisation strategy and are aligned with each other. The model was built on the generic competitive strategies outlined by Porter (1980) i.e., quality enhancement, innovation and cost leadership or reduction. For each strategy, Schuler and Jackson (1987) developed a set of “needed role behaviors”, which vary across a number of dimensions and then recommended a set of HR practices that are needed to bring about these behaviors.

According to Reddy et al. (2000), education and training, performance appraisal and profit are the three important HR processes. Sustainable

competitive advantage comes from adopting new mindsets and new practices for which employees need to be exposed to new things and practices. Performance appraisal process needs to be shifted from the domains of old assumptions to total revamping to guide and motivate people towards excellence. As profit is a measure of how well an Organisation is functioning, is effective and is efficient, sharing a portion of the profit so generated with all employees will encourage to think of Organisation as a whole. HRD plays a crucial role in the transformation of enterprises to globally competitive levels. New HR practices, aimed at managing processes involving people and team work at all levels, enables people to utilize their potentials to a large extent and pave the way for success in this globally competitive environment (Reddy et al. 2000). To transform CK Birla, there was a transition made to group focus to leverage people power. The model is known as ‘the CK Birla Group HR Model’ (Kumar and Venkatesan 2005).

Pareek and Rao (1982, 1991) has given the dimensions of power and trust and resulted in a matrix of four different types of perceived power—Only I, Only He, Neither and Both and combined with the dimensions of trust to arrive at cooperation or collaboration. The four dimensions of perceived power have been combined with minimum level of trust and arrived at eight behavioral situations.

OBJECTIVES OF THE STUDY :

The major objectives of the study are:

- To build a conceptual framework of the study relating to Human Resource Management.
- To examine the Human Resource Management practices in PSEs of Bihar-with special reference to Barauni Oil Refinery.

- To examine the recruitment, training and promotion practices in PSEs of Bihar.
- To examine the performance appraisal and employer employee relations in PSEs of Bihar.
- To analyze the impact of HRM practices upon the employees of PSEs of Bihar-with special reference to Barauni Oil Refinery..
- To analyze the growth, diversification and expansion of the company through HRM practices and to study its impact on socio- economic development of Bihar.

HYPOTHESES OF THE STUDY :

The hypotheses drawn for the present study are:

- The good HRM practices in public enterprises shall lead to their economic growth, which shall further lead to nation's development.
- The best use of human resources by the management develops competitiveness and responsiveness in the enterprise.
- The efficient HRM practices enhance the level of social responsibility and efficiency in the employees.
- Organizational excellence and safety can be developed by following good HRM practices.
- Training and development of employees' capacities always make the company grow.
- Diversification in business adds to the value of the organization and its employees work culture.

METHODOLOGY OF THE STUDY :

The present research has been made by using different techniques of data collection and then by making analysis of that data some conclusions have been drawn. The primary data was collected by using interview method and questionnaires were distributed to different level of employees in executive and non executive categories. Employees were given the choice to disclose their identity in the feedback form of questionnaire. Most of them did not disclose their identity. The results from interviews and questionnaires were analyzed and final conclusions were drawn. The over all mean score of satisfaction for nine practices of HRM was more than 90%. Hypotheses were tested.

Secondly data sources include the reports of Public Enterprises Surveys, reports and office orders from Department of Public Enterprises, various magazines, journals and newspapers. The specific data related to Barauni Refinery is available only on company's website or its own publications like annual reports, diaries and publications. The office orders and government circulars from Ministry of Petroleum and Natural Gas were also of great use in the research. Some other important sources of data include the reports of economic survey, reports of Planning Commission and the different websites of government of India.

To sum up, the majority of data was collected from secondary sources. Simple statistical techniques were also used in analysing the data.

SIGNIFICANCE OF THE STUDY :

As earlier mentioned in the introduction the industry is core industry and it has a very large investment of the state. So it can be said that the large

investments are blocked in the refineries undertaken for the study for the research purpose, it has been many reason for the significance of the study. The significance of the study is as follows:

- If analysis is done in various aspects like liquidity, profitability, assets utilization, the relevant information can be furnished to its various users for their decision making.
- It is also necessary to find out some important factors which affect internal decision of industry. So this research will be useful to refinery industry itself.
- As far as many financial and non financial institute and also government affects by its various financial aspects, its various ratios should be analyzed and the most common factors affecting refineries' financial position should be studied. So researcher feels its necessity and importance and therefore has chosen this subject for her doctoral research purpose.
- Privatization is taking place in the oil sector. So, there should not be monopolization of any unit and competitiveness should be increased of all the unit. To create this situation, every unit should find out their financial position and various factors which affects to their financial condition. This study will help to create this type of condition.
- Petroleum is a natural product and its sources are very limited. But the demand of petroleum product is increasing day by day. Oil demand grew by an average of 7.7% per year in last few years. For this, government should control his profitability and rate of oil prices. So if the data should

be analysed financially. Moreover profitability and other financial aspects can be taken into the notice of this core industry.

- Energy industry is obviously one of the most critical areas. Improving India's energy infrastructure requires a massive increase in investment in all the sub sectors. It also requires much greater level of efficiency to ensure low cost and good quality of service. So, to improve the level of efficiency analyzed data of this research will be necessary.



HUMAN RESOURCE PLANNING

Every organization requires diverse resources for its growth and development. Among them Human Resources (HR) Financial Resources (FR) and Technical Resources are important. Of these three, Human Resources (HR) plays most important role because it is the Human Resources (HR) that will determine the potentialities of an organization in terms of its production, marketing and expansion.

HRP is a process by which Human Resources are identified, determined and planned that an organization needs in order to meet both its short term and long term requirements. Bulla and Scoh (1994) define Human Resource planning (HRP) that “it is the process for ensuring that the Human Resources requirements of an organization are identified and plans are made for satisfying those requirements”. Human Resources planning is based on the concept that people are the most important strategic resources of an organization. Generally it is concerned with suitable resources to business needs both in longer term needs and in shorter term needs in terms of both quantity and quality. It also answers two fundamental questions “how many people” and “what kind of people”. Human Resource planning deals with the bigger issues of the methods of employment and development of people for the purpose of the

improvement of effectiveness of an organization. It therefore plays an important role in strategic Human Resource Management.¹

Human Resource Planning (HRP) is an integral part of Business planning. The Strategic planning process will define the changes protected in the scale and the types of activities carried out by the organization. It will identify the core competences the organization needs to achieve its goals. In as much as strategic business plans are articulated, human resource planning interprets them in terms of people requirements. However, it may influence the business strategy by drawing attention to the ways of development and deployment of people more effectively for the achievement of business goals. It will also focus any problem that may have to be solved in order to ensure that the people required are available and are capable of making the necessary contribution.

In this context, Quinn Mills (1983) observes that “Human Resource Planning is a decision- making process that combines three important activities.

- Identifying and acquiring the right number of people with the proper skills.
- Motivating them to achieve high performance.
- Creating interactive links between business objectives and people-planning activities.

“In situations where a clear business strategy does not exist, human resource planning may have to rely more on making broad assumptions about the need for people in the future based on some form of Scenario Planning” (Michael Arm Strong 2008).

Types of HRP :

There are two types of Human Resource Planning (HRP).

- Hard Human Resource Planning.
- Soft Human Resource Planning.

HRP based on quantitative analysis in order to ensure that the right number of the right sort of people are available when needed is called Hard Human Resource Planning. HRP concerned with ensuring the availability of people with the right type of attitudes and motivation and commitment to the organization is called Soft Human Resource Planning.

Marchington and Wilkinson (1996) describe that “Soft Human Resource Planning is more explicitly focused on creating and shaping the culture of the organization so that there is a clear integration between corporate goals and employees values, beliefs and behaviours”. They also observe that “the soft version becomes virtually synonymous with the whole subject of Human Resource Management”.²

Human Resource Planning mainly deals with broader issues about the employment of people while Man Power planning is concerned with the traditional quantitative approaches in vogue in older times. According to Liff (2000), such approaches arrive from a rational top-down view of planning in which well tested quantitative techniques are applied to long term assessments of supply and demand”. She further observes that there has been a shift from reconciling numbers of employees available with predictable stable jobs, towards a greater concern with skills, their development and deployment.

Stages of HRP:

HRP comprises three stages as mentioned here under.

- Forecasting future people needs (Demand Forecasting)
- Forecasting the future availability of people (Supply Forecasting)
- Evolving plans to suit supply and demand.

Casson (1978) views that “this Conventional wisdom represents Human Resource Planning (HRP) as an all embracing policy making activity producing on a rolling basis, precise forecasts using technically sophisticated and highly integrated planning systems”. He also suggests that it is better regarded as, first, a regular monitoring activity, through which Human Resource stocks and flows and their relationship to business needs can be better understood, assessed and controlled, problems highlighted and a base established from which to respond to unforeseen events, and second, an investigatory activity by which the Human Resource implications of particular problem and changing situations can be explored and the effects of alternative policies and actions investigated.”

He further points out that “the spurious precision of quantified staffing level plans has little value when reconciled with the complex and frequently changing nature of man power, the business and the external environment”. The concept of Human Resource Planning (HRP) fails because the ability to make these estimates must be severely limited by the definitely predicting the influence of external events. “There is a risk that sensible anticipation gets converted into foolish numbers and their validity depends on large, loose assumptions”, according to Heller (1972).

To-day Human Resource Planning (HRP) is in all probability to concentrate on what skills will be needed in the future. It may provide a broad indication of the numbers required in the longer term. Yet in some circumstances it may make short term forecasts when it is possible to predict activity levels and skills requirements with a reasonable degree of accuracy. Such predictions will often be based on broad scenarios rather than on specific supply and demand forecasts.

THE ORGANIZATIONAL CONTEXT OF HRP :

HRP occurs within the context of the organization. “The extent to which it is used, and the approach adapted, will be contingent on the extent to which management reorganizes that success depends on forecasting future people requirements and implementing plans to satisfy those requirements”, according to Michael Armstrong (2008). The approach will also be affected by the degree to which it is possible to make accurate forecasts. Organizations working in difficult environments in which future activity levels are impossible to predict may depend on ad hoc and short term measures to recruit and keep people. However, even these businesses may benefit from those aspects of human resource planning that are concerned with policies for attracting and retaining key staff.³

THE PROCESS OF HUMAN RESOURCE PLANNING (HRP) :

The Process of Human Resource Planning (HRP) is illustrated diagrammatically given in Fig.1. Michael Armstrong (2008) spells out the process of Human Resource planning (HRP) that it is not necessarily a linear one, starting with the business strategy and flowing logically through to resourcing, flexibility and retention plans. According to Hendry (1995) the

process of HRP may be circular rather than linear, with the process starting anywhere in the cycle. For instance, scenario planning may impact on resourcing strategy, which in turn, may influence the business strategy. Alternatively, the starting point could be demand and supply forecasts which form the basis for the resourcing strategy. The analysis of labour turn over may feed into the supply forecast, but it could also lead directly to the development of retention plans. There can not be a well articulated business plan as a basis for the HR plans. The business strategy may be evolutionary rather than deliberate. It may be in parts intuitive and incremental. Resourcing decisions may be based on scenarios riddled with assumptions that may or may not be correct and can not be tested.

Resourcing strategy may be equally vague or based on unproven beliefs about the future. It may contain statements about for example building the skills base, that are little more than rhetoric. There is a systematic approach to developing, resourcing strategy, scenario planning, demand and supply forecasting and labour turnover analysis. The degree to which HRP can be carried out systematically will depend on the nature of the organization. If the future is fairly predictable then formal planning might be appropriate. If it is not so, the approach to human resource planning might have to rely on broad scenarios rather than precise forecasts.

RESOURCING STRATEGY :

According to Keep (1989) the objective of HRM resourcing strategy is to obtain the right basic material in the form of a work force endowed with the appropriate qualities, skills, knowledge and potential for future training. The selection and recruitment of workers best suited to meeting the needs of the

organization ought to form a core activity upon which most other HRM policies geared towards development and motivation could be built.

The strategic capability of an organization depends on its resource capability in the form of people. This concept provides the rationale for resourcing strategy. The aim of this strategy is, therefore, to ensure that an organization achieves competitive advantage by employing more capable people than its rivals. These people will have a wider and deeper range of skills and they behave in ways that maximize their contribution. The organization attracts such people by being the employee of choice. It retains them by providing better opportunities and rewards than others. It also develops a positive psychological contract which increases commitment and creates mutual trust. Besides, the organization deploys its people in ways that maximize the added value that they supply.

Components of Resourcing Strategy :

Michael Arm Strong (2008) indentified three components of resourcing strategy.

Resourcing Plans:

These plans find people from within the organization and / or for training programmes to help people learn new skills. If needs are not satisfied from within the organization, resourcing plans prepare longer term by attracting more qualitative candidates as the employer of choice.

Flexibility Plans:

These plans increase the feasibility in the use of human resource to enable the organization to make the best use of people and adapt swiftly to changing circumstances.

Relation Plans:

These plans are intended to retain the people the organization needs. Resourcing strategy provides the basis for these plans within the frame work of business needs. It will be more effective, if it is supported by scenario planning

Scenario Planning :

Scenario planning is also called by the name, the formal strategic planning technique. An advanced learner's oxford dictionary defines a scenario as "an imagined sequence of future events". It is a more or less formalized process for establishing a view about any changes that can be seen to the scale and type of activities in the organization and to its structure. It identifies all external environmental changes that are likely to affect it. It aims at obtaining a better understanding of the possible situation that may have to be dealt within the future. In this context, Reill(1999) observes that " Scenario planning tries to open minds to a range of possibilities that organizations may have to confront. These possibilities are then ordered to produce a series of internally consistent pictures of alternative futures. It is an intellectual process that seeks to identify issues and examine the possible consequences of events

The scenario planning involves making broad assessments of likely internal developments. It shows the direction in which the organization is going and the implications this has on people requirements. According to Michael Armstrong(2008), the assessments may have to be made in the absence of any articulated business plan, and thus involve questioning top management and key line managers on how they see the future, and asking them to interrupt what this means in terms of their human resource needs Assessments also have to be made

on likely changes in the external environment as it may affect the labour market. Scenario planning also helps sometimes in estimating future people requirements. However, wherever it is feasible attempts can be made to produce demand and supply forecast. They will help in determining the type of action needed to be taken if the forecasts indicate the possibility of a human resource deficit or surplus.⁴

Demand Forecasting :

Demand forecasting is a process of human resource planning by which the number of people, their skills and competencies required for an organization is estimated. The ideal basis of the forecast is an annual budget and longer term business plan, translated into activity levels for each function and department or decision on downsizing.

Supply forecasting :

Supply forecasting is a process of human resource planning by which the number of people to be available within and outside the organization is measured. Supply forecasting is based on the following six factors.

- An analysis of existing human resources in terms of numbers in each occupation skills and potentials.
- Forecasting losses to existing resources through attrition.
- Forecasting changes to existing resources through internal promotion.
- Effecting changing conditions of work and absenteeism
- Sources of supply from within the organization.
- Sources of supply from outside the organization in the national and local labour markets.

The analysis of demand and supply forecasts determines whether there are any deficits or surpluses. It provides the basis for recruitment, retention and downsizing if necessary computerized planning models can be used for this purpose. The basic forecasting calculations can be carried out with a spread sheet that sets out and calculates the number required for each occupation.

The analysis of the number of people leaving the organization which includes labour turnover or wastage provides data for use in supply forecasting so that calculations can be made on the number of people lost who may have to be replaced. The analysis of the number of leavers and the reasons why they leave provides information that will indicate if any action is required to be taken to improve retention rates. It can encourage further investigations underlying causes and identifying remedies.

The current economic context, marked by increased competition, integration and especially the need to maintain competitive advantage in an increasingly uncertain business environment, have led to the introduction and the deployment of human resources activities until recently neglected. Thus, more companies in India have started to develop and implement organized planning and career development systems of employees.

In human resource management, career planning aims to identify needs, aspirations and opportunities for individuals' career and the implementation of developing human resources programs to support that career. Career planning is seen as a very systematic and comprehensive process of targeting career development and implementation of strategies, self assessment and analysis of opportunities and evaluate the results.

The career planning process involves both the organization and the individual responsibility. Thus, the individuals must identify their aspirations and abilities, and through assessment and counseling to understand their needs of training and development; the organization needs to identify its needs and opportunities, to plan its employees and to ensure its staff the necessary information and appropriate training for career development.

Therefore, career planning must link individual needs and aspirations with organizational needs and opportunities, evaluating, advising and informing its staff on career planning, individual development efforts with training and development programs. Most often this match is not done, the organizations paying a differential attention to its employees, planning career of the high performance individuals with greater opportunities for promotion and not taking into account the performance potential employees. The issues to be considered in the planning of career are:

- organization members should be recognized and treated as individuals with needs, desires and unique skills;
- individuals are more motivated in an organization that meet their aspirations;
- individuals may develop, change and discover new courses of action if they are shown exactly the opportunities or if they are encouraged and guided.

The specialized literature recommend that career counseling activities should be introduced for all the employees, as a formalized activity of the human resources department. Creating a special service for career counseling, consists

of specialists with psychosocial and / or managerial training, who knows both individuals and organizations needs, would lead to a better alignment between the individuals needs of fulfillment and organization objectives.

According to the experts in human resources management are the following models of career planning:

- **“Chance and luck” model.** This model is that employee, to get the desired position, is based only on luck. He must be persevering and always be in place at the right time.
- **“Organization knows best” model.** The model is based on the fact that the employee is moved from one job to another according to the needs. This model is supported mainly by young employees, who are dependent on adults for all the views, and less than adults employees.
- **“Self – oriented” model.** This model provides importance to the individuals; the employees are establishing their own development during their career, while having assistance too.

There are two approaches to career planning, depending on the emphasis on the needs of the organization or on the individual objectives:

a) The organization centered planning system which aims:

- the development of Human Resource needs;
- to improve the quality of human resources to increase productivity;
- defining career paths;
- individual potential of job evaluation;
- harmonization of organizational and career needs;

- career counseling of work and life quality;
- audit and control of the planning and career development system.

b) *The person centered planning system* which aims:

- to identify the potential, skills and interests of the individual;
- to identify the purposes of his life and his career goals;
- to develop a written plan to achieve individual goals;
- researching or seeking and obtaining the best career start;
- to communicate the career plan directly to individual by his manager;
- request career guidance;
- internal and external opportunities' assessment;
- request mentor or sponsor support;
- promote their self image or recognition of their own qualities.

EMPLOYEES' CAREER PLANNING RESPONSIBILITY :

An important aspect of career planning is to establish the extent to which the two parties (individuals and organizations) are responsible in this process. On one hand, the individual is responsible for its development along the stages of his life and, secondly, the organization involved in planning and development of career helps to improve the organizational environment and enhance employee satisfaction at work.

According to the theory and practice of management, the career planning process focuses particularly on individual skills, abilities, needs

or aspirations. Given all this, the individual will create a basic information necessary to ensure preparedness for a possible promotion.

Individual career planning can be defined as all actions of self assessment, exploration of opportunities, establishing goals etc., designed to help the individual to make informed choices and changes about career. It is a complex action that requires systematic and careful thinking in formulating short and long term objectives.

Career planning is based, therefore, on the evaluation of individual skills, interests and motivation, on the analysis of organizational opportunities, setting goals for their careers and develop a strategy to achieve those goals. Individual career planning can browse through five steps:

- *Self assessment* is the collection of information about yourself (values, interests, skills), continuous assessment and reporting to others;
- *Exploring opportunities* involves gathering information about existing opportunities within but also outside organizations (training and other development methods);
- *Making decisions and setting goals* on short and long term for training requirements, change of job / department etc.
- Planning consists of determining ways and means of achieving goals, ordering their actions to achieve them, considering its consequences, setting deadlines and resource requirements
- *Pursuit of achievement goals*, action by the individual accounts for his successes and failures and make decisions to retain or change career course.

Individual perspective on career is determined by the *status of the individual professional and personal life, age, family circumstances, financial expectations, desired lifestyle*, etc. Some individuals are hoping to be promoted to a senior position within an organization, others want to take a new job in another organization, accepting new and different responsibilities by investing in developing new skills and acquiring new abilities, reducing or increasing the number of work hours, or looking for jobs with a flexible working schedule.

Organizational responsibility on career planning :

To be viable, on short-term, or to maintain competitive advantage, in the long term, organizations must match employees with appropriate skills in the right positions. The type and skills of the employees are different, depending on the scope of the firm, economic sector, specific technology, consumer characteristics, etc.. Peculiarities of organization affects the jobs structure, the types of recruited employees for each job and the development ways on the job. Many employers offer numerous promote opportunities to certain types of positions and limited opportunities for others.

CAREER :

Organizational career planning has a critical role in attracting, developing and maintaining the staff. Without organization's involvement in establishing, supporting and strengthening the careers of its employees it can not achieve the expected results at both organizational and individual level.

THE ORGANIZATIONAL CAREER PLANNING SYSTEM :

Due to numerous changes manifested in the lives of individuals and organizations, the idea of developing a fixed career trajectory has become

somewhat outdated because fewer are those who plan on long term. Careers are shorter and more unstable, job security is reducing and the short-term employment becomes more common. Most individuals are expected to change several jobs throughout their working lives and to participate in a variety of projects.

The reduced number of jobs available within organizations and restrict managerial levels have led to changes in the traditional route to an organizational career development. There are fewer promotion opportunities so that employees are keeping the same job on longer periods before being promoted. The traditional career path involved an upward mobility, giving to the employees the certainty of an well- defined promote pathways. Currently, the emphasis is on job rotation, multiple skills development and sideways promotion.⁵

Designing and implementing a career planning system is useful to the organizations for identifying the employees development needs and matching them to the business needs.

The career planning system contribute to increased employees professional satisfaction because it helps them to identify and take positions consistent with their objectives and plans. From the perspective of the company, career planning system reduces the needed time to fill the vacancies, help succession planning (preparing employees for filling positions that became vacant following staff turnover or retirement), identify employees with management potential and ensure to all employees the opportunity to identify career goals and develop plans to achieve them.

The main components of career management system :

Career planning systems differ in terms of complexity and of emphasis on certain components of it. However, all career planning systems include the following components:

Self assessment assists employees in setting goals, values, skills and behavioral trends. Psychological tests are used as „Inventory goals Strong–Campbell” (it helps employees to identify occupational and professional goals) and „self quest” (it identify the employee’ preferences for different working environments - sales, consulting, etc.) which contributes to identify the level of emphasis on work and leisure. Career counselors are often used to assist employees in self-evaluation process and in interpreting test results.

Reality check: the employees are informed on how the company assess their skills and knowledge and what place they took on company plans (eg opportunities for promotion, lateral moves). Usually, this information is provided by the direct managers in the performance evaluation process; the discussion on career development can take place separately.

Setting goals: Employees establish the short and long term career objectives that are related to concerned *professional positions, the necessary level of competence, setting steps forward, learning new skills*. These objectives are discussed with the manager and recorded in the individual development plan.

Planning activities: during this phase, the employees determine how to achieve short and long term career goals. These plans may include attending lectures and seminars, applications to fill vacancies within the company or participating in interviews.

THE ROLES OF THE EMPLOYEES, MANAGERS AND ORGANIZATION IN CAREER PLANNING :

The employees, managers and organizations (Hollenbeck, et al., 2008) share the responsibility for career planning.

The Employee's Role :

Regardless of the operating organization, the individuals must be actively involved in managing their careers, motivated of its beneficial effects on welfare.

- ***The economic standpoint*** – at a basic level, the work provides an income to the individuals to ensure their existence and their families and to satisfy other interests, hobbies and recreation; career opportunities are a source of *extrinsic motivation* (external) for employees.
- ***The psychological standpoint*** – as a source of spiritual comfort, the work provides a sense of accomplishment and gives a meaning to the individual existence. Psychologically, career opportunities are an important source of *intrinsic motivation* (internal) for employees.

The Psychological Contract consists of all the expectations that employers and their employees have from each other. In general, the *psychological contract* emphasizes that *the organization will offer job security and promotion opportunities if the employee remain in the company and maintain a high level of professional performance*. However, due to technological change, competition and structural social, psychological contract between employees and organizations has changed. The organizations can no longer offer job security and promotion opportunities and employees are more interested in a job that offers challenges, diversity and opportunity to be creative.

The employees are still interested in job security even if they realize that having a job within the same company throughout working life is an unrealistic goal.

The new psychological contract suggests that employees can become more valuable to employers by taking responsibility for their career planning. The organizations which have structured career planning systems expects from their employees to take responsibility for planning their own careers. Some of it provide to the employees a crash course to familiarize them with the organization's specific career system; the participation is voluntary and employees are doing their self assessment, identify their career goals and prepare their action plans. Follows that, after a discussion with team manager, to work towards reaching the targets. Other organizations develop and make available to employees a planning guide which guides the development stages of self-assessment, target setting, development planning and action plan.

Regardless of the complexity of the career planning system, employees should take the following actions:

- to take the initiative in the sense of requiring feedback from peers and chiefs regarding the strengths and weaknesses of their skills;
- to identify the stage of career development and the development needs;
- to seize as many opportunities to learn (about sales, product design etc.);
- to interact with employees from different work groups within and outside the organization (eg professional associations, project teams).

The Manager's Role :

Regardless of the career planning system type in the organization, managers have a key role in its planning process. Generally, the employees ask

for advice on career to their direct managers because they are the ones that determine the level of training and assess their ability to promote. However, the managers are the main source of information on job vacancies, training courses and other development opportunities. Unfortunately, many managers are reluctant to engage in the employees's career planning activities because they do not feel prepared to answer questions related to their career, have a limited time allocated for these activities or they are not able to relate to a full understanding of their needs. To help the employees in this process, managers must demonstrate effectiveness in four parts: a coach, evaluator, counselor and referral agent. The success of manager- employee discussion about career (Otte, et al., 1992) is based on achieving the following aspects:

- The managers need to form a complete picture of the employee's work-related purposes and goals;
- The manager and the employee agree on the next steps for development;
- The employee understands the manager's perception of his performance, development needs and career options;
- The manager and the employee agree on how the employee' needs are satisfied with the current job;
- The manager identify the resources to help the employee to achieve the committed objectives set out in their discussion.

A key role of a manager within an organization is to provide employees with *career development coaching*. The purpose of this type of coaching is to help employees to consider various career options and make decisions for them. In return, the organization will benefit from identifying the employee's career

prospects, thereby could plan and provide the opportunities to achieve their goals. Outside the manager, the coaching could be provided by the human resources professionals within the organization. The coach manager can help the employees to assume different roles within the organization such as: a coach for the new employees, mentoring for potential successors, or leadership teams or committees. Thus, individuals perform their generative task: they share to others what they know, giving themselves what they received, thus showing care for the next generation. One of the difficulties created by *the flattening of career* and *lateral transfers* is that *the employee status* is determined rather by *the job, title, number of promotions and salary*, and less by the performance, expertise, entrepreneurial and team spirit. Redefining the prestige and held position will encourage the employees to remain in the organization and not to seek a job elsewhere or preferment.⁶ The specific items of the manager's role in career counseling are:

- To design and to implement systems and standards of performance assessment: the role of helping to clarify the organization's opportunities to develop and discuss options and directions for future development organization that employees can prepare and adapt to new requirements;
- Analyzing current and future career plans;
- Setting Goals: manager occupies a unique position to assess and discuss the employee's dedication to his professional goals. Manager may refer the employee to assess his motivations and choices regarding career, getting actively involved in setting career goals and planning actions;

- Systematic encouragement and support of staff during the implementation of the agreed strategies for career;
- Working with employees who feel stressed or unhappy at work: interpersonal problems of the work place (eg. disputes with colleagues or other team members) may adversely affect one's performance. Coaching to develop communication skills and to find ways of conflict resolution can improve performance and it can keep the employee on his career path.

The Organization's Role :

The organizations are responsible for providing the necessary resources to be successful in the employees' career planning. These resources include:

- **Career workshops:** seminars on various topics (how does the system of career planning, self assessment or setting goals);
- **Career centers or information systems** (or databases places where / from where the employees can learn about job openings or training programs);
- **Career planning guides** (printed matter for guidance the staff which contain exercises, discussion and advice on career planning);
- **Career counseling** (advice by a specialized professional counselor in assisting the employees interested in career planning);
- **Career paths (directions)** (planning job stages, identifying the skills needed to advance within the same family of channels such as wireless promoting a technical professional position in a managerial position).

The organization must monitor the career planning system to ensure that both managers and employees use it properly and especially to assess how it is useful in achieving its business objectives.

CONCLUSIONS

Restructuring of the organizations in the current crisis (marked by mergers, layoffs and restrictions on activity) and change their strategies make career planning a very important process for both employees and employers. From the company perspective, the failure to motivate the employees by planning their careers can lead to hinder the process of filling vacant posts, a decrease of the staff involvement and an inappropriate use of the money allocated to training and development programs. From the employees' perspective, the lack of career planning can lead to frustration, feelings of not being appreciated by the company and non identifying the right position leads to the need of a job change and / or the company (particularly in the current crisis). Career planning is effective when the organizations use fully the skills and knowledge of their employees and they are motivated to achieve maximum performance and be satisfied with their work, which helps the organization to achieve its objectives. The frequent manifestation of layoffs, especially in the current crisis, requires that employees demonstrate certain skills and competencies that prove indispensable to the actual or potential employers.

The success of human resource planning mainly depends on the will of the organization to devise such plans that will attract people to work in an environment of peace, tranquility, progress, growth and development of both employer and employee. It is possible for any organization to evolve and

implement a sound HRP, if it is based on quality + quantity +spirit of Harmony among the people that they recruit.

References:

1. Aswathaappa, K (2007) Human Resource Management, Tata MC Graw Hill Publishing Co. Ltd. New Delhi. p.36-45
2. Abani, A.S. (1978) : "Professional management in State Level Public Enterprises", Lokudyog, March, p.58-62
3. Ibid
4. Agrawal, M.N. (1989) : "State Level Public Enterprises in Gujarat", in R.K. Mishra, S. Ravishankar, R. Nandagopal, Management of State Level Public Enterprises in India, National Publishing House, New Delhi.p.65-71.
5. Ahsan, Q. (1987) : "Working of the State Level Public Enterprises", in A.N. Sharma and Shaibal Gupta, Bihar : Stagnation or Growth, S.P.H., New Delhi. p.82-91
6. Atmanand (1988), "Bihar and its Public Enterprises—I", The Hindustan Times, Feb. 25. p.19.20



RECRUITMENT AND SELECTION

Human resource management is the strategic and coherent approach to the management of an organization's most valued assets, that is, the people who individually and collectively contribute to the achievement of the objectives of the organization.

At the start of the 21st century, there were increasing claims that the route to competitive advantage is achieved through people. In a situation where identical non-people resources in the form of finance, raw materials, plants, technology, hardware and software are made available to competing organizations differences in economic performance between organizations must be attributed to differences in the performance of people.

For senior managers in an organization whose task it is to plan a response to the pressure for continuous changes, the attraction, recruitment and selection, utilization, development and future of the organization ought to be consistent with line functions such as finance, marketing and production etc. in the course of drawing strategic plans.

Either explicable or implicitly, all organizational strategies will contain human resource aspect. There are however, a long-run debate on whether human resource managers should have an input in the process of strategy making. A

crucial element and the crux of the matter in this is the degree to which a link exists between human resource practices and performance of an organization.

In recent years, there have been growing efforts to test or establish a casual link between good Human Resource Management based on high trust, high commitment and high productivity. Furthermore, it might be argued that the management of people as a strategic asset provides an opportunity to embrace the high performance paradigm of human resource management actually based on high trust, high commitment and high productivity.¹

Human resource inputs might emphasize the importance of integrating policies and procedures with a business strategy in which people are seen as a factor of production required to ensure that the business plan is fruitfully implemented. The more business plans are based on figures and mathematical models, however, the greater is the need for information about people to be expressed numerically and also for plans about people to be designed to fit into the business plan. The growth of what is Human resource planning techniques through the 1960s provided such information and incorporation of same into comprehensive computer models were a key factor in the development of human resource functions. In this regard, this article is geared towards establishing the importance and role of human resource planning as a corporate activity that drives other human resource functions notably recruitment and selection process.

Human Resource Planning, Recruitment and Selection:

According to Fajana (2002). Human resource planning deals with the systematic and continuing process of analyzing a firm's human resource needs under mutating conditions and developing workforce policies suitable to the

longer-term effectiveness of the organization. It is a vital part of corporate planning and budgeting procedures since, human resource costs and forecasts both affect and are affected by longer- term corporate plans.²

Planning involves the forecasting of human resource needs in organizations and designing appropriate actions such as recruitment, training and career development based on identified needs. Planning is carried out within the goals and general policy framework of the firm or agency. It is also affected by public policies, changes in technology and availability of manpower. Human resource planning involves a complex task of forecasting and planning for the right numbers and the right kinds of personnel at the right places and at the right time to perform activities that will benefit the organization in accomplishing its objectives and in helping its members to satisfy their needs. Human resource planning will be successful to the extent that it properly coordinates each of enumerated elements and it is essentially the fitting of resources to business needs in the longer term or shorter term as the case may be.

Human resource planning is a vital ingredient for the success of the organization in the long run. There are procedures to be followed by an organization which ensures that it has the right number and kind of people at the right place and time to enable achieve its objectives. The main functions of human resource department are: human resource planning, selection and recruitment, training and development, career planning, transfer and promotion, risk management, performance appraisal, etc.

Thus, employers need to see the attraction and retention of employees as a part of the employment relationship based on a mutual and reciprocal understanding of expectations as well as attempt to predict how a potential

employee might behave in future and make a contribution to the organization's requirements. (Newill and Shackleton, 2000). Many approaches to recruitment and selection tend however, to emphasize the power of employers. For example, traditional approaches attempt to attract a wide choice of candidates for vacancies before dropping out those who do not match the criteria set in job descriptions and personnel specifications for the job. Employees seen as part of the primary internal market become the focus for the bundle of human resource practices (Cooke, 2000). They bring about increased motivation, an increased acceptance of responsibility, dependent skills and greater commitment, providing the organization with a competitive edge. Such employees become part of an organization's core workforce while recruitment and selection process represent the entry point of activities. Approaches to the recruitment and selection of employees which forms the secondary internal market could be subject to less screening at the point of entry, attention being paid mainly to possession of required skills. The employees might be recruited and selected by cheaper methods but must be aligned to organizational strategy via specification of required competencies.³

Recruitment and selection are critical processes for organizations. In recent years, there has been growing evidence that the formation of a positive psychological contract with employees provides the basis for a positive outcome in terms of organizational commitment and motivation. Recruitment and selection are vital tools in the formation of the expectations that form such a contract. With emphasis on a two way flow of communication; employees select an organization that offers them better working conditions and incentives for long term career.

Armstrong (2009) states that recruitment and selection process come in four stages: defining requirements, attracting candidates, selecting candidates and placing them on the job. Correspondingly, Robertson and Smith (2001) support Armstrong's viewpoint and added personality assessment to the lists guided by tests and interviews, the British Psychology Society (BPS) (2007) concludes that the ability tests measure the capacity for: verbal reasoning, numerical reasoning, spatial reasoning and mechanical reasoning.

The CIPD (2007) in the course of reviewing all the assessment methods notes that online testing is growing in popularity. Online test are mostly used for recruiting graduates and when dealing with high volumes of applicants. Giving more grounds and credence to online tests, the International Test Commission (ITC) (2005) states in its guidelines that only the use of websites mounted by test, publishers could offer validated psychometric tests; test alone may not provide a complete assessment of an individual as it does not contain other ancillary information. Test-takers must be provided with clear instructions on how to take the test and relevant feedback provided to them; and when individuals take an unsupervised test, procedures should be established to check if the test-takers original responses are consistent with the responses to the confirmatory test.

Ulrich and Brockbank (2005) propose four roles for HR planners which include: managing strategic HR, employee contribution, transformation and change and HR infrastructures to support line managers. Guest and King (2004) in their research found there was little emphasis on the first three roles; instead the focus appears to be placed on managing infrastructures. Nevertheless, Ulrich and Brockbank (2005) in a revised model gave equal emphasis to the need for

HR people to be administrative experts, employee champions and change agents. In the opinion of Syrett (2006), whatever strategic aspirations senior HR parishioners have may amount to nothing if the functions they represent cannot deliver the essential transactional services their internal line client require.

Boxall and Purcel (2003) observe that many organizations including the well resourced still imagine that recruitment is all about attracting young workers fresh from schools or after only a few year in the labour market. However, according to Pilbeam and Corbridge (2002) recruitment and selection extends to attracting suitable candidates, eliminating unsuitable candidates and converting the successful candidates to an effective employee.

The integration of business plan and HR planning is likely to be more appropriate in a stable market place with largely passive (and static) customers and with scope of long-term forecasting because of the predictability of demographic change. This applies to many public sector enterprises and it is happening under the name of workforce planning (Employers' organization for Local Government , 2003). Brian (2006) posits that a well interpreted business plan seeks to address varying important issues. Guided by the business plan, HR planners will have well designed and sound sourcing demand programmes for different dates in future which then can be compared with the rough supply programmes by striking a balance. Linking HR planning to business planning interprets these plans in terms of people requirement. However it may influence the business strategy by drawing attention to ways in which people can be developed and deployed more effectively to enhance the achievement of business goals as well as focusing on programme that might have to be resolved to ensure that the people required will be available and will be

capable of making the necessary contributions (Armstrong, (2009). Taylor 2008) stressed that employers quite simply prefer to wait until their view of the future environment clears sufficiently for them to see the whole picture before committing resources in preparation for its survival. The perception is that the more complex and turbulent the environment, the more important it is to wait and see before acting. However, Farnham (2006) departs from Taylor in theory and practice. Farnham states that HR planning is important because it encourages employers to develop clear and explicit links between their business and HR plans and integrates the two more effectively. It also allows for better control over staffing costs and numbers employed and enables employers to make more informed judgements about the skills and attitude mix in organizations. Farnham (2006) expresses displeasure that organizations give little time to HR planning because of lack of resources and skills, time and effort required and absence of relevant data to do so.

On strategic role of HR planners, Wright et al (2004) stress that they contribute to the development of business strategies; The emphasis on quantities flow and mathematical modeling which people appear to be the main concern of HR planning in the 60s and 70s is at least complemented by and integrated with a qualitative view of people whose performance was at core of business strategy (Legge, 2001). Dainty (2000) holds the view that a workforce can save the organization a lot of money and at the same time add competent staff to the organization to surpass business target. In support of the foregoing view, Hunger and Wheelen (2003) state that HR alignment implies integrating decisions concerning employees with decisions regarding the outcomes a business is attempting to reach in line with the objective of the company in question.

The penalties for not staffing an organization correctly are costly. Understaffing loses the business economies of scale and specialization, orders, customers and profits. Overstaffing on the other hand is wasteful and expensive. If sustained, it is costly to eliminate because of modern legislation in form of redundancy payments, consultation, minimum period of notice etc. Very importantly, overstaffing reduces competitive efficiency of the business enterprise.

PROBLEMS OF HUMAN RESOURCE PLANNING :

Human resource planning involves projecting how many people will be needed to fill positions in an organization. This planning occurs in a changing environment. Organizations study their short-term and long-term needs in hiring new employees. Uncertain economic conditions such as trade competition and changes in technology are examples of contingency that can make an organization adjust its hiring needs.

Hiring new employees can be a challenging part of human resource planning. People can be complicated elements and working with them could portray horrifying experiences. Furthermore, one has to navigate through state and corporate rules, policies and procedures, and also deal with different types of personalities, needs and crises. Understanding some of these challenges one may face in the course of human resource planning could help for hitchfree HR planning when problem(s) arises:

Employee Attitude: The unfortunate side of human resource planning is dealing with difficult and problematic employees. As in life situation, workplace is staffed with different kinds of people coupled with other negative tendencies

which employers must contend with. Human resource personnel are often called to assist with mediation, coaching and even disciplinary actions to foster harmonious and orderly work environment. To prevent hiring problematic employees, human resource planners must use valid and reliable screening instrument. However, it is important to keep documentation of the hiring process and clearly define expectations from the potential applicants.

Workplace Diversity: Companies must encourage absorption of different talents and skill sets from all spheres of life to promote expansion, globalization and progress. Diversity can help foster a productive and innovative work environment as blending of new ideas, different perspectives, as well as different approaches to work and problem-solving will not only be result-oriented but also rewarding to the employer.⁴

Mismatch Between Applicants' Skills and Jobs: An organization may find it difficult to fill vacant positions and consequently engage the services of on consultant. This might be due to pressure or more demand within the organization and not because there is no available talent in the job market. Another reason is likely to be that the organization's recruiting strategies are not attracting the right talent. Being unable to fill positions necessary to achieve operational goals leaves an organization in a weak business position. Consequently, forecasting human resource needs should be supported with effective recruitment, replacement and retention policy framework.

Environmental Factors: Environmental issues are domiciled in an organization. Demographic changes affect the internal work climate. Differences in work value between generations, such as Baby Boomers and Generations X and Y, mean that employees have different preferences, motivations, interests,

aspirations etc and these diverse inclinations have to be satisfied or addressed by the employer.

ROLE OF HR PLANNING IN FACILITATING RECRUITMENT AND SELECTION PROCESS:

HR planning has an important role in facilitating the entire recruitment and selection process particularly:

Facilitating the Pre-Recruitment Review: The facilitating of the Pre-recruitment review involves providing advice on whether any internal staff should be considered for filling the new staffing need and if so, what process should be used in considering them; or providing advice on whether the new staffing need should involve giving opportunity to both internal and external applicants.

Providing Expert Advice and Guidance: This focuses on providing expert advice and guidance in the early stages of the recruitment particularly with defining the position, drafting the advertisement, identifying and advising on suitable channels for advertisement, arranging for the announcement to be placed through the agreed channels, and advising on the composition of the selection committee and allied matters.

Functioning as an Expert Adviser to the Selection Committee: The HR planner functions as an expert adviser to the selection committee throughout the entire selection process particularly, by briefing the committee members on interview techniques and providing expert advice on the modalities, screening, shortlisting, and making final decision.

Ensuring That Short-Listed Candidates Have Briefing Materials: the focus is on providing materials prior to the interview about the venue,

employment conditions and when appropriate, lifestyle issues, and ensuring that all their questions on these issues are resolved after the interview for successful candidates.

Pre-Interview Briefing Materials: HR planners should ensure that all shortlisted candidates are provided with an appropriate briefing package prior to their interview. The contents of the briefing package will depend on the nature of the position. All briefing packages should include information about the salary range for the position and a summary of key employment conditions and benefits.

Candidates will need to make decisions and tradeoffs regarding the relative importance of these factors if they are offered the position. HR planners must ensure that interviewees have the required information so that the candidate who is offered the position is able to make a fully informed decision whether to accept the offer or otherwise.

Regional Stations' Capability for Recruitment: HR planners may not be able to provide the full range of services needed for recruitment purposes across all duty stations in an organization, particularly in smaller regional and field locations. In such circumstances, it is important for HR planners to identify which services can be provided and which cannot, all in a bid to ensure hitchfree implementation of the programme.⁵

Ensuring that all Post-Interview Procedures Are Managed Effectively: The HR planner manages post-interview process effectively including those that affect the appointee's transition into her/his new role, workplace and duty station, and those that will sustain unsuccessful candidates'

interest for future employment opportunities with the organization. HR planner adds value to the hiring process by tapping from the experience of other recruiters of consultants providing interview training on recruitment and selection process, and also looking at perceptions on the needs of the organization or department from the perspective of other experts outside the department or organization.

Post Interview Issues: Addressing candidates' personal issues are critical to successful recruitment. Some candidates may wish to raise some of the issues already discussed during the interview and other issues after the interview. HR planners should also ensure that all post-selection formalities are conducted effectively for unsuccessful candidates to guarantee future interest in the organization's recruitment and selection process.

Future Practice in the organization's Recruitment and Selection Process: HR planners need to reflect on the strengths and weaknesses of each selection process, develop necessary procedural changes for future recruitments (including pre- recruitment action), and provide suggestions to the selection committee to make their task more objective and rewarding.

Management of people in the organization is as old as existence of organization. It tries to place emphasis on the human resource organization and present the most recent development in the field and tries to relate how these development are relevant to Indian organization. As recruitment is the process to discover source of manpower to meet the requirement of the organization. Recruitment is the process of searching the candidate to for employment and stimulating them to apply for jobs. The basic purpose of recruitment is to create a talent pool of candidate to enable the selection of best candidates to fill the vacant position in the organization. It is a positive process i.e. encouraging more

and more employees to apply. As human resource management theories focused on methods of recruitment i.e. advantages of interviews, general assessment and psychometric test as employees selection processes. The recruitment process involves online and offline stages. It includes policies, advertising, job description, job application process, decision making, legislation, selection and training etc. Recruitment is almost central of any management process and failure in recruitment can create difficulties for any company including adverse effect on its profitability and in appropriate levels of staffing or skills. Inadequate recruitment can lead shortages and problems in management. There are various factors which affect the recruitment policies such as organizational objectives, personnel policies of the organization and its competitors, government policies of reservations, preferred sources of recruitment, need of the organization, recruitment costs and financial implications.⁶

Theories of human resources management may provide insights in the best approaches to recruitment although companies unit have to use their in house management skills to apply generic theories within specific organization. It can be concluded that recruitment and selection in te major function of the human resource management.

In the back ground of the structural changes in the world economy, the development, deployment, and enhancement of human resources management is the vital resource and cannot be underestimated or ignored. It is well recognized fact that the success of a business is depending on the ability of organizations which is directly proportional to the production and management of the employees. People are important to both global corporations' survival and the

wealth of nations. We are living in the era of where societal expectations of businesses have changed dramatically.

At the cornerstone of the discourses dealing with human resources (HR), corporate social responsibility, corporate governance, and sustainability, are their aspirations, and advancement. No progress can be achieved in the absence of this essential resource. There is a huge pressure on organizations, to ensure that the basic rights of humans are protected and respected both within them and the communities they operate. Now a days Human resource (HR) management has called for greater focus on social responsibility.

Another notable development is growing skepticism amongst the public regarding the ability of governments to resolve social and environmental problems. Consequently, increasing pressure is being placed on non-governmental organizations, the private sector, and institutions to apply business techniques to issues such as poverty reduction, and environmental protection. While the non-profit sector has traditionally spent decades working with governments to solve problems like poverty, public health crises, poor access to education, and environmental degradation, we are observing a surge of partnerships between corporate executives and leaders in Barauni Refinery. This trend is significant and has served to transfer some of the skills and methods of the business sector.

The HR profession as a result, is gaining both respect and attention. As such, there are some trends which must be considered.

- Changing role
- Accountability

- War for talent
- Renewed People Focus
- Managing the Managers
- Weaker Society Interests

Barauni Oil Refinery is the country's premier organization and one of the Public Sector Undertakings Barauni Oil Refinery was established more than 50 years ago. Barauni Oil Refinery casters to core sector of the Bihar's Economy.

Recruitment Process :

The recruitment process of Barauni Oil Refinery industry has two options :

- **Direct** : In this requisitions the candidate in searched through the applicant data bank and given offer.
- **Through Requisitions** : In through requisitions comprises of manpower requisitions from the organizations.

After the approval of requisitions the applicants are short listed from the applicant data bank based on the position, experience, skill set, qualification as required from the requisition.

The short listed applicants are then called for an evaluation process that based on predefined steps for the respective positions. After clearing this stage an offer letter is given to the selected applicants. If the applicant is rejected the applicant goes back to the applicant data bank with appropriate status.

The selection process involves written test followed by interview. The process by which the candidate, who apply, are short listed for inviting for written test and interview, is described in detail in the advertisements issued.

RECOMMENDATIONS :

The following are recommended to ensure an effective and efficient human resource planning:

- Human resource planners/managers must go beyond recruitment and selection process. They must perform other personnel functions. They must address employees' training and development needs. They must source for resources inside and outside the organization to ensure that employees develop the required skills and competencies. Effective communication and co-ordination between line managers and human resource planners could result in identification of training and development needs that exceed current requirements and thereby forecasting the number of personnel that may be required at any given time and this may in turn necessitates recruitment and selection process.
- By tying performance reviews, promotions and salary increases to specific corporate goals, human resource planners may truly measure employees' competency level, and alignment which requires a strong relationship between human resource management and business plans. This focus or paradigm should be reinforced when the company is recruiting and selecting new employees to ensure there is a balance between HR planning and corporate plans.
- Once qualifications and skill sets are determined, the next step is to identify the availability of workers in the labour market that possess the required skills. Attracting, recruiting and selecting applicants are components of the overall employment process. Effective recruitment and

selection process saves time and money. Turnover is costly for both startup and established business. Therefore, the essence of these processes is to make wise and effective recruitment and selection decision that should guarantee higher levels of employee retention. HR planners should strive to get it right in order to add value to organizational development and progress.

- The employment conditions of an organization should be flexible.
- There should be suitable working conditions, good and enticing remuneration package offered by the organization.
- There should be a recruitment policy in the organization which must be based upon corporate goals and needs. The criteria for selection and preferences should be based on merit.
- Performance Management system – including performance appraisal, improved productivity and competencies should therefore be made integral part of human resource planning.
- There should be practice of equal opportunity in recruitment and selection policies devoid of discrimination.
- HR practitioners should align organizational values with employees values upon selection.
- Internal employees should be given priority in recruitment and selection process to avoid exhibition of negative attitude to work.
- The process of recruitment and selection must be thoroughly assessed under both stable and unstable economic environment and labour market conditions.

- The organization must put good transition programme (succession planning) in place to make recruitment and selection process flawless.
- It is essential for HR planners to adhere to “catchment principle” by recruiting and selecting eligible indigenous applicants from the organization’s host communities to minimize conflict situations. (e.g Niger Delta Region in Nigeria).

CONCLUSION :

Recruitment is the phase that immediately precedes selection. Its purpose is to pave the way for the selection process by producing ideally the smallest number of candidates who appear to be eligible either in performing required tasks or developing the ability to do so within a period of time acceptable to the employing organization. The crux of the matter is that the employing organization should not waste resources in examining the credentials of people whose qualifications do not match the requirements of the job. This is clearly in the interest of both the employing organization and the applicants. The objective of a recruitment procedure is to attract genuinely suitable candidates and carefully examine their credentials in order to produce a shortlist for further screening in the selection process Equally, the HR planners are committed to ensuring that the workplace is a fair and just environment for all employees. This means that access to employment within the organization and subsequent training and promotion will be made available to all applicants on an equal basis. The HR planners positively strive to eliminate all forms of discrimination and promote

equality of opportunity when recruiting the workforce. In sum, a consistent systematic approach giving equal opportunity highest priority is likely to lead to equality of access and fair treatment in the selection of the most suitable candidates for each post in an organization.

Recruitment and selections as seen are carried out in Barauni Oil Refinery is a vital part of their human resource activities. Barauni Oil Refinery have their selection procedures, policies and norms which come into play every time when selection are conducted. After critically examining the entire Barauni Oil Refinery policies and procedures. The recruitment procedure in BHEL is very good. It is seen that organization prefers big selection boards being cautious enough that the right and the most appropriate candidate is selected for the vacant post with valuable and experienced opinion of various field experts board definitely consists of personnel heads. It is also seen that firms keep specially appointed members for selection of SC/ST reserved seats. The pre-requisite of selection procedure is planning of budgets according to which various other aspects are decided. Induction training it becoming an integral part of the selection procedure with organization paying adequate or large time of selection process on induction. To make it more effective Barauni Oil Refinery divided its executive recruits into groups through which selected candidates can be familiarized to their work groups more efficiently.

References:

1. Bagchi, A.K. (1987), "The role of Public Enterprises in India", Asian Development Review, 5(2), p.65-68
2. Ibid

3. Bahadur, A.K. (1981) : "Public Enterprises in West Bengal", Yojana, 25(4), March 1. p.9-10
4. Bakkappa, B. (1986) : "Public Sector Enterprises (Karnataka)", Southern Economist, Nov. 1. p.54-56
5. Barenstein, J. (1982) : "Nature and Strategy of Public Enterprises in Developing Countries", Lokudyog 16(9), December. P.112-115
6. Bhandari, R.M. (1969) : "Investment in Public Enterprises", Lokudyog, Vol. 3, No. 9, December. P.36-44



TRAINING AND PLACEMENT

Three key areas have contributed to much of the growth in the oil industry in the past few years. Such development requires drilling rigs, trucks and other equipment, crews to drill and complete wells, facilities to process oil and gas before transportation, and pipelines to move products to markets or refineries.

An increasing number of hydrocarbons are being found in unconventional resources and this trend is likely to continue in the long term.

A key phrase in the oil and gas industry is “technically recoverable”. The significant developments in the industry through the diffusion of technology over time have proved its resilience and ability to respond to change. For several decades in oil exploration, activities were dominated by oil seeps, surface structures and shallow onshore vertical drilling. All this changed with the advent of seismic wireline logs, improved earth modelling and the development of offshore drilling. The information technology revolution provided the industry with new tools: modelling and measurements. In the modern oil industry, the application of two critical technological advances – horizontal drilling and hydraulic fracturing – has revolutionized the recovery of unconventional hydrocarbons.

The IEA forecasts that global energy demand will increase by 40 per cent by 2035. Demand will grow for all energy sources. Oil demand will increase by 18 per cent and will be driven by transport. Coal demand will increase for around the next ten years but will then stabilize at around 25 per cent higher than it was in 2009. Modern renewables will grow faster than any other energy form in relative terms, but in absolute terms total demand will still not be close to the level of any single fossil fuel in 2035. Global investment in the energy supply infrastructure of US\$35 trillion will be required between 2011 and 2035. Two-thirds of this will be needed in non-OECD countries. Oil will require nearly US\$20 trillion in investment, increasing to reflect higher costs and a need for upstream investment to rise in the medium and long terms. Coal and biofuels will require about US\$1 trillion.¹

Increasingly, new sources of future oil reserves and production will come from technologically challenging reservoirs. To meet the demand for future growth, it is necessary to find and produce oil using highly complex technology, which in turn increases the types and degrees of professional skills and expertise to manage such advanced technology in the oil industry.

Employment trends :

The oil and gas industry plays an important role in the economy: it creates jobs for both women and men and value by extracting, transforming and distributing hydrocarbons, and it also creates the energy resources that underpin the economy.

Global employment data for contract labour levels in the oil industry seem not to exist; however, it is estimated that a considerable number of contract and subcontract workers are employed in the industry.

Flexibility is one of the economic advantages of contracting. It also makes contractors more prone to cutbacks when there is a downturn; as a result, contract workers' employment is relatively unstable. Employment turnover trends among Barauni Oil Refinery workers "have been cyclical connected to the price of a barrel of oil activity at the time". In general terms, "we have had close to full employment for both permanent and contract workers, with shorter periods of low activity and unemployment amongst the contract labour who are first to be stood down in quieter times". There is high job rotation among contract workers in the oil and gas industry, but it is accepted that this is the nature of the business. Given the high demand in the industry, contract workers are generally able to remain in employment.²

Seasonality is another reason for fluctuations in the use of contractors. Refinery turnarounds are a good case in point. These are planned, periodic shutdowns of all or part of a refinery for maintenance and inspection, plus the repair of equipment and replacement of process materials where necessary. In continuous operations such as refining, turnarounds are also often the only opportunities to improve equipment or processes. Refinery turnarounds entail an intensive but seasonal use of contract workers.

Current skills gaps and future skills development strategies :

The oil industry has undergone radical changes in recent years. Geopolitics are rapidly changing; environmental concerns are rising; global demand for crude oil is escalating. The prices of crude oil have remained high, and investment in the oil industry has surged. Consequently, the industry is increasingly facing a shortage of qualified workers.

The skills shortage is a global problem. The oil industry is currently showing shortages in a wide range of skilled occupations, including technical, management, financial, marketing and leadership. Almost Barauni oil Refinery reported that technical skills were a key shortage area, and half stated that management skills were in short supply.

These shortages are mainly the result of demographic challenges. The challenge of an older workforce into a managed opportunity, by 2050 the global population aged 60 and over will exceed the number of people aged 15 and under for the first time in history. Most countries will be faced with labour shortage issues. Countries with large numbers of young people are not immune, as their workforce might migrate.

In the Middle East, daily operations in the industry are threatened as a result of unprecedented growth. Overall, the skills shortage has resulted in the use of contract labour on a regular basis in almost all occupations, including senior positions.

In order to avoid a chronic skills shortage in the medium- and long-term and to enable growth, the industry will need to develop coherent human resources development policies. Such policies may require a combination of strategies, including a global training strategy for the industry; drawing talent from diverse labour supply pools that may not have been previously tapped sufficiently; and increasing collaboration between industry employers, workers' organizations and other stakeholders to improve retention schemes and develop technologies for the future.

Endeavours on the part of oil companies, working independently to create a large skilled workforce, have had only limited success. A coherent global training strategy needs to be developed, aligned with ILO international standards and policies.

The ILO framework for skills development is laid down in the Human Resources Development Recommendation. The framework advises countries to sustain a virtuous circle by matching training to labour market demands, providing opportunities for lifelong learning, and using skills development to drive innovation and thus future job growth. In addition, the 97th Session of the International Labour Conference, in 2008, adopted the Conclusions on skills for improved productivity, employment growth and development, which provides practical guidance on how Recommendation can support the development of policies to improve productivity, employment growth and development. The conclusions are tripartite agreement between workers, employers and governments. The conclusions provide a forward-looking framework for strengthening linkages between skills, productivity, employment, development and decent work. The conclusions underscore the principle that effective skills development policies need to be integral components of national development strategies in order to prepare the workforce and enterprises for new opportunities and adopt a forward-looking approach to dealing with change. In order to successfully link skills to productivity, employment creation and development, skills development policies should target three objectives: matching supply to current demand for skills; helping workers and enterprises adjust to change; and anticipating and delivering the new and different skills that will be needed in the future.³

Moving to greater reliance on local skilled workforces:

Oil companies are expanding operations into new and ever more remote geographic locations; as a result, companies are looking to build local skilled workforces so that they can rely less on expatriate services. However, efforts to decrease reliance on expatriate workers are difficult to implement in some situations, and nearly impossible in others where local skilled workers are simply not available. Without expatriate specialists to provide the necessary skills and services, many oil and gas companies may be unable to sustain current levels of technical expertise.

Many companies are grappling with the challenge of reducing the high cost of maintaining an international workforce. They recognize the increasing importance of recruiting local talent with local knowledge and experience to join their workforce and to move into business leadership roles. This change in emphasis is important, not just for cost reduction reasons, but for companies to benefit from the best local talent, culture and knowledge. Transfer of skills required for the oil and gas industry must be made from countries that have the skills to countries that have not. Local content policies and practices are among the means for such skills transfer.

Government have established policy frameworks on implementing local content in staffing. The active involvement and participation of locals in the oil and gas industry has become a major policy issue.

However, the creation of a quality skilled workforce can be challenging. There has been only limited success, because science and technology teaching at the national universities is not yet meeting the quality demands of international

oil business. The Government of India emphasizes that the success of any organization to a very large extent rests on its people. oil industry is considering evolving a new strategy to create a system that will ensure in the appropriate areas are groomed and integrated to sustain the nation's ambitions for transforming its oil industry.

Increasing skills transferability across countries would contribute to redressing the skill shortages in the industry globally. However, differences in national VET systems make this difficult at present. This is caused by a skills mismatch between internationally widely accepted qualifications systems and national qualifications systems. For example, when some oil industries invest in skills training in accordance with one national system, which are not necessarily equivalent to the internationally widely accepted qualifications, it would result in restricting the opportunities of skilled workers to move from one country to another.

Barauni oil Refinery compete to recruit talented workers. Young people have many career opportunities other than the oil industry. The harsh living and working conditions of those working in the sector and a perception that the oil industry is dirty and dangerous have damaged its ability to attract young talent.

The industry needs to understand the work ethic of younger people. In general, the millennial generation has been characterized as adept at multitasking, and technologically savvy, but also as having a sense of entitlement, less loyalty towards organizations, and preferences for immediate benefits over long-term rewards. However, a recent study points out that they also have higher motivation to transfer what they learn during training back to their jobs, and higher learning-goal orientation – a concept defined as a person's

focus on acquiring knowledge for the sake of learning itself rather than just performing. Though in general these younger workers are reluctant to persist through difficult times in pursuit of long-term goals, they appear to be more motivated to utilize what they learn in training on the job. These findings suggest that the oil industry can leverage the preferences and motivational patterns among young people of this generation through training courses designed to quickly advance the necessary skills.⁴

There are still challenges to recruiting more women workers in the oil industry. Despite the increased visibility of women in the industry, many face various work-related challenges from their male counterparts. These stem predominantly from the male-focused culture and practices that permeate many aspects of organizational life in the industry, including demographic composition, assumptions, values and every day practices.

As a result, women are often reported as discriminated against at work. Sex ratios, organizational norms and opportunity structures have been identified as factors conducive to sexual harassment. The sex imbalance creates an organizational culture that is hostile or resistant to women.

Fair and equal gender representation in the workplace is an important factor in determining career development for women. Women in the oil and gas industry occupy less senior positions and are more likely to experience career barriers because of the male-dominated nature of such high ranks. When women are well integrated at all levels of the organization, they are likely to feel very much at ease within and positive about their organization and experience a good organizational fit. This idea resonates with role modelling for women and its role in promoting more women into upper management positions. In particular, role

modelling may increase women's representation in upper management. When women see other women being promoted, it is likely to encourage them to seek similar positions.

Family responsibilities are perceived as the biggest challenge for women's career advancement in the oil industry. But the issue is of concern to both sexes; many people working in the oil industry are concerned that the responsibilities of family and children may interrupt or even end their careers. Work-life balance can refer not only to caring for dependent relatives, but also to extra-curricular responsibilities or important life priorities. Working arrangements should be sufficiently flexible to enable workers of both sexes to undertake lifelong learning activities, and further professional and personal development that is not necessarily directly related to their jobs. Work-life balance should be considered in the context of the Workers with Family Responsibilities Convention.

Mentoring :

The basis of the mentoring relationship is that one person has more knowledge, expertise and experience relative to the mentoring theme. Mentoring is an ideal process to assist young people or those commencing employment in the oil industry for the first time. When selecting mentors, it is imperative that they be sensitive to the issues faced by a young person or new entrant in the industry workplace. Mentors need to have an understanding of the issues at lower levels of the organization that may have an impact on young and new entrants.⁵

Ideally, mentors selected to participate in a mentoring programme designed for women in non-traditional occupations would be women with the same or similar profile. Given the low numbers of women working in the oil and

gas industry, it may be necessary to find women outside the company who are prepared to provide mentoring support for female workers. Where there are not enough women to take on mentoring roles, group mentoring arrangements should be considered, or men may also be considered as mentors. Any potential male mentors must have a thorough understanding of the issues women face in the workplace.

Coordinating retention schemes:

Oil companies have planned internally and independently for their retention schemes. In order to meet the longer-term needs of the industry, retention policies should focus on catering to employees' individual preferences, offering more comprehensive career development support, and decent wages and working conditions.

Improving working conditions by fostering the Decent Work Agenda in the oil industry can contribute to better retention. The research also notes that companies are moving towards increasing social dialogue engagements, but not rapidly enough. Companies also need to ensure that workers feel challenged in their work.

An oil industry that attracts skilled young workers and women must have coherent policies and initiatives focused on advancing their careers. Companies should carefully examine what types of careers they offer their workers, in order to ensure that career development policies and plans are tailored to their needs. Over 85 per cent of industry workers who participated in a survey cited providing “opportunities for career progression and personal development” as a high-/critical priority issue.⁶

Towards the development of future technologies:

Because oil companies and service companies are focused primarily on technology applications that will lead to relatively short-term profits, much of the basic research behind important technological innovations has been carried out at universities and research institutes. These institutions can benefit the oil and gas industry by providing a number of alternative relationships that facilitate the advance of knowledge and the penetration of new technologies.

Investment in R&D needs to focus on future-oriented, next-generation technologies to meet the broad demand of the oil industry.

Transition to a greener economy as part of broader long-term structural change may incur severe economic and social adjustment costs if efficient and socially responsible restructuring measures are not in place. People who get the new jobs may not necessarily be the people who have lost their old jobs. Disadvantaged groups in the labour market will need targeted assistance and preferential treatment to ensure their access to new and good- quality green jobs. Retaining and skills upgrading are crucial to a successful, smooth and equitable transition to the green economy. Low-skilled people are especially vulnerable as it will be difficult for them to compete for many of the new jobs. Successful restructuring with efficient retaining measures can prevent workers being displaced and/or successfully retain displaced workers for employment in new, greener, industries and occupations. The key to success is the assumption of shared responsibility by governments, employers and workers, achieved through social dialogue. Public employment services and active labour market policies are effective delivery mechanisms for training and for matching skills with jobs.⁷

Occupational safety and health (OSH) training for contract and subcontract workers :

Over the past three decades, the growing sophistication of production systems and the increased flexibility of labour markets and legislation have led to the development of a multiplicity of contractual arrangements for workers. The common feature of so-called non-standard forms of employment is that they differ, in one way or another, from permanent full-time employment with a single and clearly defined employer, considered by most national legislations as the “standard” or “regular” form of employment. “Non-standard” employment is normally used to refer to: employment relationships in which workers are not employed directly by the user company, but by a subcontractor or private employment agency; various types of short-term contracts; and, finally, part-time work and home work. There are legitimate reasons for these arrangements and they are recognized in several ILO standards. Non-standard forms of employment and the precariousness that often accompanies them give rise to concerns over their impact on the enjoyment of fundamental principles and rights at work and other work-related rights.

Freedom of association ensures that workers and employers can associate to efficiently negotiate work relations. Combined with strong freedom of association, sound collective bargaining practices ensure that employers and workers have an equal voice in negotiations and that the outcome will be fair and equitable. Collective bargaining allows both sides to negotiate a fair employment relationship and prevents costly labour disputes. Indeed, some research has indicated that countries with highly coordinated collective bargaining tend to have less inequality in wages, lower and less persistent unemployment, and

fewer and shorter strikes than countries where collective bargaining is less established. ILO standards promote collective bargaining and help to ensure that good labour relations benefit everyone. It has promoted to include a clause in the collective agreement must be consulted prior to any changes that could affect the employment status of employees.

The Industry Energy report stresses the importance of cooperation between employers and workers on safety and openness, enabling any worker to report any risk to the authorities. The report states that “All major accidents are a result of many factors, which in a given situation can pull in one direction and trigger a catastrophe. The importance of reporting small and major non-compliances, without any consequence for the person reporting or the companies they work for, is of the greatest importance for enhanced safety for individuals and the environment in the broadest sense.”⁸

Training must be supported by all the stakeholders, and all workers must participate fully. Worker participation at all stages is particularly important for training programme development and implementation. Training programmes must be proactive and there is a need for reliance on on-the-job training.

In addition to promoting a safety and preventative culture, the oil industry needs to ensure that workers are trained to acquire and maintain their competency requirements in all areas concerning safe operations, including soft skills such as communication among workers and between employers and workers, technical skills such as risk assessment, risk management, chemical safety, safety reporting, mitigation, emergency response, emergency preparedness and evacuation.

References :

1. Bhaskara Naidu, V. and T.S. Rasool Saheb(1983) : "Performance of Public Enterprises in AP", Institute of Public Enterprises Journal, Vol. VI, No. 3, July-September. P.28-32
2. Bhatia, V.S. (1975) : "How to Improve the Working of the State Enterprises", Capital, (Supplement), July 31.p.13-15
3. Bihar State Electricity Board (1970) : A Report of the Committee, Patna, July. P.9-11
4. Chattopadhyya, P. (1989) : "State Level Public Enterprises in West Bengal" in R.K. Mishra et al. (eds.), Management of State Level Public Enterprises in India, National Publishing House, New Delhi. p.36-45
5. Ibid
6. Committee on Public Undertakings (1984) : Productivity in Public Undertakings, 7th Lok Sabha, 97th Report, Lok Sabha, New Delhi. p.87-93
7. Ibid
8. Comptroller and Auditor General of India (1989), State Government Public Enterprises : Concept, Performance and Accountability, C&AG (Commercial Wing), New Delhi. p.28-31



MOTIVATIONAL MEASURES

Managers most often fulfill their organizational goals through the work of employees. Thus, managers need to have highly efficient and productive staff members. Although many factors contribute to productivity, job performance is viewed to be the most influential one. Job performance itself is a function of four variables: ability, understanding of the task, environment, and motivation. Accordingly, in order to perform well employees need to have the knowledge and tools that are required for the job as well as the will to do what is asked from them. Therefore, motivation can be generally equated with action and the understanding of motivation unfolds to be a key to the success of any private or public organization. For that reason, motivation has long been a central topic for scholars and practitioners. An abundance of theories and approaches were developed in order to explain the nature of employee motivation. Another handful of studies were conducted in an attempt to discover whether public sector employees have different motivation antecedents than their private sector counterparts. And indeed a special motivation theory, called Public Service Motivation (PSM), was conceptualized to explain how public employees differ from private workers in the level and type of their intrinsic desire to work and serve.

Yet, grasping motivation should not be limited to theoretical aspects alone. Managers do not live in ivory towers and they need applicable ways to transfer the concepts of motivation into everyday life practice. This is especially pertinent to the public sector where the latest financial crisis presented governments with an exacerbated situation. On the one hand, the recession has increased the demands on public services, while on the other it has led to a collapse in taxation revenues and, in turn, a retraction in funding of public services. Thus, public sector managers must motivate their employees to perform at the highest levels of productivity and effectiveness and get “more for less”.¹

The problem is that motivating public employees is easier said than done. Public workers have a reputation for being lazy and lethargic and managers’ room for maneuver is ostensibly very little, due to rigid civil- service laws. Moreover, the public sector suffers from aging and plateauing employees, who are especially hard to motivate. It is not surprising, then, that the question how public managers can motivate their employees is considered to be one of the three “Big Questions of Public Management”.²

The concept of motivation and yet, when asked to, we struggle to find a proper definition. In fact, in 1981 Kleinginna and Kleinginna mapped no less than 140 distinct definitions. Thus, if we are to answer the question of how to motivate public employees, we first need to understand what motivation exactly does mean. This chapter clarifies the notion of motivation as well as illuminates different facets of the concept.

The word motivation is coined from the Latin word *motus*, a form of the verb *movere*, which means to move, influence, affect, and excite. By motivation

we then mean the degree to which a person is moved or aroused to act. Dictionaries simply describe motivation as “the goad to action” (Mitchell, 1982, p.81), whereas scholars expand the term to the set of psychological processes that cause the arousal, direction, and persistence of individual’s behavior toward attaining a goal.

The latter definition underlines three pillars of motivation. The first – arousal – has to do with the drive or energy that ignites behavior. The second – direction – has to do with the type of behavior that is exerted and whether it is in line with demand or organization goal. The third pillar – *persistence* – deals with the lastingness of behavior. Though, this factor is of less importance, because persistence can be simply defined as the reaffirmation of the initial arousal and direction processes. Furthermore, the definition asserts that motivation is an *individual* phenomenon. Each individual is unique and has different needs, expectations, values, history, attitudes and goals (ibid.). Hence, a manager cannot assume that what motivates him/her will also motivate the employee. And what motivates one employee may not necessarily motivate another.

Another aspect of motivation is that it pertains to determination, intention, and *self choice*. That is, motivation is under the employee’s control and he/she actively chooses whether to put effort and take action. There is both good and bad news here: the good news is that an employee’s level of motivation can be influenced; the bad news is that only the employee himself/herself can do that. In other words, managers cannot motivate employees; they can only influence employees in a manner that makes them feel motivated. Thus, the verb to motivate is somewhat misleading and should be replaced by the phrase “to induce motivation”, but for the sake of simplicity I will keep on using it.

Motivation, then, is fundamentally an inside job. It originates from within the individual and causes him/her to be internally stimulated. This type of motivation is called intrinsic motivation. Ryan and Deci (2000) consider intrinsic motivation to be the most important and pervasive motivation. Because it is through this kind of natural motivational tendency that humans develop cognitive, social, and physical abilities.

Frey and Osterloh (2002) distinguish between three forms of intrinsic motivation. In the first, people engage in an activity for its own sake, since they find *the activity itself* as a source of joy and satisfaction (p.8). Examples can be hobbies that one chooses to pursue, or in the work context fulfilling an interesting task. The second form is activities which are tedious and unexciting, but *their accomplishment is a source of pleasure*. For instance, meeting a deadline at work brings a sense of achievement, albeit the process is sometimes arduous. In the third form of intrinsic motivation it is a matter of *compliance with standards for their own sake* that propels people to act. These may be ethical standards one feels a need to respect, commitment to group members, or the desire to act according to values of material or procedural fairness.

Despite its significance, many a time people act not because they are intrinsically motivated, but rather because external factors prompt them to take action. This type of motivation is called *extrinsic motivation* and it concerns whenever an activity is done in order to attain an outcome that is separable from the activity itself. In a career context, extrinsic motivation means the desire to satisfy needs or goals that are not related to the work itself. For example, work as a mere tool for earning money.

Be it intrinsic or extrinsic, motivation is not an end in itself, but rather a mean to an end. The ultimate goal of motivation is action, as insinuated by the last part of the definition – *toward attaining a goal*. And in the workplace, action means performance. Thus, the objective of work motivation research is “*to learn how to motivate employees to perform the duties and responsibilities assigned by the organization*”.³

That being said, it is important to pay attention not to automatically team motivation with performance. Motivation alone does not determine performance. It is only one factor in a series of components that contribute to the level of employee performance. Motivation is also not to be confused with job satisfaction. Early experiments, such as the famous Hawthorne plant study in the late 1920s, led researchers to the false conclusion that happiness and satisfaction on the job equals high employee motivation to work. This has long been proven wrong. A worker can be extremely satisfied with his/her job and at the same time be unmotivated to exert effort. In fact, that is exactly one of the problems the public sector experiences – some employees are very pleased with their comfort work conditions, e.g. job security, and still have very little motivation to work. Nonetheless, job satisfaction should not be mislaid. It may not have a direct effect on motivation, performance, and productivity, but it sure has been found to be related to employee retention, thus indirectly influencing organizational costs associated with employee absenteeism and turnover. Given the elaborations thus far, it is possible to conclude that work motivation is about the internal and external forces that influence individual's degree of willingness and choice to engage in a certain specified behavior and action . The purpose of motivational theories, then, is to analyze and predict the reasons that

arouse and direct people to choose certain behaviors over others. Standing on the shoulders of these theories, I aim later to develop tactics that can help increase motivational behavior among public employees.

Importance of Motivation :

Accordingly, in order to perform well employees need first to have the knowledge and skills that are required for the job. Then, they must understand what they are required to do and have the motivation to expand effort to do so. And last, employees need to work in an environment that allows them to carry out the task, e.g. by allocating sufficient resources. The multiplication sign in the equation emphasizes the importance of motivation – if motivation is equal to zero, even the most talented employee will not deliver. Similarly, an energized and highly motivated employee can reach good performance despite having some knowledge gaps. A good example for the latter situation is a new worker or trainee, who joins the organization fully motivated to work, yet lacks skills and experience. The motivation to learn and develop will quickly outweigh the weaknesses.

The effects of motivation do not stop with performance. In the group of motivated employees there are fewer work accidents, fewer rates of ethical problems, less employee turnover and lower levels of absenteeism. Motivated employees feel less stress, enjoy their work, and as a result have better physical and mental health. Furthermore, motivated employees are more committed to their organizations and show less insubordination and grievance. They are also more creative, innovative, and responsive to customers, thus indirectly contributing to the long-term success of the organization. In short, motivated employees are the greatest asset of any organization.⁴

Managers interact daily with front-line employees, especially in the case of junior and mid-level management. During these interactions supervisors unavoidably influence staff motivation with either good or bad results for the organization. For example, if you are a manager who does not offer feedback and shows no interest in the employee as a human being, it is natural for your subordinate to interpret this as a sign that you do not care about him/her. And when continuously neglected, employees are likely to switch-off and resign inwardly, i.e. their motivation to work substantially decreases. Therefore, actively engaging in employee motivation should be one of the primary tasks of a manager. Surveys show most managers support this assertion and believe they are doing a good job in motivating their staff. Yet, reality proves the opposite is true: managers do not clearly understand the subject of motivation and more often than not motivational techniques are poorly practiced. What is more, although many employees are highly motivated when joining an organization, the majority of resignations can be attributed to disappointment with the immediate supervisor. Very few employees leave an organization just because of dissatisfaction with compensation and promotion opportunities.

There are many reasons why so few managers appear able to really motivate their people. One explanation can be the lack of proper education. Another may be the complexity of motivational theories on the one hand, and the absence of practical recommendations on the other. A more interesting answer may be grounded in the “Paradox of Choice”. This concept stipulates that ironically too many choices lead people to either choose none of the options or choose badly. And in the context of motivation, a plethora of theories results in poor implementation.

Regardless of excuses, managers have to internalize that employee performance, productivity, and retention are all depending notably on their ability to motivate. This holds true both for the private and the public sector. Yet, it takes more importance in the public sphere, as the performance of governments and their administrations affect our society much more than any other private sector organization. Furthermore, the need to get “more for less” and operate at the highest levels of productivity and effectiveness has long been a major issue within public sector organizations. However, the latest financial crisis presents governments an unprecedented challenge.

The last factor which makes motivation nowadays harder is related to the New Public Management fad. The rise of New Public Management (NPM) has had a tremendous impact on how motivation is perceived by public employees and managers. NPM advocates proliferated the pay-for-performance (PFP) system in the public sector over the last several years. Poorly implemented, PFP had little significant effect on motivation or performance. But it did manage to crowd out public employees intrinsic motivation and to blur the distinction between public and private sector, insofar as public employees expect today more monetary incentives. Now that eroding revenues have restricted the use of financial rewards, public managers must unwind the system and refocus on non-financial motivators. After delving into the issue of the importance of motivation, one should not be surprised that Behn (1995) considers the question “how can public managers motivate public employees to pursue important public purposes with intelligence and energy?” to be one of the three “Big Questions of Public Management”. And if recent developments are a clue for the coming future, then motivation will remain a hot topic throughout the next decade.⁵

Public vs. Private Sector Motivation :

The Industrial Revolution and the introduction of mass production factories provided the impetus for the development of motivation, and especially work motivation, theories. The need for businesses to improve work methods, quality, and productivity became salient and propelled studies like those of Frederick Winslow Taylor's "*The Principles of Scientific Management*" in 1911, and Morris Viteles's "*Industrial psychology*" in 1932. Later theories were no different; the vast majority of them were conceptualized while focusing on the industrial order, i.e. the private sector.

Hence, before we can draw conclusions from the corpus of motivation theory and apply them in the public domain, we must first establish whether or not there are any differences between the motivational bases of behavior in the private and the public sector. If such differences do exist, then we need to clarify whether we can still use "traditional" theories to explain motivation in the public sector or should we turn to public sector specific theories – or perhaps we can even use both. To answer these questions we need to have a look at the variables that influence motivational behavior.

Individual characteristics :

Research suggests that employees in one organization may differ from employees in another as a result of attraction, selection, and even post-recruitment adaption and attrition processes. Thus, it is plausible to believe that individuals, who opt for the public sector, are stirred by values that cannot be found in the private sector. These values can be a desire to serve the public interest, a wish to have an impact on public affairs, or an interest in achieving

social justice. By the same token, private sector employees are likely to pursue their own self-interest and favor market-like incentive mechanisms, such as pay-for-performance. This assumption stands at the center of Public Service Motivation (PSM) theory. PSM, as will be elaborated in the next chapter, argues that public employees are indeed “unique” human beings, insofar as “*they behave differently from their private sector counterparts and are not driven by extrinsic motives alone*”. Therefore, the question of differences between public and private employees narrows down to whether workers in each of the two sectors are driven more by intrinsic or by extrinsic motivators.

Although the question at hand is now more concrete and lucid, the answer remains vague. Hitherto, research failed to provide a conclusive or consistent support for the assertion that “*employee reward preferences coincide with the function served by the sector in which they are employed*”. To begin with, several studies indicate that compared to private sector employees, public sector employees are less motivated by extrinsic monetary rewards. Yet, other studies assert that such differences do not exist, and even if they do, public employees still consider financial incentives to be highly motivating. How the notorious pay-for-performance scheme can successfully boost public personnel efforts, given the right circumstances and proper implementation.

Inconsistency can also be found with regard to higher-order needs, e.g. achievement, autonomy, self-actualization, and self-development. While some research suggest that public employees value higher-order needs more than their private sector peers, other works prove the adverse or find no distinction. Moreover, studies even disagree whether public sector classic values, such as helping the other and benefiting society, are more predominant in public or

private employees. However, there is agreement that in both sectors interesting jobs, which allow helping others, motivate employees to put in extra effort on the job (Frank/Lewis, 2004, p.46). It is also largely accepted that public sector employees, who clearly show affection for public sector values, place more value on intrinsic nonmonetary opportunities than on extrinsic rewards. In sum, attempts to establish a clear relationship between employee characteristics and sector employment have produced mixed results. Furthermore, although PSM has been proven to be a strong predictor of work motivation and of a desire for non-utilitarian incentives, public managers should not presuppose that all their employees desire only nonmonetary incentives. Therefore, the first variable – *individual characteristics* – does not rule out using “traditional” motivation theories in the public sphere.

Job characteristics :

Research has conjectured that what a person does at work, i.e. the nature of the job or fulfilled tasks, can influence work motivation. In other words, it is not the sector itself that determines motivational patterns, but rather the content and type of the performed tasks. For example, job characteristics like *routineness* and *job specificity* have been found to affect the level of work motivation. *Routineness* concerns the degree to which employee’s daily tasks are varied and provide opportunities for new experiences; and *Job specificity* deals with the clarity of the assigned tasks, their success indicators, and relative importance. In general, studies report that jobs, which are routine or have unclear tasks and goals, have a negative effect on work motivation.

The public sector, as a service provider, is mainly associated with administrative work, while the private sector is characterized by manufacturing,

marketing and sales functions (ibid.). And since administrative work is often bureaucratic, tedious, inappreciable, and not appealing, it may be the basis for sector differences. Organizational goals can also contribute to the distinction, as public organizations usually pursue particularly diffuse and intangible goals compared to those of private business firms and they more often have multiple and conflicting goals, such as promoting a clean environment on the one hand, and encouraging financial growth on the other. Studies that tried to track job characteristics differences have produced mixed findings. Contrarily, a survey that compared executive students from the public and private sector reported that public employees, more than their private counterparts, thought that their jobs were motivating and provided them with great opportunities and worthwhile accomplishments.⁶

Work context :

The work context of public sector organizations is perceived to be fundamentally different from that of private sector organizations. Yet, only a scanty number of studies compare the impact of work context on sector differences. Work context involves matters that are both in the immediate and extended environment of the employee. Immediate surrounding pertains to employee's peer group, supervisor, and the desire to work in a friendly and respectful atmosphere. The extended environment includes elements of job security and stability, and type of organizational reward system. Public sector employees are generally assumed to favor people-oriented leadership style more than do private employees. They are also believed to consider their peers and supervisors significantly more important Public employees are first and foremost

motivated by job security and stability, while private employees' number one motivational factor was high salary.

JOB SATISFACTION :

Job satisfaction is the result of various attitudes possessed by an employee towards his job. These attitudes are related to specific factors such as wages, conditions of work, advancement opportunities, prompt settlement of grievances, fair treatment by employer and other fringe benefits. Job satisfaction may be defined as an attitude which results from a balancing and summation of many specific likes and dislikes experienced in connection with the job. Sinha and Agarwal (1971) defined job satisfaction as a persistent effective state which has arisen in the individual as a function of the perceived characteristics of his job in relation to his frame of reference. For the last three decades, the problem of job satisfaction has attracted considerable attention of Industrial Psychologists. It is regarded as a very significant factor in workers morale, absenteeism, accidents, turnover and to some extent productivity, though its relationship with productivity is not very clear. Morse (1952) suggested that 'an organization can be evaluated in terms of human satisfaction'. The importance of job satisfaction is not only for its possible association with productivity, absenteeism, turnover and accidents. It is generally agreed that the dissatisfaction in job is due to poor mental health which will give rise to anxiety, depression, hyperacidity, headache and frustration. Since workers spends most of his time on the job, he does not get job satisfaction. Thus the dissatisfaction of jobs may cause social problems. Job satisfaction is of great significance and profitable functioning of any organization. Satisfied workers are the greatest assets of any organization and dissatisfied workers the biggest liability. Employer-employee relationship is like

a 'marriage', and the success of any marriage depends essentially on the co-operative, contributory, and complimentary efforts on the part of both the partners. Job satisfaction is of great importance for the individuals, the organization which employ them and the society as a whole. The adjustment of employees with their work is very necessary. The worker, who is satisfied with the nature of his job and performs his duties carefully, is known to be as an adjusted worker. The maladjusted worker does not like his job. He is not adjusted with his work and tries to work elsewhere. Such a worker proves to be a curse to the industry. Such adjustment or maladjustment of the workers change his personality traits. This change may be due to some personal and social reason, or it may also be because of his displeasure against certain policies of the industrial management which cause emotional disbalance in worker. This disbalance effects his life as well as job. In other words maladjusted worker is, who is not adjusted with his work. Maladjustment in worker is due to following reasons: (1) when worker does not enjoy his work or he is not satisfied with his work, (2) when his efficiency in work destroys, and (3) when other workers are badly affected by his work. A few studies have been conducted for ascertaining losses to industries due to maladjusted workers. These studies show that industries have to undergo huge losses due to maladjustment in workers. The maladjusted workers frequently leave their jobs for other places. This feature necessitates appointment for new workers. This entails huge expenditure on advertisement and interviews. In this process enough time is lost. Hence production also goes down.⁷

Several studies have been conducted in the area of job satisfaction and other related variables. But till now very few have been conducted on work

adjustment. Maximum researches show that private sector companies are in profit while public sector companies are mostly in the loss. In any organization production depends upon employees and management. Management plays an important role in satisfaction and dissatisfaction of employees. If workers are satisfied with their job it is to be found out whether they are adjusted with their work. If there is no proper adjustment of workers with their work, they will not be able to give their best. So maladjustment goes on increasing and if more and more workers feel maladjusted in any field of industry then that organisation will feel the impact and it will not be able to keep the maximum level of production. The aim of the present study is to measure job satisfaction and work adjustment of the workers and to study whether the workers are adjusted/ maladjusted, are satisfied with their job or not. In this study, we have formulated mainly two hypotheses, viz., (1) there will be a positive relationship between work adjustment and job satisfaction. (2) There will be a significant difference between adjusted and maladjusted workers on job satisfaction.

Some dimensions of work adjustment, i.e., opportunities for career advancement, relations with colleagues and supervisors, due recognition of merit, sufficient emoluments and good working conditions, and grievances removal and positively and significantly related with job satisfaction at 0.01 level of significance. Also job satisfaction is positively and significantly related with work anxiety at 0.05 level of significance. However, among industrial workers, job satisfaction is negatively related with prestige of the organization. No significant relationship is obtained from rest of the dimensions of work adjustment like tension at work, work involvement, and feeling of fatigue and loneliness. Overall results of work adjustment indicate that the workers adjusted

with their work are satisfied with their job in public sector. Pritchard and Karasick (1973), Kumar and Bohra (1979) have also reported positive correlation between organizational structure and job satisfaction. Roy and Chatterjee (1991) found that each organizational health attribute was positively related with life satisfaction. Sharma, Singh and Hussain (1991) found positive relationship between job involvement and work motivation. While comparing the mean value of total adjusted workers, mean score of 113.02 is found as compared to the corresponding value of maladjusted workers which is 70.52. The calculated 't' value is found to be 17.78 which is statistically significant at 0.01 level of confidence. Adjusted workers have higher job satisfaction score than the maladjusted workers. Adjusted workers feel satisfaction with their job, and significantly related to the job satisfaction due to proper and very satisfactory adjustment. Level of adjustment plays important and significant role in job satisfaction. Misra and Gupta (1995) results indicate the motivation, alienation and job involvement are significantly predicting the work performance, but motivation is the strongest predictor of work performance.

Table :11
Showing Correlation between work Adjustment and Job Satisfaction
(N=100)

Dimensions of Work Adjustment	Correlation Values with Job Satisfaction
1. Opportunities for career advancement	0.39 **
2. Tension at work	0.02 #
3. Work anxiety	0.23 *
4. Work involvement	0.12 #
5. Relations with colleagues and supervisors	0.58 **
6. Due recognition of merit	0.29 **

7. Sufficient emoluments and good working conditions	0.64 **
8. Grievances removal	0.51 **
9. Feeling of fatigue and loneliness	-0.17 #
10 . Prestige of the organisation	-0.61 **
11. Overall work adjustment	0.26 **

* P<0.05, **P<0.01, # = Not Significant

Table :12
Comparison between Adjusted and Maladjusted Workers on Job Satisfaction

Level of Adjustment	Scores of Job Satisfaction		t-value
	Mean	S.D.	
Adjusted Workers (N=35)	113.02	7.85	17.78
Maladjusted Workers (N=17)	70.52	8.22	P<0.01

On the basis of calculated data results reveal that there is positive and significant correlation between overall work adjustment and job satisfaction in public sector personnel and the level of significance is 0.01 level.

Adjusted workers have higher score than the maladjusted workers on job satisfaction, which shows the total adjustment or satisfaction of the workers with their job.

The motivational effect will then depend on the combination of these three beliefs, i.e. the level of confidence one has in the fulfillment of all three stages. With that in mind, Greenberg and Baron (2003) suggest that managers strengthen

the linkage between employees' expectations and actual result. In congruence with the three stages of VIE theory, they first call employers to enhance the possibility that employees' efforts will lead to good performance. This can be achieved by taking care of staff growth and advancement, or more specifically by training. Second, they recommend managers to administer a rewarding and recognition system which is directly linked to performance.

References:

1. Deb, K. (1989), "Performance Evaluation of Public Enterprises in Assam", in R.K. Mishra et al. (ed), Management of State Level Public Enterprises in India, National Publishing House, New Delhi. p.31-37
2. Ibid
3. Deolankar, V.S. (1986), "Financial Management in Public Enterprises in India", Southern Economist, 24(21), March 1. p.18-22
4. Dholakia, B.H. (1980), The Changing Efficiency of Public Enterprises in India, Somaiya Publication, Bombay. P.65-68
5. Ibid
6. Economic Advisory Council to PM (1987), Report on Public Enterprises in India : Some Current Issues, Government of India, New Delhi. p.45-52
7. Gupta, Dr. CB (2005), Human Resource Management, Sultan Chand & Sons, New Delhi. p.61-68



POLICY APPRAISAL

Barauni Refinery is the second Public Sector Refinery of Indian Oil Corporation built in collaboration with erstwhile USSR and limited participation of Romania. It is located near the northern bank of river Ganga in Begusarai district of Bihar. The refinery went on stream in the year 1964 and was formally inaugurated by Prof. Humayun Kabir, the then Union Minister for Petroleum & Chemicals, Govt. of India on 15th January, 1965.

The installed capacity of crude oil processing has been enhanced from 3.3 MMTPA to 6.0 MMTPA since Jan'2003 after commissioning of process units like RFCCU, DHDT, HGU, SRU, ARU & SWS. During the year 2003-04, Barauni Refinery processed 4.3 MMTPA crude oil. The different petroleum products produced by Barauni Refinery are LPG, Naphtha, Motor spirit, Superior Kerosene Oil, High Speed Diesel, Light Diesel Oil, Raw Petroleum Coke & Sulphur. Barauni Refinery caters to the Oil requirement of large number of customers of Northern West Bengal, Bihar, Nepal and part of U .P.

Refining of crude oil being an energy intensive activity, the major chunk of expense in the process is the energy cost. Therefore, the need of energy conservation is of utmost importance. This leads to not only increase in profitability in the form of lower energy cost and adding on to the bottom line but also protection of environment and quality of life. Due efforts were made by

the refinery and various energy conservation measures like yield and energy optimisation of distillation units (AVU-I, II & III) & Coker-A & installation of high efficiency Gas Turbine. Old conventional pneumatic systems used for operational controls have also been replaced with Distributed Control System in all process units and OM&S. These measures along with day to day monitoring of fuel & loss helped to bring down the energy consumption level from 171 MBTU/BBL/NRGF in 1990-91 to 139.8 in the year 2008-09.¹

Energy Conservation Commitment, Policy :

To conserve energy, optimisation of the operation of the process heaters and boilers and maximum possible heat recovery from out going streams have been given utmost emphasis in day-to-day refinery operations. The efficient usage of utilities, optimisation of steam-power balance, and optimization of heat exchanger train have been the prime concern in the Energy Conservation area.

As a broad classification the energy conservation activities have been grouped under long term and short term ones. The long-term activities are the high investment projects spread over a long period. The short-term measures consist of continuous efforts for energy optimisation. The specific energy consumption is monitored daily/weekly/monthly for effective control. The optimisation of process conditions and implementation of energy conservation scheme is given the highest priority.

The importance of energy conservation is emphasized through TPM (Total Productive Maintenance) by achieving zero breakdown, zero defect culture. Barauni Refinery has started TPM implementation in October'2002 and Coker-A unit has been selected for implementation of Pilot model by April'2004.

TPM was formally Kicked off on 30th Aug'2004 after successful implementation of Pilot Model at process unit. Refinery wide implementation of TPM is planned to be completed by 2007 end.

Effective Utilisation of HRSG-II :

A fuel efficient Gas Turbine system was commissioned on 11th Dec '02 and Heat Recovery Steam Generator was taken on range and put on load with Gas Turbine on 21st Feb '03. The estimated yearly benefit is 16649 SRFT /Yr. which is equivalent to 1753 Lakhs / Year.

Installation of new Vacuum Ejector in AVU-II :

New three stage ejectors comprising of two ejectors in each stage were commissioned in AVU- II in Apr'2003. The O/H oil separated in hot-well goes through a coalescer for injection to Diesel.

The installation of ejectors has reduced the steam consumption from the earlier value and eradicated the use of 40 ata steam for that purpose. The system has also removed the third water system for which a separate cooling tower was being operated. The incorporation of coalescer along with this system has also reduced the slop generation decreasing the load on ETP and reducing the hydrocarbon loss. The HC recovered in the coalescer are being directly routed to diesel pool. Estimated benefit of the installation of Vacuum ejector is 1496 SRFT/yr which is equivalent to Rs. 149.6 Lakhs / Year.

Commissioning of Air Coolers in AVU-II :

Since inception of the unit, the overhead systems of K-1 and K-2 were equipped with water condensers for condensing the overhead vapours from K-1 and K-2. During the M&I of AVU-I four air-condensers for K-1 (AC-

101A/B/C/D) and four air-condensers for K-2 (AC-102A/B/C/D) were installed for condensing the overhead vapors cooling tower was being operate The condensed vapors from the air condensers are further cooled down in trim to bring down the temperature of the condensate to 40°C. Provision of these air condensers has reduced the cooling water consumption; maintenance cost incurred to clean the water condensers on regular basis and has helped to increase the efficiency of the system. Estimated benefit of the installation of Vacuum ejector is 570 SRFT/Yr. which is equivalent to Rs. 60 Lakhs / Year.²

Commissioning of APC in AVU-I / II / III :

Advanced Process Control (APC) has been implemented in Crude distillation units i.e. AVU-I / II / III in Aug'03 at an investment cost of Rs. 71.25 Lakhs. Process control that has features of overall online process control for optimized operation based on objective functions provided. Based on the process conditions / disturbances it derives inferential predictive performance and accordingly adjusts process conditions. A more steady and optimized operation is achieved. Estimated benefit of APC is 1900 SRFT /yr which is equivalent to Rs. 200 Lakhs/Year.

Energy Conservation Plan & Targets:

To improve the energy performance further, the following major projects are under implementation / active consideration :

PROJECTS / MODIFICATIONS	TARGET (YEAR)	ANNUAL SAVINGS (SRFT)	ANNUAL SAVINGS (Rs. Lakhs)
1. Installation of BMS in TPS Boilers.	2005	180	18
2. Stoppage of operation of CRU cooling tower and connecting the CW system with PCT.	2004	390	39
3. Insulation of 9 nos. of RCO / LSHS tanks	2005	1800	180
4. Recovery of reactor blow down in Coker-A	2005	1200	120

5. Heating of desalter wash water by desalter brine in AVU-I/II	2005	600	60
6. Installation of TPI in ETP	2005	150	15
7. Heat recovery from RFO stream in Coker-A by steam generation @ 3 MT/Hr	2005	1700	170
8. Revamping of heat exchanger network and fractionation improvement in AVU-I&II	2006	5000	500
9. Hydrogen recovery from CRU off gas	2005	13600	1360
10. Flare management with provision of LPG vaporizer	2005	1200	120
Total		25820	2582

With the implementation of above energy conservation projects, specific energy consumption of the refinery will about 112 MBTU/BBL/NRGF.

Environment Management System:

Barauni Refinery has a full-fledged Environment Protection Cell. The worth noting is that this cell was established 28 years back in 1975. In Indian oil, Environment Protection has always remained a thrust area. The Environment Protection Cell having qualified engineer's coordinates all the activities required to achieve continuous improvement in environmental performance related to Environmental Management in the Refinery. The goals and functions of the cell are:

- To achieve reduction of wastes and releases giving preference first to source reduction, second to recycle / reuse and third to treatment and thereby maintaining effluent and emission standards within the permissible limit and legislative requirements.
- To obtain legislative sanctions viz. emission and effluent discharge consent, NOC, Environment Clearance for new projects and to achieve compliance with NOC and EC conditions.
- To establish prevention mechanisms by application of engineering and operational control.

- System development with environment friendly. replacement/improvement within and around the Refinery.
- Training / awareness programs in the areas of environment protection within and around the Refinery.

The Refinery has a beautiful ecological park spread over an area of 75 acres. The park developed with in-house expertise and resources has lush green lawns large variety of trees and shrubs and the wonderful ECO pond where flora & fauna and aquatic life are thriving on treated effluent. The surrounding tranquil environment of the ECO pond of park attracts hundreds of migratory birds every winter. It is a testimony of refineries dedication to fostering environmental excellence and enhancing quality of life in the region.

Barauni Refinery had developed Environmental Management System conforming to the International Standards, ISO-14001 and Integrated the same with International Quality Management Standard, ISO-9001:2000 and with the Occupational Health Management System conforming to OHSAS-18001:1999. Refinery thus developed an Integrated Management System called SHEQ System. SHEQ Policy, a set of objectives and time bond action plan are set for the continual improvement and customer satisfaction in the area of Safety, Health, Environment & Quality.

Emission Control:

The major air pollutant from the Refinery is SO₂. The SO₂ emissions are controlled right at the source through use of low sulphur fuel in the furnaces and boilers. The stack emissions are monitored periodically for SO₂, NO_x, CO and

SPM and have been found to be well below the limit specified by the CPCB as well as BSPCB.

Safety Management System:

Barauni Refinery has an elaborate Safety Management System. Refinery is following stringent Oil Industry Safety Directorate (OISD) standards and other Rules/ Acts as applicable. Periodic Safety Audit of the facilities and system is carried out. Each recommendation's status is thoroughly discussed in the monthly Health & Safety Committee Meeting chaired by the top most official of the company. No efforts are spared to fulfill recommendations arising during Safety Audit, in shortest possible time. To take care of the Safety of the refinery and surrounding and to minimise the impact of the probable emergencies, viz fire, explosion, toxic gas release etc., Refinery has prepared On-Site Disaster Management Plan and Off- Site Disaster Management Plan, and both are duly approved by competent authority. Material Safety Data Sheet (MSDS) consisting of paramount properties of chemicals & their safe handling is a part of Disaster Management Plan. To check the efficiency and bring improvement in the plan, periodic On-Site & Off Site mock drills are conducted.

INSTALLATION OF NEW VACUUM EJECTOR IN AVU-II :

Steam jet ejectors were used for producing vacuum in the vacuum column with MP (10 ata) steam being used as the motive force. The vacuum system utilised direct contact of cooling water with vacuum column overhead vapour and steam coming out from column top resulting in mixing of condensed oil and circulating water. This mixture was sent to a dedicated oily water system (called as 3rd cooling water system). Since the emulsion of oil and water was very

difficult to break, this resulted in higher slop generation and subsequently higher hydrocarbon loss. Due to the use of direct contact type condensers a separate circulating water system with cooling tower and API oil separator was required. The oil separated from these API separators had to be recovered as slop oil and had to be reprocessed in the crude distillation unit(s). It may also be noted that total recovery of oil was not feasible and nearly 40% - 45% of the oil resulted into loss. It is evident that the above mentioned system was energy inefficient and prone to higher slop generation/ hydrocarbon loss. A separate cooling water system with hot and cold water pumps, cooling tower fans and API oil separators had to be separately maintained for vacuum producing system.³

Technical & Financial Analysis Made :

Reduction of Hydrocarbon Loss:

Particulars	Quantity (MT/ Day)
Vacuum slop generation (@ 5000 MT/Day T'put)	9.6
30% of the vacuum slop skimmed off and recovered in AVUs.	2.88
Slop carry over with 3rd system of circulating water (1 – 2)	6.72
Slop recovery from API Separators (55%)	3.70
Hydrocarbon loss (3 – 4)	3.02
Annual Savings	997 MT

Reduction in Power Consumption:

Particulars	Quantity (KWH)
Savings from removal of 3rd system of circulating water	
Reduction of 2 Nos. of hot well pumps	2 X 75 KW
Reduction of 2 Nos. of cold water pumps	2 X 75 KW
Reduction of 3 Nos. of CT fans	3 X 28 KW
Total Power Consumption	234 KWH

Power consumption in revamped vacuum producing system -	
2 Nos. of hot well oil pumps	2 X 18.5 KW
2 Nos. of oily water pumps	2 X 5.5 KW
Total power consumption	
(considering 1 hot well oil pump and 1 oily water pump running)	24 KWH
Net Power Consumption, (234 – 24) KWH	210 KWH
Net Annual Power Saving	1663 MW
Equivalent Annual Fuel Saving (considering 1 MW = 0.3 MT Fuel)	499 MT

Total annual fuel saving and reduction of hydrocarbon loss due to revamp of vacuum producing system in AVU-II (A + B) = 997+499 = 1496 MT

COMMISSIONING OF AIR COOLERS IN AVU-II :

Since inception of the unit, the overhead systems of K-1 and K-2 were equipped with water condensers for condensing the overhead vapours from K-1 and K-2. During the M&I of AVU-II four air-condensers for K-1 (AC-101A/B/C/D) and four air- condensers for K-2 (AC-102A/B/C/D) were installed for condensing the overhead vapors.⁴

Provision of these air condensers has reduced the cooling water consumption, maintenance cost incurred to clean the water condensers on regular basis and has helped to increase the efficiency of the system.

COMMISSIONING OF APC IN AVU-I / II / III :

Advanced Process Control (APC) has been implemented in Crude distillation units i.e. AVU-I / II / III in Aug'03 at an investment cost of Rs. 71.25

Lakhs. Process control that has features of overall online process control for optimized operation based on objective functions provided. Based on the process conditions / disturbances it derives inferential predictive performance and accordingly adjusts process conditions. A more steady and optimized operation is achieved. Estimated benefit of APC is 1900 SRFT /yr which is equivalent to Rs. 200 Lakhs/Year.

Inventory Management in Barauni Refinery :

Indian Oil Corporation Limited (Indian Oil) is the country's largest commercial enterprise, with a sales turnover of Rs.1,50, 677 crore and profits of Rs. 4,891 crore for fiscal 2004. And a sales turnover of Rs. 247,479 crore (US \$ 61.70 billion) and profit of Rs. 6,963 crore (US \$ 1.74 billion) for the year 2007-2008. Indian Oil is India's No.1 Company in Fortune's prestigious listing of the world's 500 largest corporations, ranked 116 for the year 2007 based on fiscal 2006 performance. It is also the 18th largest petroleum company in the world. The company has also been adjudged No.1 in petroleum trading among the national oil companies in the Asia-Pacific region, and is ranked 325th in the current Forbes' "Global 500" listing of the largest public companies . The Indian Oil Group of companies owns and operates 10 of Indian's 20 refineries with a combined refining capacity of 60.2 million metric tonnes per annum(MMTPA, i.e. 1.2 million barrels per day). These includes two r refineries of subsidiary Chennai Petroleum Corporation Ltd.(CPCL). The Corporation's cross country network of crude oil and product pipelines, spanning more than 10,000 kms and the largest in the Country, meets the vital energy needs of the consumers in an efficient , economical and environment-friendly manner. Indian Oil is investing Rs. 43,393 crore(US \$10.8 billion) during the period 200712 in augmentation of

refining and pipelines capacities, expansion of marketing infrastructure and product quality upgradation as well as in integration and diversification projects.

In financial parlance, Inventory is defined as the sum of the value of raw material, fuels & lubricants, spare parts maintenance consumables, semi processed materials and finished goods at any given point of time. Operational definition of Inventory would be: the amount required raw material, fuels, lubricants, spare parts and semi-finished goods, stocked for smooth running of the plant. Since these resources are idle when kept in store inventories is defined as an idle resources of any kind having an economic value.⁵

IOCL is one of the navratna PSU of India. It is a petrochemical manufacturing company. The Refinery processes Imported Low sulphur & High sulphur crude oil to produce: LPG Naphtha (SRN) Motor Spirit (Petrol) Superior Kerosene Oil (Kerosene) High Speed Diesel (Diesel) Light Diesel Oil Low Sulphur Heavy Stock Raw Petroleum Coke Carbon Black Feed Stock Sulphur Barauni Refinery, the lifeline of Bihar, meets the demand of vital petroleum products not only of the State but also for sustenance and growth of industries all around. It has been acting as a great synthesizer of a traditionally agrarian economy with industrial development ushering in prosperity, so much so, that the Refinery is referred to as a luminous jewel, reflecting the development of Bihar. The Petroleum Products from the Refinery are dispatched through Tank Trucks, Tank Wagons (Rail) and Barauni-Kanpur-Lucknow pipeline. The pipeline passes through Patna, Mughalsarai and Allahabad where Marketing Division taps off the products for local distribution at the respective locations.

As India's flagship national oil company, Indian Oil accounts for 56% petroleum products market share among PSU companies, 42% national refining capacity and 69% downstream pipeline throughput capacity.

Yield optimization of AVU. Yield optimization of LTU. Apart from above measures to improve the profitability of the refinery a no. of management schemes for improvement & product enhancement are also undertaken like Six Sigma, TPM, ISRS.

Indian Oil controls 10 of India's 18 refineries - at Digboi, Guwahati, Barauni, Koyali, Haldia, Mathura, Panipat, Chennai, Narimanam and Bongaigaon - with a current combined rated capacity of 54.20 million metric tons per annum (MMTPA) Indian Oil accounts for 42% of India's total refining capacity.

REFINING :

Born from the vision of achieving self-reliance in oil refining and marketing for the nation, Indian Oil has gathered a luminous legacy of more than 100 years of accumulated experiences in all areas of petroleum refining by taking into its fold, the Digboi Refinery commissioned in 1901. Indian Oil controls 10 of India's 19 refineries. The group refining capacity is 60.2 million metric tons per annum (MMTPA) or 1.2 million barrels per day -the

Indian Oil's countrywide network of over 21,000 retail sales points is backed for supplies by its extensive, well spread out marketing infrastructure comprising 169 bulk storage terminals, installations and depots, 93 aviation fuel stations and 79 LPG bottling plants. Its subsidiary, IBP Co. Ltd, is a standalone

marketing company with a nationwide retail network of over 2500 sales points. Indian Oil caters to over 53% of India's petroleum consumption.

SERVO Technical Services Marketing Total Fuel Management/ Consumer Pumps Commercial/Reticulated LPG LPG Business (Non-Fuel Alliances) Retail Business (Non- Fuel Alliances) IndianOil Aviation Service Loyalty Programs.⁶

RESEARCH & DEVELOPMENT :

Indian Oil's world-class R&D Centre has won recognition for its pioneering work in lubricants formulation, refinery processes, pipeline transportation and bio -fuels. It has developed over 2,100 formulations of SERVO brand lubricants and greases for virtually all conceivable applications automotive, railroad, industrial and marine ± meeting stringent international standards and bearing the stamp of approval of all major original equipment manufacturers. The Centre has to its credit over 90 national and international patents. The Centre has recently incorporated a subsidiary company for commercializing its innovations and technologies. The wide range of SERVO brand lubricants, greases, coolants and brake fluids meet stringent international standards and bear the stamp of approval of all major original equipment manufacturers. The Centre has to its credit over 60 national and international patents, including 5 from US.

A major diversified, transnational, integrated energy Company, with national leadership and a strong environment conscience, playing a national role in oil security& public distribution.

Mission of the corporation :

To achieve international standards of excellence in all aspects of energy and diversified business with focus on customer delight through value of products and services, and cost reduction. To maximize creation of wealth, value and satisfaction for the stakeholders. To attain leadership in developing, adopting and assimilating state -of- the-art technology for competitive advantage. To provide technology and services through sustained Research and Development. To foster a culture of participation and innovation for employee growth and contribution. To cultivate high standards of business ethics and Total Quality Management for a strong corporate identity and brand equity. To help enrich the quality of life of the community and preserve ecological balance and heritage through a strong environment conscience.

Barauni Refinery has a full-fledge Environment protection cell. The worth nothing is t hat this cell was established 36 years back in 1975. In India oil , Environment protection has always remained a thrust area. The Environment protection cell having qualified engineer's coordinates all the activities required to achieve continuous improvem ent in environment performance related to Environment Management in the Refinery.

The Refinery has a beautiful ecological park spread over an area of 75 acres. The park developed with in house expertise and resources has lush green lawns large variety of trees and shrubs and wonderful ECO pond where flora & fauna and aquatic life are thriving on treated effluent.⁷

FINANCE DEPARTMENT :

All the divisions have their respective finance functions within their structure. For coordination of the finance functions of all the divisio ns and to provide guidelines for financial matters , a corporate finance departmen t is also

functioning under director (finance) in the corporate office. For the purpose of meeting the requirement of companies act, consolidation of balance sheet and the profit and loss accounts of the divisions and the R&D Centre is done by marketing divisions, Mumbai. Finally a consolidated balance sheet and profit and loss accounts is prepared for the corporation as a whole. This project looks at the finance functions within the finance department in the refinery divisions.

The general manager (Finance) is the head of the finance department in the refinery divisions. The E.D (Finance) is appointed by the board and is delegated with specific financial powers. He also acts the principal staff advisor to the director on all financial matters. All the proposals involving financial implications are required to bear the concurrence of the E.D (Finance) before they are submitted for the approval of director. Similarly at refinery units the Deputy General Manager(Finance) / Chief Finance Manager / Senior finance manager acts as a principal staff advisor on all principal matters to the Executive Director / general Manager.

FUNCTIONS OF THE FINANCE DEPARTMENT :

Management of financial resources for meeting the cooperation's programmes of operations and capital expenditure including investment of surplus fund, if any.

- Ensuring uniform financial and accounting policies and procedures to the extent possible in the divisions.
- Establish and maintain a system of financial scrutiny and internal checks and render advice on financial matter including examination of feasibility studies and detailed Projects report.

- Establishment and maintain an appropriate system of budgetary control and management information system for different levels of the management.
- Carry out periodical/ special studies with a view to control costs , reduce expenditure, economy in administrative expenditure, improve efficiency to maximize profitability of the corporation.
- Maintain the financial accounts , cost accounts and other relevant books and records in accordance profitability of the corporation.
- Maintain the financial accounts , cost accounts and other relevant books and records in accordance with the various statutory and other requirement.
- Advice on corporate cash planning, credit policy and pricing policies of the corporation.
- Ensuring that the corporation acts in all financial and accounting matters as per approved policies of the corporation within the framework of government policy for public enterprises.

FINANCIAL ANALYSIS OF BARAUNI REFINERY :

In a dynamic business environment, financial performance is the lifeline, which sets the basic foundation of the organization. Indian Oil is largest business organization and we have drawn strength from our systems, procedures and transparent financial management. The Finance function with the focus on profitability, cost cutting, effective forecasting, innovative new financial products and optimum risk management is a key to management information & decision support system. Finance with the greater focus on simplifying and

consolidating financial procedures, following best practices of corporate governance, customer satisfaction, skill development assists in achieving the goal of excellence with continuous improvement. I am happy to note that in line with the expectations of the emerging global business requirements; our Finance has re-scripted the Accounts and Finance manual. The new manual has taken care of SAP implementation requirements, new accounting standards issued by the Institute of Chartered Accountants of India and the changed policies and guidelines.

JUST IN TIME (JIT) PRODUCTION :

Just-in-time(JIT) is defined in the APICS dictionary as a philosophy of manufacturing based on planned elimination of all waste and on continuous improvement of productivity'. It also has been described as an approach with the objective of producing the right part in the right place at the right time (in others words, μ just - in \pm time). Waste results from any activity that adds cost without adding value , such as the unnecessary moving of material , the accumulation of excess inventory or the use of faulty production methods t hat creates products requiring subsequent rework. JIT (also known as lean production or stockless production) should improve profits and return on investment by reducing inventory levels (increasing the inventory turnover rate), reducing variability, imp roving products quality, reducing production and delivery lead times and reducing other costs(such as those associated with machine setup and equipment breakdown). In a JIT system underutilized(excess) capacity is used instead of buffer inventories to he dge against problems that may arise.

JIT applies primarily to repetitive manufacturing processes in which the same products and components are produced over and again. The general idea is

to establish flow processes (even when the facility uses a jobbing or batch process layout) by linking work centers so that there is an even, balanced flow of materials throughout the entire production process, similar to that found in an assembly line. To accomplish this, an attempt is made to reach the goals of driving all inventory buffers towards zero achieving the ideal lot size of one unit. The basic elements of JIT were developed by Toyota in the year 1950s and became known as the Toyota production system (TPS). JIT was well established in many Japanese factories by the early 1970s. JIT began to be adopted in the U.S in the 1980s (General Electric was an early adopter) and the JIT / lean concepts are now widely accepted and used.

PURCHASE POLICY AND PROCEDURE :

1) Buying the right quality, 2) Buying the right quantity, 3) Buying the right price, 4) Buying from the right source, 5) Buying at the right time, & 6) Buying for the right place.

1) A written well documented policy helps in guiding the purchasing process. 2) It eliminates the necessity to make fresh decisions every time when a comparable situation arises. 3) It contains details of approval authority of purchasing people. 4) It should mention how many vendors to be maintained and their preferences rules. 5) Policy sets down the minimum no of quotes to be collected for selection & finalization. 6) In case of deviation it should give the rules for getting sanction from higher authority. 7) Penalty, Performance Guarantee/Warranty claims clauses to be mentioned. 8) Credit terms of purchases should be specified in the policy. 9) It should address issue of reciprocal buying.

FOA/LOA shall be regularize through a purchase or der(PO). All POs shall be prepared through SAP as per PO release strategy and shall be issued under the signature of authorized officer of material Department as per DOA A completed purchase requisition will be reviewed and approved in the Purchasing Department according to the University's policy for requisition approval. Once the requisition has been approved, it will be used to create a Purchase Order (PO). When the supplier receives their copy of the PO and confirms acceptance of the information and terms, the PO becomes a formal contract between the University and the supplier for that specific transaction. Both parties are required to comply with the terms on the PO as they would with a regular contract. Two copies of PO shall be sent to the vendor one of which should be signed and sent back to the vendor as a token of acceptance. Annual rate contract with approved vendor wherever possible may be entered into for supply of regular consumables on staggered delivery basis is reduce the inventory level. For purchase order release through SAP on line PO release system, signed copy of PO will not be required for internal use and follow on process of GR , payment.⁸

The Purchasing Department will send a copy of the PO to the employee to confirm that the PO was sent to the supplier and to act as documentation during the receiving process

TENDER AND CONCURRENCE :

The objective of Financial Concurrence is protection of financial interests o f the Company in the decision making while ensuring financial propriety as a part of internal control system. The internal control is exercised through the vetting and concurrence by Finance department so that decision making is as per policyguidelines, rules, regulations, provision of budgets, etc. and it is not

detrimental to the financial interest of the Company. The financial concurrence facilitates achievement of transparency in the decision making which is subject to the scrutiny of various Government agencies like audit, Vigilance etc. **TYPES OF TENDER** They should follow tender system to procure materials at the most competitive rates meeting quality parameters. There should be three kinds of tender which are in vogue, namely, open tender, limited tender and single/proprietary item tender.

OPEN TENDER :

In this procedure, practically any contractor can submit a bid for the job. This method was probably the traditional method until more sophisticated techniques were accepted. The process begins by the placing of an advertisement in trade, magazines and newspapers highlighting the significant features of the project. This method of tendering has the benefit of attracting number of tenders and hence the price the obtained are usually very competitive. For items of regular consumption nature where source of supply have already been established and where the list of approved vendors is maintained duly updated from time to time , press tender need not to be invited even if the estimated value is more than Rs. 50 lakhs but approval of competent authority for waiver of press tendering s to be taken Advantage of open tendering :

The use of open tendering on public sector contracts is required by law in several developing countries. But In many countries, private sector clients generally avoid open tendering.

Limited Tender shall be considered in case enquiries are sent to at least three registered vendors. There will be flexibility to send enquiries to less than

three vendors in case registered vendors are less than three. As far as possible single tender should be avoided.

Specific items from statutory authorities/Authorized Dealer/Stockiest/manufacturers/ Govt. Dept. Spares from original equipment manufacturer. Urgency of the requirement certified by concerned Manager/HOD of the department giving justification on indent. Any single response received from an open tender or limited tender shall be treated as single tender and can be opened with the approval of HOD of Purchase/Commercial dept. duly concurred by Finance Dept.

Single tender should normally be avoided . however in case of emergencies , specialized jobs or in special circumstances , to which reason to be recorded, single tender may be issued. Approval of the competent authority within whose power the approval of award of job lies but not above the rank of GM should be obtained for issuing of single tender equity. In order to follow uniform procedure by all department concerned , procedure to line up an agency and award of job under single tender/ emergency situation shall be prepared by the unit and got approved by the unit head. Where an item has been identified or specified by process licensor and approved by the general manager that the nature of the item is proprietary of single manufacture and no other substitute material is acceptable for technical reason. Slandered brand items are also permissible on single tender basis provided there are strong justification which shall be recorded in writing.

Invitation of Tender / Mode of Tendering / Tender opening While concurring the proposals, it shall be ensured that the guidelines provided for invitation of tenders, mode of Tendering and Tender opening as per Materials

Management Manual / Works Procedure Manual have been followed. Such guidelines generally relate to pre-qualification criteria, special conditions of contract, tendering system, publication of tender notice, tender fee/EMD, amendment/extension, tender opening, numbering of tenders, authentication of cuttings/ over writings, witnessing of tender opening, etc.

Single bid system:

In single bid system, offers are invited in single part in sealed envelope. Single bid system of tendering shall generally be followed where estimated value of the procurement is less than Rs. 50.00 lakhs and technical specification are a comprehensive and deviation may not be envisaged.

Stages in single bid system In single bid system they first prepare technical specification with that they making the price bid and after checking all the product with their quantity and price they prepare the CS.

In case where detailed Engineering specification are not worked out by the Engineering Department or the specification are not comprehensive / well, and the scope involves design work also to be done by the bidder , a system of two part tendering shall be adopted. Two bid system of tendering shall be followed where estimated value of the procurement is more than Rs.50.00 lakhs. However indenter / mererial department consider it necessary to issue the enquiry under two bid system, two bid system can be followed irrespective of any value limit. Tender should be asked to submit Earnest Money Deposit along with technical bid only. In case of bank guarantees, if these are sent directly by the bank, a certified copy of the said BG shall be enclosed along with the techno commercial offer.⁹

Stages in two bid system :

The Tender Committee will consist of head of Purchase, Works and Finance Dept. Representative of the concerned department may be co-opted wherever necessary. Tender Committee is empowered for final recommendation to the Competent Authority mainly for the raw materials and other materials wherever value of the procurement is Rs. 10 lacs and above.

Consideration , evaluation and recommendation to the competent authorities for approval of the offers/tenders for purchase, works, disposal of surplus/obsolete/scrap items of assets and service contracts shall be done by a tender committee whose constitution shall be as follows :

One representative from Finance Depts. One representative from Materials/Contract Cell/T ending Deptt. One representative from the user deptt.

The representatives from the other depts. shall be nominated one grade higher than the Finance member. The nomination of the Finance member shall be as per guidelines in this behalf. If no officer in appropriate grade is there in the department, the officer in the next grade shall attend the Tender Committee meeting. In case of proposals received from EIL and others, our consultants for Plan projects, it is not necessary to constitute tender committee and proposals may be examined by the respective department for approval of competent authority.

Consideration by tender committee s hall not be required in case of proposals on single tender/proprietary basis. However, proposals involving lone offer/lone technically offer shall be considered by Tender Committee. Further, the recommendations of the tender committee shall also be concurred by Finance

(by an authority not lower than the finance representative in T.C.) irrespective of the fact that the T.C. member happens to be the concurring authority for approval of the proposal.

A vital role was assigned to the public sector in the process of economic development of Bihar. This role that was originally enshrined in the Industrial Policy Resolution of 1948 was further emphasised in the Industrial Policy Resolution of 1956. Public Sector was envisaged not only to control the commanding heights of the economy but also to serve as a vehicle to promote balanced and equitable growth. This led to a phenomenal growth of the public sector enterprises at both the Centre and the States during the earlier plans. However, the Government rethinking on the role of public sector enterprises was necessitated by the severe resource crunch faced at the Centre as well as State level. The net losses incurred by the public enterprises being a major contributor to deficit budgets, a need was felt to urgently review the role of these enterprises with a view to reducing the financial burden on the respective Governments in the State. After all, losses of these enterprises reduce the financial maneuverability of the Government to spend money on the development of social sectors and infrastructure, considered so vital for the development of the economy.¹⁰

Public Sector Undertakings were set up in the States as an integral part of our developmental plans and industrial policy. This policy framework also envisaged that these PSUs would generate further surpluses and would yield some minimum rate of return on the investment made in them. However, over the years and in most cases, they have been found to be earning low or negative returns. Accumulated losses are on the rise. Productivity of labour as well as

capital is low and fresh infusion of technology and capital requires funds that are not easily available. Support from the budget is less and less possible and whatever meager amount is given from this source will further stretch the already difficult fiscal situation. At the same time, the PSUs are overmanned and downsizing of manpower is opposed by labour and the existing archaic labour legislation makes it further difficult. Under these circumstances, it has become necessary to carry out reforms of the public sector at a pace which is faster than has been witnessed in the past in order to check the ongoing drain of resources through these enterprises and before it reaches a point of no return.

There are significant differences among States in the levels of social and economic advancement, institutional structures, administrative capabilities, geographical attributes etc. These imply that standard solutions cannot be prescribed for the States and the public enterprise reform process will have to be designed and calibrated according to the specific needs of State. The State may keep in view the criteria followed by the Disinvestment Commission also i.e. public purpose served by the PSU and whether it is necessary to retain it or in other words, whether disinvestment in it will be detrimental to the public purpose. It is also to be seen that in the post-reform era the State is expected to promote growth by acting as a catalyst and a facilitator and not get directly involved in provision of goods and services. Each public sector enterprise could be ranked as high or low on three parameters in a matrix format viz., public purpose, profitability and mobilisation of financial resources. In case the enterprise is high on all the three parameters (HHH), it could be retained in the public enterprise portfolio. If the public enterprise is low on all the three

parameters (LLL), then it could be divested from such portfolio. The enterprises falling in the remaining categories could be restructured (eg. HLL, HLH, LLH).

The entire disinvestment exercise in State could be handed over to an independent Disinvestment Commission set up through a State legislation. Such a law should specify the enterprises to be privatised, the methods of valuation to be adopted, the enterprise-specific calendar for disinvestment and the method of reporting to the State Legislature. The Disinvestment Commission may comprise of economists, engineers, lawyers, accountants, public enterprise managers and labour experts.

One of the most important issues pertaining to reforms in the State PSUs is the form it is going to take place i.e. whether it is winding up of a unit, partial disinvestment in favour of a strategic investor, disinvestment to the extent of 51 per cent or more or complete transfer of ownership to a private party. There may be yet another alternative where restructuring of a PSU is the requirement. Restructuring can also be a step preceding the disinvestment process so that marginal additions of capital can enable higher price realisation on sale of equity. The State Government may also like to explore disinvestments in favour of managers and employees. The management lease and capital market routes may also have to be explored keeping in view the nature and operations of the enterprise under consideration.

On the other side, resorting to restructuring may lead to further drain of resources. As per the amended Sick Industrial Companies (Special Provisions) Act, 1993, PSUs with 100 per cent net worth erosion are to be registered. It is generally observed that there is a substantial delay in formulating a revival package once this reference is made and the process of approving a package

itself extends to more than one year and in some cases to two or three years. There was a suggestion from one of the State Governments that as soon as the PSU is referred, the State Government should go ahead and dispose off the unit. Otherwise, there is further drain on resources. There is a tendency to keep postponing privatisation/disinvestment in the hope of turning around the enterprise that leads to a drain on resources of the State. It will be therefore desirable to refer all such cases to the Disinvestment Commission to be setup by State which could look into all the related issues of closure and divestment.¹¹

Another important issue is the need for running public sector enterprises on sound commercial principles where decision-making is governed by the objective of securing maximum returns and is not affected by political interference. This necessitates granting autonomy to the enterprises. However, there are a few enterprises that have been set up with social and welfare objectives where, according to one view, economic returns and profitability may not be a consideration. Such welfare corporations have been given corporate form of organisation so that they are able to avail institutional finance to supplement the resources provided by the Government. The institutional finance in the early years of incorporation, these companies have been unable to sustain themselves on their own and have not been able to make timely repayments of loans availed by them. As a result, they become ineligible for further financial assistance, and budgetary support from the Government is mainly used up to meet administrative expenses thereby nullifying the very objective of their setting up. Such experiences advocate the need for running these PSUs also on commercial basis, failing which they should be reconverted into departmental enterprises.

Any suggestion pertaining to the reforms of State PSUs, including disinvestment and possible privatization, cannot ignore its implications for the employment scenario. It is generally noticed that the State PSUs are overmanned and have been providing more jobs than are optimally needed. Adopting the latest technology would mean reduction in manpower employed. Any Voluntary Retirement Scheme (VRS) / retrenchment scheme requires funds that are generally scarce. In this context, setting up of a State Renewal Fund by all State Governments may be useful. Some State Governments have taken steps in this direction. Clearly there is a need to set up State Renewal Funds in each State, the funding of which should come from the disinvestment/restructuring fund created out of the proceeds of the sale of State PSUs.

A major hurdle faced by the State Governments in carrying out reforms relating to public enterprises is the opposition from labour. One view is that a review of the archaic labour laws and procedures laid thereunder is long overdue and there is need for these laws to be substantially overhauled to enable speedy rationalisation of labour by these units. However, another view advocates caution and asks for a more holistic approach to the issue to prevent the emergence of serious imbalances like large-scale unemployment without adequate support system in the form of social security and insurance resulting in widespread labour unrest. A unified National Policy in this regard may therefore be useful. There is a need to set up Social Safety Net in each State going in for privatisation of State PSUs. The Social Safety Net is decidedly a better proposition than the VRS as the former encompasses retraining, redeployment and employment insurance. The Social Safety Net acts as a cover to prevent social tensions. This

scheme covers all the employees eligible for VRS for retraining and redeployment.

State Governments have highlighted the fact that the officers taking initiatives in reforming the public enterprises have had personal blemishes being cast upon them. It is, therefore, essential to create an atmosphere where the CEOs and other officials involved in decision-making are not subject to victimisation so that they can carry out their work in the interest of the enterprise. Setting up a Pre-investigation Board as recommended by the Disinvestment Commission, could provide an effective way to counter this problem. Such a Board could approve the blueprint of disinvestment as well as undertake a concurrent audit of disinvestment operations. It may be composed of experts drawn from professional fields.

A related issue is the granting of a stake in the ownership of a company to the employees. It is possible that the Management and the Employees are better motivated if they have a financial stake in the PSU they are working in. Therefore, the operation of an employee stock option scheme may be explored in the State PSUs. In some cases, it may be even made compulsory that all regular employees should hold a share in the equity of the PSU. Selling of shares to the employees can also bring about a better employer-employee relationship and improve productivity. "Workers participation in Management should become an integral part of the Industrial system to serve as an effective instrument of modern management. It should be made a vehicle for transforming the attitudes of both employers and workers for establishment of a cooperative culture which may help in building a strong self-confident and self-reliant state with a suitable industrial base." However, it may also lead to a tussle between management and

employees for more powers once ownership is given to the latter group. It may be stated that the concept of employee stock ownership scheme could be practiced generally in enterprises showing a secular trend in profitability.

Some structural reforms would be necessary to streamline the working of the State PSUs. The State Governments may take steps to set up nodal agencies to co-ordinate the work of State PSUs. More autonomy would have to be provided to these enterprises to achieve results that, in the final run, would lead to redefining the relationship between the State Governments and State PSUs. The introduction of Memorandum of Understanding (MOU) between the State Governments and State PSUs, on the pattern of the Central Government public enterprises, could provide a basis to bring about this strategic reform. The professionalisation of the cadres of the State PSUs is another vital requirement to enable these enterprises to make a break with their past. The debate about professionalisation is mainly focused on the desirability of having technologists or persons on deputation from Government manning these enterprises. A proper approach to professionalisation, however, would be to determine the job requirements of various functionaries in a State PSU and provide the means to have suitable persons recruited, whether from within the government or outside. The selected personnel need to be given sufficiently long tenures to enable them to implement sound managerial practices. In a similar vein, the appraisal of investment options need to be done by an objective agency which could evaluate the costs and benefits flowing from establishing a State PSU before a proposal to set up the same is approved.

The success of any scheme to improve the working and the financial results of the State PSUs would depend, to a large extent, on the information-

flow emanating from their income statements and balance sheets. The preparation of these financial statements is obligatory in terms of statutory as well as strategic requirements. Our study, on the contrary, points out that the State PSUs have shown scant respect to the finalization of accounts. The reasons for the non-finalisation of the reports ranged from non-completion of (i) book of accounts, (ii) preparation of financial statements and (iii) statutory audit, to the delays in the appointment of the statutory auditors by the accountant general and the adoption of the finalised accounts by the annual meetings. Efforts by State to rectify the problem have not met with much success. Lack of professional staff in the accounting and finance departments of these PSUs has emerged as a major limitation in this regard.

There is a requirement of a fixed minimum tenure for the Managing Director/CEO of these units to provide stability in the management and decision-making apart from bringing in accountability of these officials. Frequent transfers reduce the sense of involvement of the CEOs with the enterprises and they are not accountable for their action after they move out from an enterprise. Another major feature of manpower in PSUs is lack of professionalisation and adequate training. It would be useful to bring in more professional management especially at the higher echelons of an enterprise. Composition of the Board of Directors needs a review especially since functional directors are virtually absent. The Board and the CEOs need to be regularly provided with reliable information for which the timely completion of audit is necessary. In general, pendency of audit has been observed to be high in State PSUs. A check on preventing such delays in audit could be provided by the installation of effective

internal audit systems that are, at present, conspicuous by their absence in State PSUs.¹²

The introduction of corporate governance systems can provide a shot in the arm to State PSUs as it could pave the way for improved managerial and control systems. An important pre-requisite for the observance of good corporate governance is strengthening of the managerial cadres of the State PSUs at the middle level. The interference of the State Governments in the day-to-day functioning of these enterprises is a chronic bottleneck constraining the performance of the State PSUs.

A number of international institutions are extending technical and financial assistance to the States for their disinvestment programmes. However, the need to reflect local realities in the disinvestment process implies that the technical models being suggested by the international consultants in this context must be suitably modified before being implemented.

State PSUs are fulfilling social obligations entrusted to them by State Governments. However, they are not being adequately compensated for these responsibilities. This tends to affect the financial viability of these enterprises. Besides, it also makes the system less transparent. Hence it is essential that State PSUs be adequately compensated for carrying out social obligations and this compensation should be provided through explicit budgetary provisions.

GOVERNING BOARDS AND THE TOP MANAGEMENT :

The working of state level enterprises in Bihar is also influenced by the composition of the Governing Boards and the top management. The members of the Boards are drawn from the Civil Service and the State legislature without any

reference to their special qualifications or business aptitude. The performance of the Board is also not evaluated on its initiative and efficiency but by the smoothness of its relationship with the minister concerned. Even the degree of commercial freedom that is allowed to these enterprises and that is enjoyed in actual practice depends on the relationship. The Legislatures appointed on the Board of the State enterprises are generally unable to devote adequate time to the affairs of the enterprises. It is also felt that such an arrangement is likely to result in an overlapping of responsibilities, where the members of the Board may have to obey directives issued by the government from time to time.

Among the officials, commissioner and secretaries of administrative departments and officers of the Bihar Provincial Service manned the posts of 6 CMDs. Twelve state level public enterprises had appointed vice-chairman too. Seven out of twelve were active politicians. The tenure of the board members including managing directors, chairman and vice-chairman was very short and less than two years in most cases. In certain cases, the tenure of managing directors was cut short to less than one year. The representative character of chairman in the boards of SLPEs. The control structure including internal and external control system is not very different from other states. Senior bureaucrats have been appointed as Chairman-cum-Managing directors in these enterprises. Similarly, Treasury and Accounts Officers of State Services have been manning the Accounts and Finance wings of most of the enterprises.

Large representation of the Civil Service men in practice means, ministerial interference through the backdoor, as these officials, who have no knowledge or aptitude of business management, may not be able to function in a

business-like manner. Besides they do not generally take any interest in the efficient operation of these enterprises, since they are mentally tied to the parent departments. Likewise the general managers of most of these enterprises, since they are mentally tied to the parent departments. Likewise the general managers of most of these enterprises are also drawn from the Civil Service, who suffer from the same shortcomings as their superiors on the Boards. They consider their postings in the public enterprises as transitory and generally insist on observing bureaucratic procedures and rules rather than taking business initiative or steps to promote efficiency.

ROLE OF BUREAU OF PUBLIC ENTERPRISES :

In view of increases in number, size and investment and coverage and absence of proper evaluation machinery at state level, state enterprises have attracted the attention of the Legislature Committee on Public undertakings, individual public enterprises, the government and public in general to establish a nodal organization.

Bihar State Legislature Committee on Public Undertaking (CPU) felt that, "the entire state sector would suffer if there is no machinery to review the working of the public sector constantly." Thus, no doubt the CPU has been insisting time and again for creation of a separate Bureau of Public Enterprises at state level.

Though the state enterprises are autonomous corporations, the need to ensure accountability functions, growth and development will fall within the national purpose in general and state in particular. Hence, there is need for a

separate agency which could help, coordinate and control and advice the enterprises in their efficient operation on behalf of the state government.

There are various reasons for coordinating the activities of state enterprises. As the enterprises are growing in their number, size and investment, the problems with regard to their functioning would also grow. Sometimes the activities of the enterprises are duplicated as enterprises are promoted under different departments. Secondly, various central and state agencies are concerned with the working the state enterprises in regard to investment appraisal, locational matters, incentives, wage policy and so on. Hence, a centralized agency could help state enterprises in dealing with all these agencies. Thirdly, state enterprises are answerable to state legislature and Legislative Committee on Public Undertakings. An independent organization which could advice the legislature in regard to various functions of state enterprises demands an establishment of a separate organization. Lastly, long-term planning at the national level in general and state level in particular needs coordination for planned economic development. Obviously the plans of state enterprises are closely dovetailed to state and national plans. A separate nodal organization in this connection immensely helps the state government.

There are several services that a separate agency could render to state enterprises. For example, processing of licenses advice on and assistance in meeting statutory requirements, organizing training and management development, preparation of feasibility report and so on. As the organization acts like a clearing house it would not undermine the importance of interface between the administrative department and the enterprise. On the other hand, the state

government departments would also get advantage of expert advice and assistance of specialists, who are experts in the area of public enterprises.

The Government's control on the state enterprises relate to appointment of Boards and Chief Executives, approval of capital expenditure beyond a particular limit, issue of directives on government policies, approval of upward revision of capital costs, approval of revenue budgets where there is deficit to be made by the government. Besides, these formal regulatory powers vested in government, a considerable informal controls are exercised over state enterprises by the Minister and concerned department. As the agency is created in the government a considerable control could be exercised though mutual consultations between the officials and the top executives of state enterprises which could go a long way for healthy promotion of government and public enterprises relationship. By and large the experience of central Bureau of Public Enterprises, its invaluable role is commendable in various fields of public enterprise management officers lessons to a nodal organization at state level, particularly in their organization at state level, particularly in their organization and efficient functioning.

The Bureau of Public Enterprises of the central government with the blessings of the Finance Minister organized a National Conference of Nodal Agencies in the state for public sector undertakings to have an exchange of authorities with regard to roles played by these Nodal Agencies and measures those could be taken up for improvement. The major recommendations were as follows :

- Constant monitoring and evaluation of project implementation as well as reviewing the performance of public enterprises and reporting them from

time to time to the Government are important aspects of public enterprise management. State should have nodal agencies for this purpose. Such nodal agencies can also be used to fill up the existing information gap between central and state enterprises.

- There is a tendency in some states to set up too many units in the public sector. There should be critical appraisal of the need for setting up of a public sector enterprise itself as distinct from investment appraisal.
- The need for institutionalizing selection procedures has been realized and the tendency to restrict the tenure of appointment to one or two years in respect of top management personnel may not serve the interest of enterprise. For proper selection of top managers there should be an up-to-date data-bank.
- There should be a proper system of management development. The training programme should not receive routine treatment. The effectiveness of these programmes should be evaluated properly.
- As long as ministry/department is responsible to the parliament/legislature for the efficient functioning of the public enterprises, a certain amount of control by government is necessary.
- Government Exercises this through :
 - Appointment/removal of members of the Board of Directors.
 - Issues of specific directives
 - Reservation of certain areas of decisions, and
 - Appointing its representatives on the Board of Directors.

Thus, the establishment of nodal agency in any form would help the state government to supervise and coordinate the working of state enterprises. In many

states it has been observed that State Bureau of Public Enterprises has already been created. This is one of the several ways in which the government can monitor and control the working of the state level public enterprises. Besides the Bureau, the Comptroller and Auditor General of India also exercises control over the functioning of these enterprises through the subsidiary audit/text audit.

In Bihar the State Bureau of Public Enterprises was set up in the year 1976. the Bureau was set up to coordinate, monitor and control the working of the state level public enterprises. The functions of the Bureau of public Enterprises in Bihar are as follows :

- To function as a nodally agency for giving guidelines to public enterprises regarding organizational structure, management practices, coordination arrangements, project formulation evaluation, personnel, economic, financial and social policies of public enterprises, to organize training programmes.
- To make an in depth study of special problems of the public enterprises, review and evaluate them and suggest remedial measures.
- To suggest creation of new public enterprises.
- To suggest to the administrative departments before creation of the public enterprises, its economic viability, technical feasibility and organization structure.
- To issue guidelines regarding increasing the capacity utilization and profitability of the public enterprises and the reduction of costs.
- To keep control over the appointment of personnel at all levels in the public enterprises so that in the name of autonomy, the appointment of

personnel is not more than its requirements and people without proper qualifications and experience are not appointed.

- To arrange redeployment of surplus staff of the public enterprises.
- To assist the selection committee for appointment of class I and II posts in public enterprises and work as its secretariat.
- To maintain panel of people for appointment to managerial, financial and technical posts in public enterprises.
- To prepare model rules for employees and officers of the public enterprises, service conditions, discipline and appeal rules, financial rules, promotion rules and conduct rules.
- To prepare annual reports on public enterprises and assist committees of legislatures in reviewing the working of the public enterprises.
- To function as a basic data-bank for the public enterprises and clearing house of information.
- To evaluate the data and reports received from the public enterprises.
- To keep control over the expenditure of the public enterprises and issue direction regarding house rent allowance and other allowances to personnel of the public enterprises.
- To advise regarding wage policy of the public enterprises.
- To obtain order of the government regarding remedial measures for solving the problems faced by the public enterprises.

The Government of Bihar entrusted to the Bureau the task of recruiting class—I and class—II employees for the state level public enterprises. The Bureau was initially put under the charge of the Commissioner, institutional finance. Later on in October 1978 a separate post of the chairman was created for

the Bureau. The commissioner of the Bureau was also designated as Ex-officio Principal Secretary of the Department of Finance. To strengthen the Bureau and make its working more effective in January 1980, the post of the chairman of the Bureau was upgraded as equivalent to the post of Chief Secretary, Government of Bihar and Secretary to the Government of India. Nowhere such a status has been provided to the chief of a nodal agency for the state level public enterprises in the country.

References :

1. Bhatia, V.S. (1975) : "How to Improve the Working of the State Enterprises", Capital, (Supplement), July 31.p.13-15
2. Bhaskara Naidu, V. and T.S. Rasool Saheb(1983) : "Performance of Public Enterprises in AP", Institute of Public Enterprises Journal, Vol. VI, No. 3, July-September. P.28-32
3. Bihar State Electricity Board (1970) : A Report of the Committee, Patna, July. P.9-11
4. Chattopadhyaya, P. (1989) : "State Level Public Enterprises in West Bengal" in R.K. Mishra et al. (eds.), Management of State Level Public Enterprises in India, National Publishing House, New Delhi. p.36-45
5. Committee on Public Undertakings (1984) : Productivity in Public Undertakings, 7th Lok Sabha, 97th Report, Lok Sabha, New Delhi. p.87-93
6. Comptroller and Auditor General of India (1989), State Government Public Enterprises : Concept, Performance and Accountability, C&AG (Commercial Wing), New Delhi. p.28-31
7. Deb, K. (1989), "Performance Evaluation of Public Enterprises in Assam", in R.K. Mishra et al. (ed), Management of State Level Public Enterprises in India, National Publishing House, New Delhi. p.31-37

8. Deolankar, V.S. (1986), "Financial Management in Public Enterprises in India", Southern Economist, 24(21), March 1. p.18-22
9. Dholakia, B.H. (1980), The Changing Efficiency of Public Enterprises in India, Somaiya Publication, Bombay. P.65-68
10. Ibid
11. Economic Advisory Council to PM (1987), Report on Public Enterprises in India : Some Current Issues, Government of India, New Delhi. p.45-52
12. Gupta, Dr. CB (2005), Human Resource Management, Sultan Chand & Sons, New Delhi. p.61-68



CONCLUSION AND SUGGESTIONS

The state level public enterprises owe their existence not so much to a coherent policy as to historical factors and pragmatic adjustments to demands of the environment. A large number of SLPEs came into being on account of historical necessity. Some of the SLPEs were born on account of the decisions of the state governments to wind up their departmental activities. A large number of these enterprises were set up as public organizations to take advantage of the funding from the financial institutions. Finally, a considerable chunk of the SLPEs have come into being on account of the decisions of the various State Government to assume the entrepreneurial responsibilities.

The classification of the SLPEs is an onerous task. Their widely differing nature, lack of commonality in objectives and disparate origins are the major contributory factors to the complexity of the task.

The Sectorial pattern of the state level public enterprises in Bihar reveals that these enterprises are engaged in variety of activities ranging from industrial development and financial promotion, trading and marketing, contract and trading and marketing, contract and construction services, consumer goods, engineering goods, development of backward regions and weaker sections of the society to agro-industries, mineral and metals, development of small industries and tourism. There has been a massive growth in the number of SLPEs.

Thus, it goes without saying that the SLPEs occupy a place of importance in the public enterprise system in the state. They have become a vital instrument of public policy in spurring the overall economic development in Bihar. As a result, there has been a spectacular growth in the investment in the state level public enterprises.

The SLPEs have to perform financially well to ensure a smooth continuation of their operations, guarantee expansion of activity in which they are engaged and contributed to the state kitty. Two indicators had been selected to measure the financial performance of these enterprises. The operating profit to capital employed and the ratio of profit after tax on capital employed. The analysis of financial performance was done as a whole at the first instance and then for different sectors like manufacturing, trading and marketing, financial, promotional and welfare.

State governments are facing a serious resource crunch. It is very natural that under such a constraint on the SLPEs have been called upon not only to finance their own growth but the growth of the public sector in the various states as a whole.

As far as the setting up of state Government enterprises is concerned there is neither a separate policy as in the case of the central enterprises nor a separate act for the purpose. It is true that State Governments have followed the policy of Central Government in setting up State enterprises. Now the time has come to rethink about the separate policy.

There is an agreement on the point that the efficiency of any particular enterprise should be judged with reference to the objectives. The objectives of private enterprises are quite clear but this is not so in the case of public enterprises. Even after so many years, we are still grappling with this issue and

the government has not yet come forward with clear cut objectives of these enterprises. In the absence of clearly designed objectives of these enterprises, it is indeed a great problem to judge their efficiency properly and correctly.

For a long time now, it has been said that in the central government public enterprises, the strategic decisions are taken by the government. This statement is particularly valid for the SLPEs where the focal point of decision-making lies to a large extent outside the public enterprise. The extent of erosion of internal decision-making capability of SLPEs could be analyzed if we examine their powers with reference to investment decisions, especially the marginal investments required for modernization or quality improvement, product-mix choice, pricing of output, and personnel and labour relations.

There is a feeling that there is a positive relation between stability at the top management level and success of SLPE. The term of office should be sufficiently long to give the members sufficient time to prove their by improving the working of an enterprise. On the other hand, there is a feeling that longer tenure will lead in development of vested interests and people may not feel adjusting themselves to the fast changing conditions in the enterprise. Therefore, the tenure of the board should be such that it should aim at striking a right balance between the need to provide for development of experience and infusion of new talent.

The state level public enterprises are facing the problem of resource crunch. The return on investments made in many cases has been negative in majority of the states. The generation of funds for making sufficient resources available for investment is certainly an important objective of Indian public enterprises. This responsibility is much more in respect of enterprises which have potential for expansion and whose capital needs are relatively large. While there

have been guidelines regarding the financing of fixed and working capital in the case of central public enterprises, there are no such policies framed by State Governments.

State level public enterprises are mostly autonomous corporations. Their accountability, functions, growth and development need to be studied by the central government in general and state in particular. The need for a nodal agency to coordinate the work of the SLPEs and to evaluate their performance on behalf of the government has been recognized. State Governments have set up departments of public enterprises, as a department of the secretariat or sometimes a Bureau of Public Enterprises as a field department had set up a Public Enterprise Management Board. The setting up of a Board provides an opportunity to induct into the control and coordinating agency talents from outside the Government.

One of the important indicators of the efficient operation and profitable performance of public enterprise in the capacity utilization. If the public enterprises cannot utilize their installed capacity fully, the capital utilized therein would be dead or idle to the extent of non-utilization. Further, the under-utilization in public enterprises also leads to locking up of resources, high cost of production, obsolescence of plant and equipment and widespread repercussions on linked industries etc. thus, the optimum level of capacity utilization is a matter of great concern to the governments, legislatures and people at large. In contrast with the central public enterprises, the position of state level public enterprises in the states is much worse. More than half of the undertakings floated by state are working below 50 per cent of their capacity. The productivity of investments as reflected by the turnover of investment has been very low in the state level public enterprises. The main causes which tend to

under-utilization of capacities in public enterprises are : Rated capacity is wrongly calculated, incorrect choice of technology, inadequacy of demand, inadequacy of raw materials, inadequacy of power, lack of balancing equipment, industrial unrest, managerial shortcomings.

The pricing policies of the SLPEs are not based on rational and scientific basis. Not only they are found to be irrational at the beginning, but even after lapse of so many years the confusion continued uncorrected. The defective pricing policy followed by the SLPEs can be seen from the experiences of numerous enterprises. Though several companies unequivocally say that they followed the cost plus or the other kind of pricing. Never the system was followed scrupulously taking into account the real costs involved. The result usually had been a great loss to the enterprises. This speaks of the necessity for rationalizing the pricing policies of the public enterprises at the state level.

Actually many of the problems of the public enterprises are traceable to inadequacies in performance evaluation. This is not surprising because in public enterprises goals are difficult to specify due to the problem of multiple objectives (including commercial versus non-commercial) and plural principles. If goods cannot be specified then good performance cannot be distinguished from bad. In such a situation inefficiency can result. It was precisely under this perspective that an attempt was made to explain the fundamental issues like basis of performance evaluation, objectives and performance, performance criteria, overview of the performance system and ways to improve the system. All these issues are significantly related with the sordid state of performance of public enterprises in Bihar.

The various problems of state level public enterprises the present study found that the problem of human efficiency is one of the main factors responsible

for the poor performance of state enterprises. While many strategies could be proposed to optimize the human resources in state enterprises, management training and human resources development strategies play crucial role in improving the overall organizational performance of enterprises. Through training of managerial cadres in SLPEs the organizational performance and productivity can definitely be improved since training the development process has the potential to develop the required skills for human and organizational efficiency. Policy makers and top managements of SLPEs should have a sense of commitment to and faith in the training system, if the training programmes are to be meaningful and fruitful.

As an important instrument of promoting economic development, productivity helps generating surplus and provides the much needed capital for the people in their productive efforts thereby enhancing their ability to save through rise in the level of real incomes.

Improving the working of public enterprises by increased efficiency, higher capacity utilization, and generation of internal resources has been emphasized by the government and various experts. The need for productivity improvement in public enterprises has been given an urgent attention by the government. It is the index of total factor productivity that represents the most appropriate criterion for evaluating the performance of public enterprises.

The term 'productivity' is an elusive concept in economic literature. Productivity is a nebulous concept because any workable definition should arise from the realities of workplace and these realities may vary. However, is doing the best with what you have and skilful investment of the entire workforce for powerful ideas by enhancing output while maintaining constancy of input. It was precisely in this perspective that the study had explained the various concepts of

productivity. However, the labour productivity and capital-productivity were discussed in more detail. Thereafter we had attempted to explain the process of measuring productivity. In this context an emphasis was put more on theories and methods of measuring productivity.

There is a great role of financial management in state level public enterprises because financial discussions have a great impact on all other business activities. The study had discussed the role of financial managements in state enterprises-a case study of Barauni Refinery.

Financial appraisal of an organization is scientific evaluation of the profitability and financial strength of any business concern. In fact, financial analysis is the process of making an anatomical study of the financial and operational data contained in the profit and loss account and the balance sheet of a given concern and thereby satisfying the information needs of the internal and external users of such data.

In Bihar, the state level public enterprises, have been set up to fulfill the socio-economic objectives of planned economic development and generating surpluses to contribute to the state exchequer. Most of these enterprises have been set up for specific reasons and purposes.

There was no SLPEs in Bihar before the commencement of the democratic planning era. The number of SLPEs in Bihar today is 50, involving a total investment of Rs. 5053.82 crores and employing 90224 persons in different categories. The overall investment made in the state government enterprises has risen from Rs. 1796.11 crores in 2008-09. with huge investments at their disposal it is the responsibility of these enterprises to fulfill their commercial objectives alongwith other socio-economic goals. These enterprises are not charitable institutions or welfare organizations. These enterprises should be so

managed as to yield a reasonable return on investments. Because in an expanding public sector, profit from state enterprises should be a growing source of revenue. Unfortunately, most of the state enterprises are running at heavy losses. Unfortunately most of the enterprises are in the red. Production and financial enterprises have been the exceptions.

The study reveals that the capital structure of most of the public enterprises of Bihar is highly unbalanced and does not adhere to sound principle of financial management. Though the guidelines of the government of India regarding the debt-equity ratio have been changing from time to time basically it has remained unchanged at 1:1. However, it has been found that the state government did not adopt any working rule for the combination of debt and equity in financing the undertakings. Consequently, the ratio has fluctuated violently from one undertaking to another. Thus, in the absence of a clear-cut policy on debt-equity mix, some of the state enterprises are suffering from high financial risk, whereas some others are not able to take advantage of "trading on equity".

The state government investments in the public enterprises have not followed only definite pattern. Government investments have generally taken the form of equity capital or loans. But, while making investments the state government appears to have paid insufficient attention to the individual characteristics and peculiar requirement of a particular enterprise. Thus, wide differences in the pattern of government investments exist not only as between statutory companies but also between corporations themselves and between one company and another.

The causes of unsatisfactory financial performance as contained in the Annual Report on the working of State Public Sector undertaking have been

depicted in table. An analysis of the table reveals that the problems faced by the SLPEs are :

- Very elementary in nature
- Not variegated, and
- Further both the management of these enterprises and the State government lack commitment to run these units as "enterprises". Whereas the "managements" have failed to demonstrate any innovativeness to encounter the operational and policy problems, the Government appears to have adopted the attitude of indifference to the postnatal problems of these enterprises.

The Record of the performance of the state level public enterprises over the last few years and indeed since the start of the planning process itself has been at best a mixed one. These are some enterprises which have shown modest returns. On the other hand, other have incurred heavy losses. Going by the profitability criteria, in terms of returns on investment, the overall performance of the SLPEs is not satisfactory. Public sector units cannot have before them the profit motive as the sole or even the principal objective, as they have social responsibilities too, not only for economic growth but for balanced development, distributive justice, upliftment of weaker sections etc. In fact, SLPEs of a promotional/regulatory character have been set up to render certain services without any element of profit while some have been created or taken over in light of conscious decisions that although they may not be able to return adequate yields on investments, yet the imperatives of Government's social and economic obligations require their creation/take over. Moreover some SLPEs are operating in functional areas which require a volume of capital and other inputs. The large social overhead costs which SLPEs have to incur, by virtue of being model

employers, also accounts for as inflated capital structure and swells running expenses.

Having said this however, it cannot be denied that the large majority of the SLPEs being commercial undertakings, a reasonable index of their financial health and efficient performance, is the return on investments made, the SLPEs have a responsibility to fulfill their commercial objectives alongwith their other socio-economic goals, such that a reasonable return on investment is achieved. The surpluses thus generated can then be reinvested to fuel the growth and expansion of the public sector, for the fulfillment of Government's longer socio-economic goals, without taking resources to government budgetary support.

Certain industries especially public utility industries have been public owned or regulated to alleviate public fears that such firm would use market power to raise prices artificially. Refinery industry is one of these industries. This industry is treated as natural monopolies and regulated to control entry, prices and profits.

Refinery industries to achieve one or more objectives like raising revenue for the state, raising investment capital for the industry or company reducing government's role in the economy, promoting wider share ownership, increasing efficiency, introducing greater competition etc. To see that the industry has achieved above mention objectives or not, various aspects should be analyzed and tested by the various statically tools. So, the refinery industry and the resulting performance can thus form a platform for various future aspects also. The study gives an insight into the various aspects of refineries undertaken for the study.

This chapter is the heart of whole study. It gives its emerging conclusion based on the analysis carried out during the study. The effort has been made to

summaries and conclude the whole study and to give some suggestions to achieve the objectives of the study. Thus, this chapter contains major findings and suggestions regarding improving efficiency, effectiveness and profitability.

Barauni oil refineries have been undertaken for the study. Primary and secondary database has been used for the study. The study has divided into seven chapters. First chapter contains the Introduction of the study in which its significance, objectives, future scope of the study, limitation of the study, list of hypothesis etc. are given. Second chapter narrates Human Resource Planning. Third chapter presents Recruitment and Selection. Forth chapter deals with Training and Placement. Fifth chapter deals with Motivational Measures. Sixth Chapter deals with Polilcy Appraisal and last seventh chapter concludes with the findings, summary and some suggestions.

From the entire study, some findings and conclusions have inferred out. Analytical performance has been done of the Barauni refinerie. For that data has been analysed through various tests like liquidity test, working efficiency level test, solvency test, ratio analysis, correlation matrix and centroid factors of factor analysis method.

From the liquidity test, it can be said that Barauni Oil Refinery has average liquidity position, it has better liquidity position but however it is also below standard level. Seeing to working level efficiency, Barauni Oil Refinery has very good inventory turnover performance but it is poor in debtors' turnover performance. Barauni Oil Refinery having financially good position.

Barauni Oil Refinery has been succeeded in maintaining the balance in debt to equity. Its fund neither blocked in the debtors for many days. So it can use its working capital somewhere else. Actually it can use that fund somewhere

else if he pay creditors after some more days. If profitability is taken related to sales, IOC is getting more profitability than other units.

HUMAN RESOURCES DEVELOPMENT :

Central Public Sector Enterprises (CPSEs) have a vast reservoir of professionally qualified manpower in different disciplines and the efficient operations of these enterprises, to a large extent, depend on the effective utilization of this manpower. There have been widespread changes in the management techniques, technologies, financial methods, production management, etc. due to globalisation and liberalization. Human Resource Development is thus a thrust area of public sector performance. It necessitates creating an environment in which people can develop their full potential for productive and creative activities. To improve the quality and capabilities of the manpower as well as to upgrade their knowledge and skill, various steps have been taken by the CPSEs. Apart from organizing in-house training programmes, the CPSEs also depute their executives for various training programmes being organized by premier Management/Training Institutes in India and abroad.

TRAINING :

As the nodal Department for PSEs, the Department of Public Enterprises is supplementing the efforts of the public enterprises towards human resource development by organizing Executive Development Programmes (EDPs) for senior and middle level executives in collaboration with premier Management/Training Institutes in the country. DPE also sponsors PSE executives for training abroad under various aided schemes.

PROCEDURE FOR SELECTION TO BOARD LEVEL POSTS IN PSEs :

The Public Enterprise Selection Board (PESB) had been recommending two names in order of merit for each board level posts in Public Sector Undertakings that fall within the selection purview of PESB. The second name is recommended in order to obviate the necessity of going through the selection process all over again in case the person at serial number one is not available owing to lack of vigilance clearance or any other reason. However, it has been decided that henceforth PESB will recommend only one name for each vacant post.

AGE OF RETIREMENT OF EMPLOYEES OF PUBLIC SECTOR ENTERPRISES :

As per decision taken by the Government in August, 2001, the authority to approve the proposals for roll back of age of superannuation from 60 years to 58 years for all PSEs and all categories of employees both board level and below board level, which are duly approved by their Board of Directors, was delegated to the Minister in- Charge of the administrative Ministry. The Government has reviewed the matter and decided in April, 2005 that the powers for roll back of age of retirement of employees of PSEs, including Board level executives, shall henceforth vest with the Cabinet.

CUT-OFF AGE FOR BOARD LEVEL APPOINTMENTS IN CENTRAL PUBLIC SECTOR ENTERPRISES :

As per Government's policy, the candidates for interview by PESB for board level appointments in PSE should not exceed 58 years of age where the age of retirement is 60, and 56 years where the age of retirement is 58 years. The Government has decided in October, 2005 that the cut-off age for external

candidates for consideration for board level posts in public sector enterprises should be minimum of 3 years service left (on the date of occurrence of vacancy) with reference to superannuation age applicable in the PSE against which the candidate is being considered. For internal candidates, the residual service condition would continue to be 2 years.

TIME LIMIT FOR BOARD LEVEL APPOINTEES TO JOIN POSTS IN PSEs :

As per Government's policy, a time limit of 3 months from the date of issuance of offer of appointment was prescribed for an appointee to join the board level posts, failing which he would be debarred from being considered for board level post in any PSE. A clause to this effect was to be incorporated in the offer of appointment. The Government has since reconsidered the matter and decided in October, 2005 that a candidate who does not join a board level post after being selected shall be debarred for a period of 2 years from the date of offer of appointment from being considered for board level post in any PSE. The debarment would be applicable to all PSEs other than the one to which the candidate belongs. Names of appointees who fail to join the post within the prescribed time limit will be reported to the Establishment Officer and Secretary, PESB by the concerned Administrative Ministry/ Department.

EMPLOYMENT IN CENTRAL PUBLIC ENTERPRISES UNDER RESERVED CATEGORIES :

The Public Enterprises generally follow the instructions of the Department of Personnel & Training regarding Reservation Policy. A Presidential Directive incorporating all the important instructions in this regard was issued in February, 1982 to the concerned administrative Ministries/Departments by the Department of Public Enterprises for formal issuance to the Public Enterprises. Since then, the Department of Personnel & Training has issued many instructions/ directives

relating to the reservation Policy of the Government. The Department of Public Enterprises have consolidated these instructions and a revised comprehensive directive was issued to all Administrative Ministries/Departments in April, 1991 for formal issuance to PSEs. Instructions issued subsequently on reservation matters have also been extended to Public Sector Enterprises.

The present quota of reservation for employees belonging to Scheduled Castes, Schedule Tribes and OBCs where recruitment is on All-India basis through open competition as well as other categories of employees entitled to reservation.

Although the administrative Ministries/ Departments concerned have been made responsible for implementation of reservation policy, the Department of Public Enterprises also keep a watch on the progress made by PSEs in the implementation of the reservation scheme in the recruitment by calling for Annual Reports from the Public Enterprises and also by taking follow-up action after scrutinizing these reports. Based on the information furnished by the PSEs the position regarding representation of Scheduled Castes, Scheduled Tribes and Other Backward Class (OBCs) in respect of 211 Public Enterprises.

The need to ensure timely filling up of reserved posts has been stressed in various instructions from time to time. All administrative Ministries/Departments have been requested to advise the PSEs under their administrative control to take effective steps to fill up the unfilled reserved posts and backlog vacancies in Direct Recruitment as well as in promotion in accordance with the existing instructions. One of the agenda enunciated in National Common Minimum Programme (NCMP) is to launch a Special Recruitment Drive to fill up backlog of reserved vacancies for SC and ST in CPSEs. DPE has issued instructions to all

Administrative Ministries/ Departments dealing with CPSEs to fill up these vacancies expeditiously.

RESERVATION FOR OBCs :

Based on the recommendations of the Second Backward Classes Commission (Mandal Commission) and in accordance with the Supreme Court Judgement in the Indira Sawhney Case, instructions were issued providing reservation of 27% of vacancies in favour of Other Backward Classes (OBCs) in Civil Posts and Services under the Government of India.

Department of Personnel & Training (DOPT) who formulate the policy in respect of reservation in services, have been issuing instructions from time to time on various aspects of reservation in respect of OBCs. Reservation for OBCs was made effective w.e.f. 8.9.1993. Department of Public Enterprises (DPE) have been extending these instructions to the Public Sector Enterprises through their administrative Ministries for compliance. A comprehensive Presidential Directive incorporating all instructions was prepared by the Department of Public Enterprises and issued to all administrative Ministries vide DPE's OM dated 27th July, 1995 for formal issuance to the PSEs under their control, under the relevant Articles of Association/ Section of the relevant Act.

RESERVATION FOR PERSONS WITH DISABILITIES :

This Department has also issued instructions to ensure reservation for the Persons with Disabilities up to 3% of the vacancies occurring in a particular year (1% for Visually Handicapped, 1% for Hearing Handicapped and 1% for Orthopaedically Handicapped). A Presidential Directive in respect of reservation for physically handicapped persons, incorporating all important instructions in this regard was issued in April, 1991 to the concerned administrative Ministries /

Departments by the Department of Public Enterprises for formal issuance to the Public Enterprises. With the enactment of the Persons with Disabilities (Equal Opportunities, Protection of Rights and Full Participation) Act, 1995, the reservation to Physically Handicapped persons stood extended to identified Group 'A' and 'B' posts filled through Direct Recruitment. All PSEs have been advised to comply with the provisions of the Act and evolve a time frame by which the backlog of vacancies can be cleared.

Lack of Generation of Internal Resource Base :

The need to ensure a reasonable rate of return on public sector investments has been rightly emphasized in various plan documents and the Industrial policy Resolution. Further, it has also been stressed that such a rate of return generates surpluses for their self-financing. The public sector units had to yield 10 per cent return on their capital investment. The recent Five Year Plan also underscored the need for generation of internal resources through improving the operating efficiency and productivity. The point is abundantly clear that consistent with the resources constraint the public sector will have to concentrate its efforts on those industries where it alone can undertake projects requiring high capital investment and sophisticated areas of technology. In a similar way, the Bureau of Public Enterprises has repeatedly underlined the need for strengthening the internal resource base of these enterprises.

In Bihar, the study of capital structure of most of the enterprises has indicated that there is high dependence of the enterprises on the external sources of funds. The contribution of internal sources declined over the years and even relative contribution was reported to be declining. Among the internal sources, importance of depreciation as source of funds declined over the years and it was mainly due to the growth of fixed assets. Interestingly, the contribution of

reserves and surplus was a negative for most of the years. This was mainly because of the heavy losses incurred by these enterprises from year to year.

Thus, the thin equity base of state enterprises alongwith negative contribution of reserves and surplus, led them to higher financial risk and these enterprises are finding it highly difficult even to pay interest on loans. Had the state government provided enough equity base for bringing optimal capital structure, the companies might have shown a better picture of themselves. The public enterprises have to ensure the generation of resources from within, not only for replacements and renewal of their assets, but also to meet progressively their requirements of funds for expansion and further growth and to minimize their dependence on exchequer.

In view of the resources-constraint faced by government on the one hand and the large number of projects taken up by some enterprises on the other, financial support from government is sometimes spread too thinly, which contributes to delays in completion of projects and thereby adversely affects resource generation. Sometimes the problem is worsened by procedural delays in the release of funds.

Over officialization :

A very high proportion of board membership both in case of statutory corporations as well as government companies is held by government officials on a part time basis. In many cases, secretaries of the Department and even Ministers have been included, sometimes as chairman of the Board. The Board thus acquires the character of government committee rather than that of an autonomous Board of management. Moreover, it is doubtful if such a board can be truly useful of conducting the affairs of a commercial enterprises. Busy senior secretariat officers or ministers with heavy responsibilities of the departments in

their charge could hardly give sufficient time and attention to affairs of an enterprise, more so when, as was usually the case, the same secretary was nominated on the Board of Several enterprises sponsored by his department. Further since the membership of the government officials is ex-officio, with changes in government departments due to transfers or promotions, many of them do not continue as directors long enough to familiarize themselves with the working of the enterprise or its problems. Government officials, moreover, bring with them bureaucratic traditions and practices, all of which affect the autonomy and commercial operations and conduct of the enterprise.

Non—Professionalization of Management :

One of the important problems faced by the public enterprises is the non—professionalization of management. Further, Boards are dominated by IAS/IPS officers and public figures—who have very little commercial orientation or technical expertise. They implant government culture in these organizations. All part-time directors with the exception of one or two handpicked experts are dominated by government officials and/or public figures. A study of the Boards of Public enterprises in Bihar reveals that 33 per cent of board Comprised of public figures—57 per cent officials and only 10 per cent came from professional experts. The main reason for appointing civil servants as directors is that in a public sector concern the proprietor i.e., the state government must have on Board people over whom it will have direct control. Such appointments tend to secure for government companies the same control and community of interest which private companies attain through the appointment of members of the family on their boards of management. But the reluctance of the government of delegate sufficient authority to the Board of Directors creates many problems. Thus, the domination by the public Enterprise Boards by officials and politicians

also result in the lack of development of a business culture in the state level public enterprises. Moreover, especially the chief executive further reinforces government control and bureaucratic culture. Since the State level Public Enterprises are young and small, they have not yet developed internal managerial resources. Their remuneration policy discourages the recruitment of senior persons from private sector or central public enterprises. As a result, they usually rely on the administrative cadre of the government of the supply of their top executives. The general practice is that the administrative department responsible for a public enterprise, in consultation with the department of personnel and chief secretary to the state government, selects chief executives and other top executives for public enterprises from among the suitable personnel. The procedure allowed for this is akin to that for filling other position in government administration. Aptitude or comprehensiveness are seldom given weightage. The top jobs in public enterprises thus go through the traditional revolved door operation of frequent transfers resulting in short tenures and instability in key positions. In the absence of management cadre, the chief executives of state level public enterprises tend to be drawn from among the members of the Indian Administrative Service who also bring the bureaucratic culture of government administration to the public enterprises.

Realizing the need for professionalizing the managements of public enterprises, the central government took many steps including the identification of their choice of staying with the government or with the enterprises. The government also appointed many technocrats, scientists to man the public enterprises. But, it is unfortunate to note that most of the state governments including the Government of Bihar neither took measures for reducing the dependence on civil servants, nor appointed professionals to run the undertakings

on sound lines. Various commissions, committees, academicians and other experts have repeatedly drawn attention to the dependence on Civil Servants by the State Level Public Enterprises. Further it is almost a general practice that the chairmanship of public enterprise is used as substitute for a ministerial position and is offered to the leading state politicians to buy their support. Politicians who cannot be appointed ministers are often by insecure Chief Minister with chairmanship of state government enterprises.

While the public enterprises in the central sector have by and large, done away with the system of having civil servants as the chief executives of the enterprises, the public enterprises in the state sector do have the civil servants, as the chief executives. In fact, it is rare to find a state government enterprise not manned by a civil servant in the chief executive position.

Lack of Autonomy :

Excessive government control is the characteristic feature of State Level Public Enterprises in Bihar. A correct balance between autonomy and control has seldom been maintained and government control has been fairly pervasive even in operational matters involving day-to-day administration. The power to issue directives given under the Act (in case of statutory corporations) and under the Articles of Association (in case of Government companies) has been used not only to regulate policy but also to regulate policy but also to regulate tariffs to order payment for purchase made by government on behalf of the enterprise by passing the Board, to appoint a retired engineer-in-chief of the Electricity Department as Technical Adviser and Head of the Planning and Development wing of industrial undertaking etc. In fact, the relevant clause in the Articles of Association of government companies has been so worded that the government can issue directives in respect of all matters concerning the affairs of the

enterprise. Moreover, the powers of the management boards have been greatly circumscribed by various provisions in the Articles of Association requiring approval of the government on several matters which should properly belong to the domain of Board's decisions. Such provisions dampen initiative, interfere with managerial discretion, delay decisions and affect operational efficiency.

An important feature of policies and decision—making in State Government Enterprises relates to the extent of functional autonomy which they should enjoy for fulfillment of their objectives. The report of the Administrative Reforms Commission has observed that it was with a view to enabling public enterprises to be run efficiently and autonomously by competent managers and technicians that the tradition of undertakings in the public sector being run departmentally was discarded and corporate entities were set up for the purpose. The Arjun Sen Gupta Committee Report has also observed "It is recognized by all that on paper, managements of Public Enterprises enjoy larger autonomy, sometimes much more than even the private sector managements. However, in practice informal and formal involvement of Ministries and Department takes place in areas wholly within the decision making powers of Public Enterprises Management." These observations were made in the context of Central Public Sector Undertaking, but they have considerable relevance to State Level Public Enterprises also. While in the initial stage of SLPE development, there may have been a case for close departmental supervision and control, now with their expansion, diversification and assumption of ever increasing responsibilities, this issue requires to be looked into in-depth, taking into consideration size, past performance, special features etc. of each of these enterprises. A balance will have to be struck between the wholesome principle that managers should be given full opportunities to manage, unfettered by the interference of those who

do not share these responsibilities on the one hand and the overall responsibilities of government as owner and its accountability to the State Legislature on the other.

A related but no less important issue is the multiplicity of Departments Agencies at Government level, dealing with State Level Public Enterprises including and Administrative Department, Finance Department, Planning Department, the Bureau of Public Enterprises etc. Processing of proposals at different levels through these various departments/agencies is naturally time consuming and hampers speedy decision—making sometimes even when committees of senior functionaries are constituted to examine and take collective decisions on matters, the task of getting them together at a single place and time, poses problems, owing to their busy schedules resulting in crucial decisions getting delayed.

No doubt, public enterprises signify state ownership and state control. Since they are established as instruments of state policy and goals, control by government is the characteristic of the public enterprises. Since public enterprises are in a specified manner and degree, directed by the State, their autonomy is a derived quantity, delegated by the state by virtue of its administrative powers. The degree of autonomy may be greater or lesser, but it does not originate from the enterprise; it is derived from the state. The directing of public enterprises by the State is, therefore, a fundamental concept and autonomy a matter of convenience.

Even though it is being recognized that operating autonomy and professional management are key factors in the enterprise performance, the State Government Enterprises due to various reasons, continue to be more closely integrated with the political and bureaucratic systems in the states than the

central public enterprises. Following the recommendations of the Administrative Reforms Commission, institutional devices were evolved to enlarge the scope of autonomy of the central public enterprises. Developments on similar lines have not yet taken place with respect to the State Level Public Enterprises. More often than not, government control on public enterprises is exercised on operational matters rather than issues of goals, strategies and policies. Part of this reason is that no organization of state administration is engaged in policy-making except with respect to specific issues presented to it for decision.

The outcome of a conflict between the State Level Public Enterprises and the other competing agencies has important bearing on managerial behaviour in public enterprises. Thus, it has been observed that the managers of these enterprises develop defensive behaviour. They also become reluctant to commit to performance improvement. Performance failures are frequently justified on the basis of external constraints and there is a marked tendency to institutionalize inefficiency and low productivity by over-estimating resource requirements and downgrading installed capacities.

Thus, undue interference and excessive controls result in demotivation to work, stifles initiative to take decisions and work with zeal. It breeds bureaucratic tendencies not conducive to the efficient and successful operation of a business enterprise. It results in red-tapism and consequent delays which is quite harmful for a commercial undertaking. It brings about overall demoralization not only in the managerial but also in the lower level cadre. It has been rightly pointed out by the Administrative Reforms Commission that, "excessive external control will inevitably have a frustrating effect on the management, weaken its initiative and restrain it from taking quick decision on the spot." It has been further stated that "while the span of government control is

wider than it need be the effectiveness of control is not adequate. A well regulated control system should ensure both managerial responsibility and freedom which constitute the hallmark of successful commercial institutions."

Bureaucratic Management :

The Chief Executives of the Public Enterprises and other important officers like Divisional Managers, Plant Managers etc. are generally officers from IAS or State Civil Service. This kind of management of public enterprises by government officers suffers from several defects which tell upon the efficiency of the enterprises. Firstly, although it is not true that men with necessary aptitude and competence cannot be found from among the body of civil servants, by and large, because of their training and background, are not suited for the job they are entrusted to do in the public enterprises. Bureaucrats are by temperament and training wedded to precedents and technicalities. They lack dynamism, broad vision, initiative and leadership qualities which are necessary to run a business enterprise. Some amount of dash, willingness to assume risk, ability to take prompt decisions etc. are the qualitative which make an efficient business executive. Government officials, bound as they are by precedents, rules and procedures, could hardly be expected to handle those situations in business which call for prompt but unusual decisions.

Secondly, frequent changes in top management positions witnessed in case of the several enterprises, were mainly due to the fact that government officers were appointed to man those positions. Since the performance of an enterprise depends to a considerable extent upon the direction and guidance given by the chief executive, it is necessary to maintain sufficient continuity in direction from the top.

Moreover, since the government officers know that they would stay there only for a shortwhile, they are somewhat casual in their approach to work. Aware as they are that their destiny lies elsewhere, they seldom develop a sense of loyalty to, or identification of interest with, the enterprise.

Defective Policies for Top Management :

The public Enterprise Board as an apex body plays an important role in implementing the objectives of an enterprise. And, the performance of an enterprise greatly depends on the efficiency of direction of its board. The top management includes the board of directors and the managing director.

In case of the state government enterprises organized as a Government Company registered under the Companies Act, the constitution and composition of the board of directors are determined by the Companies Act according to which the boards rest on the principle of election by shareholders. In the case of fully owned state level public enterprises the government nominate the director. In a statutory corporation the laws governing their establishment and working provide for the constitution of boards. Since separate acts are provided for each corporation, the size and composition of boards differ from one another.

In the case of state enterprises of Bihar, it is the Government which formulate and defines principal objectives and major policies, then, the enterprises boards articulate sub-policies and determine operational strategies.

In all state enterprises, the board of directors, including the chairman is nominated by the State government. The Articles of Association of most of the companies provide for the members of the board to be nominated. Further, the Government may at its will, change any or all the directors.

The appointment to the Board is unlike any other administrative appointment. Here the offer of appointment comes from the appointing authority without any candidate for it. The choice of personnel is dependent on shrewd judgement and not so much on the past performance of the incumbent but on his potentiality in the enterprise. It is a possibility that a man who has shown real distinction in business or in a government department may be of little value on the board of a public corporation.

In case of all the state government enterprises of Bihar since the board guidelines are already provided by the State Government, what should be the board's composition? To determine the size of the board is not a less important problem for the public enterprises in the country. Indeed, the size of the board cannot be determined by any fixed formula as different enterprises demand different talents and this tends to influence the size as well the compositions of the board. Therefore, there can be no fixation of optimum size for a board.

The board in majority of the case are policy ones, jam-packed of officials and politicians. The professionals and other groups have not found worthwhile representation. The size has varied from a minimum of to 15. In most of the case, the two offices of the chairman and managing director have been separated. The Bihar Government appointed chairmen for Managing Director for 13 enterprises. The MLA's, MP's, Ministers and other politicians manned the post of chairman in the case of 36 enterprises. Among the officials, commissioners and secretaries and the officers of the Bihar provincial services manned the posts of 11 CMDs. Eleven SLPEs had appointed Vice—Chairman too. The tenure of the board-members including Managing Directors, Chairman and Vice—Chairman was very short and less than two years in most cases. In certain cases, the tenure of Managing Directors was cut short to less than one years.

In Bihar, the practice prevailing is to have part-time directors from different walks of public life. However, there is an increasing trend to appoint people from public life, namely, political personalities, into the boards of various enterprises. There is a growing feeling that the directorship or chairmanship of a public enterprise is being viewed as a reward for political activity and as not a function of their professional capability. There is also an increasing tendency to give a preponderance of the positions in the board to men from public life as opposed to officials or professional experts. Further, boards are dominated by IAS/IPS officers who have very little commercial orientation or technical expertise.

There is no well-recognized policy regarding either the appointment or the tenure of the chief executives in state level enterprises. The managing directors of the state enterprises are with few exceptions drawn from among the civil servants. While most of them have served with distinction, the lack of a specific and sufficiently long tenure, precludes the development of strategy for any enterprise.

Management involves functions like planning, organizing, coordinating, controlling, evaluating and being accountable for results. Is it fair to expect from a Chief Executive with such short—tenure to perform all these corporate management function in diversified business sectors like manufacturing, trading development financing transport and operational management? Therefore, the obvious conclusion would be that most of the State government Enterprises are administered than managed. Three of five years as Chief Executive of an enterprise should be a minimum acceptable standard for any meaningful long range policy, planning and implementation. Appointments less than this are detrimental to all long term projects as every time a new chief executive take

over, he starts a process of reeducation and familiarization, which could normally be 3-6 months, as one would notice that 40 per cent of chief executive are changed in the meantime.

The effective functioning of the enterprise depends on the relationship between the Chairman and the Managing Director. The problem, in case of Bihar, is acute because civil servants posted as managing directors consider themselves as the real chief executive which affects the position of the chairman who happens to be a politician. This therefore, raise the issue of role of the two. There are varying views on this. Some argue that these posts should be combined into one person. If they are separated, unless there is great understanding and congruence of culture, it is likely that dual relationship would take place thereby affecting the enterprise operations. Often in such cases unseemly tussles arise between the chairman and managing director when the former apparently oversteps his boundaries as a part timer.

Insufficient Delegation of Authority :

Insufficient delegation of authority at different actively levels is another feature that characterizes organizational setup of Bihar's Public Enterprises. Within some enterprises, there is insufficient delegation of authority, leading to delays in decision—making. This aspect also requires to be looked into by individual enterprises taking into account their volume of activity, organizational structure etc.

In Bihar, the problem of externality in decision-making is quite common. Here there are quite a few departments/agencies which look after public enterprise e.g. Administrative Department, Finance Department, Planning Department, Bureau of Public Enterprises, etc. Many important decisions of public enterprises require government approval as a result of which public

enterprises find it difficult to take timely decisions. The argument is that if the state government is the major, it is but right that the government lays down the policy. However, experience shows that it is not the state acting as a shareholder, but state of administering certain programmes that takes upper hand in deciding what a public enterprise should do or should not.

The extent of erosion of internal decision making capability of state level public enterprises could be analyzed if we examine their powers with reference to investment decisions, product-mix choice, pricing of output and personal and labour relations.

The quality of decision-making is often crucially dependent on the availability of accurate and reliable data and the ability to interpret it. While no doubt a large number of reports and returns are prescribed by the concerned departments/agencies often each in its own format, thereby increasing paper work not infrequently crucial information having a vital bearing on the performance of the enterprises, and future projections is not readily available. Top management of some of the smaller enterprises face special handicaps in this regard. While state government enterprises need to strengthen own systems for the management of information, in case of enterprises dealing in related products/services or otherwise enjoying linkages, some arrangements for sharing data on a pooled basis could be thought of. In this connection there is a need to set up a data bank at state level which would collect, collate, interpret and disseminate data to the enterprises as an aid to their own efforts. The Bureau of Public Enterprises suitably strengthened can serve as such a clearing house for data collection research studies and management information.

Failure of the Bureau of Public Enterprises in its Role and Performance :

One distinguishing feature of the governmental control of Bihar's Public Enterprises is the creation of Bureau of Public Enterprises in the year 1976. The Bureau was set up to coordinate, monitor and control the working of the SLPEs. The Bureau was initially put under the charge of the Commissioner, Institutional Finance. Later on, in October 1978 a separate post of the chairman was created for the Bureau. The Commissioner of the Bureau was secretary of the Department of Finance. To strengthen the Bureau and make its working more effective in January 1980 the post of the Chairman of the Bureau was upgraded as equivalent to the post of chief secretary, Government of Bihar and Secretary to the Government of India. Nowhere such a status has been provided to the chief of a nodal agency for the SLPEs in the country. The Bureau has made efforts of professionalize the managerial personnel in the SLPEs by way of organizing the management development and training programmes. In this endeavour it has taken the assistance of the management and professional institutions. The Government of Bihar entrusted to the Bureau the task of recruiting class I and class II employees for the SLPEs. The Bureau has been able to attract technocrats and professionals.

A review of the work of the Bureau indicates that its achievements have fallen short of expectations. Though it has been provided a very high status, it has not pushed forward its programmes effectively. In the case of some SLPEs, the Managing Directors were changed 4 to 5 times in a period of two years. The problem of deputationists in some SLPEs continues to be critical. An important activity of the Bureau is the preparation of annual reports on the working of state undertakings. The report is sketchy both in macro and micro terms and it contains inadequate information pertaining to the different facets of the working

of the state level public enterprises and does not bring out the salient features of the working of these enterprises. Moreover, the contents of the report have changed from year to year and the consistency in presentation is conspicuous by its absence.

Lack of Management Training and Human Resources Development Strategies :

Due to many reasons, the State Level Public Enterprises in Bihar are facing a number of problems which have to be solved if their organizational performance is to be improved. The problem of human efficiency is one of the main factors responsible for the poor performance of SLPEs in Bihar. While many strategies could be proposed to optimize the human resources in SLPEs, we are convinced that management training and human resources development strategies play crucial role in improving the overall organizational performance of enterprises. If organizational goals of SLPEs are to be achieved then training of managerial manpower has to be accepted as a responsibility by the top management. The basic idea behind imparting training to managerial manpower is to facilitate increased productivity by effective utilization of managerial skills.

The thrust on management training and development in SLPEs is placed in order to :

- Bring the current performance of each individual upto the highest attainable level and to develop whatever potential he may have for growing into positions of higher responsibility.
- Ensure the availability of qualified manpower as required to meet the enterprises current and future needs.

- Ensure consistently high utilization of individual managerial and administrative capabilities.
- Create a climate in which the individual can best attain his own goals by directing his effort towards attaining the goals of the enterprises.

Training and development requires strengthening at all levels. At shop floor level, the training should be mainly skill oriented, with certain basic behavioural inputs. At middle and higher management level the training programmes should be more conceptually oriented, interdisciplinary where possible, with continued emphasis on attitudinal inputs. For these levels, periodic training at regular intervals is very necessary. These training programmes should be drawn up after a careful analysis of the training needs and as facilities for institutional training are limited, training programmes may be held in the enterprises itself either single or for group of enterprises. Each SLPE should set apart some amount in its annual budget for HRD activities.

To quote from the "VII Plan Document : Revitalizing the state public enterprises system" assumes critical importance in the Seventh Plan. The efforts of the state government in this direction need to be consolidated and a detailed strategy for managerial development, upgradation of skills at the shop floor, introduction of financial discipline and improvement in productivity will have to be pursued. Over the decades a large number of technical administrative and management training institutions have grown in most of the states. At this juncture the attempt has to be towards integration and utilization of such local institutions for upgrading technologies and techniques and refining the managerial culture in the state public enterprises system for a rapid professionalization of their management. To sum up, organizational structure and management setup of public enterprises are not performing well, it is partly due

to the fact that they have not been provided with sound organizational structure and management apparatus. As Peter Drucker has very well put it, "Good organization structure does not by itself produce performance—just as a good constitution does not guarantee great presidents, or good laws a moral society. But a poor organization structure makes good performance impossible, no matter how good the individual managers may be."

CONCLUSION :

The above study leads on to conclude that by and large public enterprises in Bihar were suffering from huge losses. Gone are the days when the policy of public enterprises was to operate them even by suffering losses, or by earning 'no-profit no-loss'. Now, public enterprises are being considered as important instrument to provide resources to meet the financial requirements of the planned process of economic and social industrial development. From this angle too, it may be concluded that the public enterprises in Bihar could not contribute to the state exchequer at all. Instead, they had eaten up good amount of capital invested in them in the form of share capital and loans or had substantially reduced the amount of internal resources generated by them through depreciation.

The study further reveals that the unsatisfactory performance is due to a number of constraints, some avoidable and others unavoidable. They are lack of clear-cut objectives and direction, under-utilization of capacity, over-capitalization, unsuitable capital structure, over-employment, lack of mobilization of internal resources, poor managerial efficiency, weak financial management, poor organizational structure etc. This, however, does not mean that there was no scope for improvement. The aggregative analysis itself has pointed to ample scope for better management. In order to have a clear idea of the weak areas, it is necessary to look into the performance unit-wise. For this

purpose, the next chapter is devoted to the discussion of performance evaluation of some leading individual enterprises of Bihar, which have substantially affected the whole enterprises system in this state.

The present study found the following salient features of the financial performance of the state level public enterprises :

- The investment have been increasing, but, the net worth of the state level public enterprises has been decreasing;
- The turnover of capital employed is very low and shows a declining trend.
- The debt-equity ratio in these enterprises is very high.
- The Bihar State Electricity Board and the Bihar State Road Transport Corporation have two-thirds of the investment and contribute to more than half of the total losses incurred by the SLPEs.
- The company is following the best of Human Resource Management practices which are prevalent and followed in top level international organizations.
- It is contributing two percent of its Profit After Tax (PAT) to the social causes. It is a very big help to lakhs of poor and needy people.
- The best of management systems have been in use for a number of years.
- It is a very fair and transparent company.
- Its customer satisfaction level is very high.
- Its employees are among the best paid and most satisfied employees due to its good Human Resource Management practices.
- It has contributed significantly to the socio-economic development of the state and its future prospects of growth are very high.

- The company has proved that following the best of Human Resource Management practices yields organizational excellence.

They are the key variables and they effect its financial position. Company should control those variables and should improve the position. MRP is getting affected by only four variables. So it is easy for it to control those variables. IOC has also very less key variables. Barauni Oil Refinery has almost half of the variables that affects the management. There are some suggestions derived from the doing the analytical study of overall performance of the sampled units.

- IOC should improve utilization of gross fixed assets to generate cost efficiency in the production unit.
- IOC should regain their efficiency of better utilization of net fixed assets.
- Barauni Oil Refinery should find out the reason that why current asset utilization has decreased over the period of study.
- Barauni Oil Refinery is enjoying a long credit period. But it may harm them in future. So, it should reduce availing of credit period.
- profitability of Barauni Oil Refinery is very lower it may be because of higher cost of production or lower sales. So Barauni Oil Refinery should analyze the reason and try to improve its efficiency to increase profitability.
- Barauni Oil Refinery has more fluctuations in the profitability trend so sales of Barauni Oil Refinery may not be steady or its production value may be fluctuating during the period of study. Barauni Oil Refinery should try to stabilize the financial position.
- Barauni Oil Refinery has also high burden of depreciation and interest charges. It should minimize these factors so that mere profit can be utilized for giving shareholders or its more reinvestment can also be possible.

It is evident that units managed by the State government are not doing well. Their unsatisfactory performance is due to certain chronic ailments which have not been carefully diagnosed so far. A proper diagnosis of these problems was, therefore, necessary. A critical examination of the working of these enterprises point out the following problems for the poor performance of these enterprises. Broadly speaking, these problems can be divided into two categories- (i) Financial and (ii) non—financial.

