Chapter – 2

LITERATURE SURVEY

2.1 Evolution of Public Sector in India and Present Indian scenario

2.2 Infrastructure development in India and role played by public sector undertakings:

2.3 Review of recent research papers on Indian public Sector undertakings
Chapter – 2

LITERATURE SURVEY

In this chapter literature survey has been detailed. The theoretical aspects of public sector undertakings, public enterprises and public departments in India, evolution of its concept are enumerated. The different research studies relating to them by various researchers, the findings of scholars, divisional heads, directors of companies are listed exhaustively, having the researches undertaken in the past as the basis for analysis and evaluation of KRIDL.

Public sector undertaking in India - Theoretical aspects

2.1.1 Evolution of Public Sector Undertakings in India and its Present Scenario:

There were very few ‘Public Sector’ Enterprises in India prior to Independence. They were railways, posts and telegraphs, port trusts, ordinance factories, All India Radio besides a few enterprises like the Government Salt factory, Quinine Factory, etc. which were managed by the government departments.

Independent India took up planned economic policies in a democratic, federal manner. There was inequality, unemployment, regional imbalances, and dearth of trained manpower. India, then being in an agrarian economy, had a weak industrial base. Infrastructure facilities were not thought of. Hence important Indian leaders initiated the public sector in order to have economic self reliance. In 1948, the Industrial policy resolution was passed which was later followed by the Industrial Policy Resolution of 1956. The 1948 resolution envisaged the development of core sectors through the public enterprise. That would remove regional imbalances and create employment. Expansion of production, agricultural as well as industrial, production of capital equipment, goods catering to the needs of the people, exports etc were given importance in the resolution of 1948. At the time of independence, capital was scarce and entrepreneurship was not strong. Hence in the Industrial policy resolution of 1956 primacy was accorded to the role of the state and it became directly responsible for industrial development. Understanding the needs of the people, the 5 year plans were introduced. In the policy statements of 1973, 1977, 1980 and 1991
new strategies were evolved. 1991 heralded liberalization of Indian economy which is a landmark event.

Disinvestment Manual (Old)  April 2001 under the heading “Evolution of Public Sector in India” states “The State will progressively assume predominance and direct responsibility for setting up new industrial undertakings and for developing transport facilities”. Before independence 'Public Sector' had no presence. After independence, with the introduction of five year plans public sectors become dominant. It was understood without economic self reliance India wouldn’t prosper. The implementation of Industrial Policy Resolution of 1956 and adoption of the socialist pattern of society paved way for the reduction of inequality of income and wealth. It gave a boost to the prosperity of the nation in general. They thought of entrusting responsibility to both managers and workers. This, they felt, would induce in them accountability to the public which in turn would contribute to the welfare of the country.

The objectives stated in the Industrial Policy Resolution of 1956 are

1. Rapid growth and industrialization, creation of infrastructure for economic development;
2. Returns on investments and generation of resources for growth;
3. Promotion of redistribution of income and employment creation;
4. Promotion of balanced regional development
5. Development of small-scale and ancillary industries
6. Promotion of import, savings and foreign exchange

The 2nd Five Year Plan emphasised the need for the adoption of socialistic pattern of society. It became the objective of the nation. Hence public sector gained importance. The states were asked to take up development programmes and take up enterprises which were not initiated by private sectors. It was stated that the private sector could play its part with in the frame work of comprehensive plan approved by the community and on 1st April 1951 the investment growth in public sector enterprises was Rs.29 Crores. It rose to Rs.2, 52,554 Crores as on 31.3.2000. The
growth of investment in the central public sector enterprises, including those enterprises, which are under construction, over the years, is given in the table 2.1

**TABLE 2.1: Investments in public sector enterprises in India**

<table>
<thead>
<tr>
<th>Particulars</th>
<th>Total Investment (Crores)</th>
<th>Enterprises (Numbers)</th>
</tr>
</thead>
<tbody>
<tr>
<td>At the commencement of the 1st 5-Year Plan (1.4.1951)</td>
<td>29</td>
<td>5</td>
</tr>
<tr>
<td>At the commencement of the 2nd 5-Year Plan (1.4.1956)</td>
<td>81</td>
<td>21</td>
</tr>
<tr>
<td>At the commencement of the 3rd 5-Year Plan (1.4.1961)</td>
<td>948</td>
<td>47</td>
</tr>
<tr>
<td>At the end of the 3rd 5-Year Plan (31.3.1966)</td>
<td>2,410</td>
<td>73</td>
</tr>
<tr>
<td>At the commencement of the 4th 5-Year Plan (1.4.1969)</td>
<td>3,897</td>
<td>84</td>
</tr>
<tr>
<td>At the commencement of the 5th 5-Year Plan (1.4.1974)</td>
<td>6,237</td>
<td>122</td>
</tr>
<tr>
<td>At the end of 5th 5-Year Plan (31.3.1979)</td>
<td>15,534</td>
<td>169</td>
</tr>
<tr>
<td>At the commencement of the 6th 5-Year Plan (1.4.1980)</td>
<td>18,150</td>
<td>179</td>
</tr>
<tr>
<td>At the commencement of the 7th 5-Year Plan (1.4.1985)</td>
<td>42,673</td>
<td>215</td>
</tr>
<tr>
<td>At the end of 7th 5-Year Plan (31.3.1990)</td>
<td>99,329</td>
<td>244</td>
</tr>
<tr>
<td>At the commencement of the 8th 5-Year Plan (1.4.1992)</td>
<td>1,35,445</td>
<td>246</td>
</tr>
<tr>
<td>At the end of 8th 5-Year Plan (31.3.1997)</td>
<td>2,13,610</td>
<td>242</td>
</tr>
<tr>
<td>As on 31.3.1998</td>
<td>2,31,024</td>
<td>240</td>
</tr>
<tr>
<td>As on 31.3.1999</td>
<td>2,39,167</td>
<td>240</td>
</tr>
<tr>
<td>As on 31.3.2000</td>
<td>2,52,554</td>
<td>240</td>
</tr>
</tbody>
</table>

An article in the Forbes\(^2\) states “In India, Public Sector Undertaking (PSU) is a term used for government owned corporations in which either the State or the Union Government or both own a majority share (51% or more).

At present there are 277 Central PSUs in India. The first public sector undertaking is the Indian Railways. Following independence the sovereign government undertook the setting up of a strong national economic infrastructure.
Iron and steel industries, power generation, mining and oil refining and such other activities were developed at that stage. In the year 2009, 47 companies found their names in the Forbes global list.

The following are the important public sector undertakings in India

**TABLE 2.2: List of prime public sector undertakings in India**

(Rupees in 1000 Crores)

<table>
<thead>
<tr>
<th>World Rank</th>
<th>Company</th>
<th>Industry</th>
<th>Revenue</th>
<th>Profits</th>
<th>Assets</th>
<th>Market Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>150</td>
<td>State Bank of India</td>
<td>Banking</td>
<td>90.52</td>
<td>8.92</td>
<td>1,023.44</td>
<td>51.00</td>
</tr>
<tr>
<td>152</td>
<td>Oil and Natural Gas Corporation</td>
<td>Oil &amp; Gas Operations</td>
<td>96.16</td>
<td>19.80</td>
<td>141.40</td>
<td>115.64</td>
</tr>
<tr>
<td>207</td>
<td>Indian Oil Corporation</td>
<td>Oil &amp; Gas Operations</td>
<td>206.64</td>
<td>7.88</td>
<td>134.56</td>
<td>40.80</td>
</tr>
<tr>
<td>317</td>
<td>NTPC</td>
<td>Utilities</td>
<td>38.52</td>
<td>7.44</td>
<td>98.32</td>
<td>118.80</td>
</tr>
<tr>
<td>508</td>
<td>Bharti airtel</td>
<td>Telecommunications Services</td>
<td>26.92</td>
<td>6.36</td>
<td>49.12</td>
<td>94.52</td>
</tr>
<tr>
<td>582</td>
<td>Steel Authority of India Limited</td>
<td>Materials</td>
<td>39.28</td>
<td>7.56</td>
<td>42.16</td>
<td>24.56</td>
</tr>
<tr>
<td>689</td>
<td>Reliance Communications</td>
<td>Telecommunications Services</td>
<td>17.04</td>
<td>5.40</td>
<td>77.24</td>
<td>25.08</td>
</tr>
</tbody>
</table>

Many PSUs in India are aided by the Government of India. These organisations regularly provide employment opportunities. The most Important PSUs in India and the names of the headquarters of respective PSU’s are given important below.
**TABLE 2.3 List of Indian Public Sector Undertaking with Headquarters.**

<table>
<thead>
<tr>
<th>Undertaking</th>
<th>Headquarters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air India Ltd.</td>
<td>Mumbai, Maharashtra</td>
</tr>
<tr>
<td>Airport Authority of India</td>
<td>New Delhi</td>
</tr>
<tr>
<td>Allahabad Bank</td>
<td>Kolkata, West Bengal</td>
</tr>
<tr>
<td>Balmer Lawrie and Co. Ltd.</td>
<td>Kolkata, West Bengal</td>
</tr>
<tr>
<td>Bank of Baroda Mumbai</td>
<td>Maharashtra</td>
</tr>
<tr>
<td>Bharat Heavy Electricals Ltd.</td>
<td>New Delhi</td>
</tr>
<tr>
<td>Bharat Petroleum Corporation Ltd.</td>
<td>Mumbai, Maharashtra</td>
</tr>
<tr>
<td>Canara Bank.</td>
<td>Bangalore, Karnataka</td>
</tr>
<tr>
<td>Cement Co of India Ltd.</td>
<td>New Delhi</td>
</tr>
<tr>
<td>Central Inland Water Transport Co., Ltd.</td>
<td>Kolkata, West Bengal</td>
</tr>
<tr>
<td>Coal India Ltd.</td>
<td>Kolkata, West Bengal</td>
</tr>
<tr>
<td>Delhi Metro Rail Co. Ltd.</td>
<td>New Delhi</td>
</tr>
<tr>
<td>Delhi Transport Co.</td>
<td>New Delhi</td>
</tr>
<tr>
<td>GAIL Ltd.</td>
<td>New Delhi</td>
</tr>
<tr>
<td>General Insurance Co. Ltd.</td>
<td>Mumbai, Maharashtra</td>
</tr>
<tr>
<td>Hindustan Aeronautics Ltd.</td>
<td>Bangalore, Karnataka</td>
</tr>
<tr>
<td>Hindustan Petroleum Co. Ltd.</td>
<td>Bangalore, Karnataka</td>
</tr>
<tr>
<td>Hotel Corporation of India Ltd.</td>
<td>Mumbai, Maharashtra</td>
</tr>
<tr>
<td>Indian Airlines Ltd.</td>
<td>New Delhi</td>
</tr>
<tr>
<td>Indian Oil Corporation Ltd.</td>
<td>New Delhi</td>
</tr>
<tr>
<td>Indian Overseas Bank.</td>
<td>Chennai, Tamil Nadu</td>
</tr>
<tr>
<td>Indian Tourism Development Corporation Ltd.</td>
<td>New Delhi</td>
</tr>
<tr>
<td>IRCTC Ltd.</td>
<td>New Delhi</td>
</tr>
<tr>
<td>LIC of India.</td>
<td>Mumbai, Maharashtra</td>
</tr>
<tr>
<td>Mahanagara Telephone Nigam Ltd.</td>
<td>New Delhi</td>
</tr>
<tr>
<td>National Highways Authority of India.</td>
<td>New Delhi</td>
</tr>
<tr>
<td>NTPC Ltd.</td>
<td>New Delhi</td>
</tr>
<tr>
<td>Oil and Natural Gas Corporation.</td>
<td>New Delhi</td>
</tr>
<tr>
<td>The Oriental Insurance Company Ltd.</td>
<td>New Delhi</td>
</tr>
<tr>
<td>The State Trading Corporation of India Ltd.</td>
<td>New Delhi</td>
</tr>
<tr>
<td>Steel Authority of India Ltd.</td>
<td>New Delhi</td>
</tr>
<tr>
<td>State Bank of India</td>
<td>Mumbai, Maharashtra</td>
</tr>
<tr>
<td>Unit Trust of India</td>
<td>Mumbai, Maharashtra</td>
</tr>
<tr>
<td>Union Bank of India</td>
<td>Mumbai, Maharashtra</td>
</tr>
</tbody>
</table>
Forbes has given the vital and important statistics that the CPSUs have a large workforce in different disciplines. Out of 16 lakhs manpower (as on 31.03.2007) deployed in the CPSUs, nearly 3.65 lakh are in the supervisory and managerial cadres who represent 22.12% of total manpower. The aggregate amount paid towards salaries, wages and other benefits inclusive of bonus was Rs.45, 625 Crores in the year 2005-2006. By and a large, PSUs in India offer a stable and secure employment front, which is definitely a welcome sign.

Amalendu Bhunia\(^3\) in his research article states, “The paper makes an assessment of management of working capital, examines the adequacy or otherwise of the working capital, observes the liquidity position and areas of weakness and gives suggestions for removal of the weaknesses of the public sector Iron and Steel enterprises in India" In the introduction he states “India can develop rapidly through socialist model of industrialization policy and its effective implementation”.

**Contribution of CPSUs to the economy and central exchequer:**

In 2006-07, the share of output of CPSEs in GDP at market was 8.23% and in 2005-06 it was 8.21%. It was about 9.12% in 2009-2010. The CPSEs have made substantial contribution to the central exchequer through payment of dividends, interest on government loans.

**TABLE 2.4: Financial Ratio of CPSEs (1998 to 2010)**

(Rupees in Crores)

<table>
<thead>
<tr>
<th>Particulars</th>
<th>Sales To C.E.</th>
<th>PBTtep To C.E.</th>
<th>PBTtep To N.W</th>
<th>PBTtep To T.O.</th>
<th>C.E.</th>
<th>T.O.</th>
<th>PBTtep To Net Profit To T.O.</th>
<th>Net Profit To C.E.</th>
<th>Net Profit To N.W</th>
<th>Dividend Payout</th>
</tr>
</thead>
<tbody>
<tr>
<td>1999-00</td>
<td>128.47</td>
<td>20.54</td>
<td>13.72</td>
<td>15.98</td>
<td>13.95</td>
<td>10.86</td>
<td>5.66</td>
<td>4.73</td>
<td>8.92</td>
<td>38.07</td>
</tr>
<tr>
<td>2000-01</td>
<td>138.28</td>
<td>20.91</td>
<td>14.57</td>
<td>15.12</td>
<td>14.72</td>
<td>10.64</td>
<td>5.45</td>
<td>4.72</td>
<td>9.13</td>
<td>52.77</td>
</tr>
<tr>
<td>2001-02</td>
<td>122.77</td>
<td>22.97</td>
<td>16.96</td>
<td>18.71</td>
<td>16.21</td>
<td>13.20</td>
<td>7.99</td>
<td>6.66</td>
<td>11.52</td>
<td>31.06</td>
</tr>
<tr>
<td>2002-03</td>
<td>137.22</td>
<td>24.38</td>
<td>20.10</td>
<td>17.75</td>
<td>17.39</td>
<td>12.60</td>
<td>8.49</td>
<td>7.75</td>
<td>13.37</td>
<td>42.57</td>
</tr>
<tr>
<td>2004-05</td>
<td>147.56</td>
<td>28.26</td>
<td>25.08</td>
<td>19.15</td>
<td>21.50</td>
<td>14.57</td>
<td>11.51</td>
<td>8.74</td>
<td>12.90</td>
<td>19.05</td>
</tr>
<tr>
<td>2005-06</td>
<td>143.24</td>
<td>24.42</td>
<td>20.41</td>
<td>17.05</td>
<td>18.33</td>
<td>12.80</td>
<td>10.12</td>
<td>8.44</td>
<td>12.09</td>
<td>17.03</td>
</tr>
</tbody>
</table>
TABLE 2.5 Contribution of CPSEs to the economy (2003-2004 to 2009-2010)
(Rupees in Crores)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Dividend</td>
<td>9596.45</td>
<td>15200.9</td>
<td>15200.9</td>
<td>18825.7</td>
<td>19764.8</td>
<td>20145.6</td>
<td>22167.7</td>
</tr>
<tr>
<td>2</td>
<td>Interest</td>
<td>794.32</td>
<td>731.67</td>
<td>138.22</td>
<td>1975.08</td>
<td>2016.09</td>
<td>2199.08</td>
<td>22134.7</td>
</tr>
<tr>
<td>3</td>
<td>Total (I)</td>
<td>10390.8</td>
<td>15932.5</td>
<td>15339.1</td>
<td>20800.8</td>
<td>21780.9</td>
<td>22344.6</td>
<td>44302.3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Excise Duty</td>
<td>42963.8</td>
<td>44262.3</td>
<td>53278.5</td>
<td>64026.9</td>
<td>67034</td>
<td>68456.8</td>
<td>69456.3</td>
</tr>
<tr>
<td>5</td>
<td>Customs Duty</td>
<td>8408.67</td>
<td>10432</td>
<td>8601.18</td>
<td>11048.3</td>
<td>12789.4</td>
<td>12678.5</td>
<td>13234.3</td>
</tr>
<tr>
<td>6</td>
<td>Corporate Tax</td>
<td>17936.3</td>
<td>23613.6</td>
<td>26046.7</td>
<td>31997.9</td>
<td>32188.7</td>
<td>33324.8</td>
<td>34456.9</td>
</tr>
<tr>
<td>7</td>
<td>Dividend Tax</td>
<td>1613</td>
<td>2742.48</td>
<td>3242.94</td>
<td>3683.12</td>
<td>3998.15</td>
<td>4145.23</td>
<td>4566.21</td>
</tr>
<tr>
<td>8</td>
<td>Sale Tax</td>
<td>3821.62</td>
<td>4487.8</td>
<td>5026.7</td>
<td>2817.25</td>
<td>3914.25</td>
<td>4222.22</td>
<td>4765.43</td>
</tr>
<tr>
<td>9</td>
<td>Other Duties and Taxes</td>
<td>3901.23</td>
<td>9132.97</td>
<td>13920.9</td>
<td>16654</td>
<td>16983</td>
<td>17345.5</td>
<td>18454.6</td>
</tr>
<tr>
<td>10</td>
<td>Total (II)</td>
<td>78644.6</td>
<td>94671.2</td>
<td>110117</td>
<td>130228</td>
<td>136908</td>
<td>140173</td>
<td>144934</td>
</tr>
<tr>
<td>11</td>
<td>Grand Total (I+II)</td>
<td>89035.3</td>
<td>110604</td>
<td>125456</td>
<td>151028</td>
<td>158688</td>
<td>162518</td>
<td>189236</td>
</tr>
</tbody>
</table>

(Source Public Enterprises Survey 2009-2010)

The TOP PSU’s of India:

Dun and Bradstreet India in its third edition premier publication, ‘India’s Top PSUs 2010’ states “The public sector has emerged as an important constituent of the Indian economy post independence and has played a significant role in the country’s overall economic development, as they are equipped to reduce regional imbalances and inequalities of income”. The PSUs, both at the Central and state levels, play a prominent role in the industrialisation and economic development of
India. The macro economic objectives of Central PSUs have been derived from the Industrial Policy Resolutions and the Five Year Plans. The state level public sectors enterprises or state PSUs were established because of the rising need for public utilities in the states. These PSUs have also contributed substantially towards infrastructure development in India because PSUs operate prominently in the areas of public utility such as railways, post and telegraph ports, airports and the power sector. The infrastructure sectors in India are dominated by PSUs and department-owned enterprises.

**Different types of public enterprises:**

Central public sector enterprises (CPSEs) are companies in which the direct holding of the Central government or is 51% or more

- Public sector banks (PSBs) are banks where the direct holding of the Central/state government or other PSBs is 51% or more
- State-level public enterprises (SLPEs) are companies where the direct holding of the state government or other SLPEs is 51% or more

**Growth pattern of Central PSUs are parallel to economy growth**

The growth and performance of the Central PSUs have been in line with the growth of Indian economy. In the Financial Year 2009, the GDP at current prices stood at Rs 52,286.5 billion, showing an increase of 15.1% as compared to the previous year.

**Contribution of PSUs to the Central exchequer**

The Central PSUs contribute to the exchequer through payment of dividend, interest on government loans, taxes and duties. In FY2008, the contribution of PSUs to the Central exchequer inclusive of excise duty and corporate taxes was 41.53% and 24.50% respectively. The remaining revenue of 33.97% was drawn by the exchequer in the form of dividend, interest on investments made.
Highlights of the CPSEs:

- In FY2009, 158 CPSEs posted net profit as compared to 160 in FY2008. Subsequently, the loss-making companies increased in number from 53 in FY2008 to 54 in FY2009.
- The net worth of the public sector registered a growth of 12.6% from Rs 5,185.30 billion in FY2008 to Rs 5,840.72 billion in FY2009.
- The turnover of all the CPSEs grew by 15.4% from Rs 10,944.84 billion in FY2008 to Rs 12,634.05 billion in FY2009.
- The total investments of all CPSEs stood at Rs 5,289.51 billion in FY2009 up by 16.2% over the previous year.
- The dividend declared by the Central PSUs for FY2009 was Rs 254.93 billion, registering a 9.2% decline as compared to Rs 280.81 billion in FY2008.
- During FY2009, CPSEs’ foreign exchange earnings increased by 9.6% over the previous year.

THE FOLLOWING ARE THE PUBLIC SECTORS

Bharat Coking Coal Limited (BCCL)⁵

This is a public sector undertaking engaged in mining coal and other allied activities. It has an important place for it produces bulk of the coking coal in the country. The prime coking coal requirement of the integrated steel sector is met by it. It also supplies substantial quantity of coal to the pig iron sector and to the power station in the Northern region of the country.

Bharat Dynamics Ltd⁶

Bharat Dynamics Ltd (BDL) was established in July 1970 under the control of Ministry of Defence with the prime objective of establishing a production base for guided missiles in India. It is now one amongst a few strategic industries of the world having the capability to produce the most advanced guided missile systems for armed forces.

Bharat Earth Movers Ltd⁷

Bharat Earth Movers Limited is a premier ISO 9001-2000 Company in India and the second largest manufacturer of earthmoving equipment in Asia. A four-
decade-old multi-vocational and multi-product company, BEML has vital applications in diverse sectors of economy such as coal, mining, steel, cement, power, irrigation, construction, road building and railway. It has expanded its product range to cover high-quality hydraulics, heavy-duty diesel engines, Welding robots and undertaking of heavy fabrication jobs.

**Bharat Heavy Electricals Limited**

Bharat Heavy Electricals Limited (BHEL) manufactures over 180 products under 30 major product groups and caters to core sectors of the Indian Economy viz., Power Generation and Transmission Industry, Transportation, Telecommunication, Renewable Energy, etc. The wide network of BHEL's having 14 manufacturing divisions, four Power Sector regional centres, over 100 project sites, eight service centres and 18 regional offices, enable the Company to promptly serve its customers and provide them with suitable products, systems and services - efficiently and at competitive prices.

**Bharat Refractory limited**

Bharat Refractory limited, a public sector company under administrative control of ministry of steels, Government of India came into existence in 1974. Since its inception, the company has crossed major milestones to become one of the largest refractory producers in India. The company is world renowned for its quality and has been successfully catering to the requirement of the steel industry and other users.

**Bharat Sanchar Nigam Limited**

On October 1, 2000 the Department of Telecom Operations, Government of India became a corporation and was christened Bharat Sanchar Nigam Limited (BSNL). Today, BSNL is the No.1 Telecommunications Company and the largest Public Sector Undertaking of India with authorized share capital of $ 3600 million and net worth of $ 13.85 billion. It has a network of over 45 million lines covering 5000 towns with over 35 million telephone connections.
Cement Corporation of India Limited\textsuperscript{11}

Cement Corporation of India Limited (CCI) was incorporated as a Company wholly owned by Government of India on 18th January 1965 with the principal objective of achieving self sufficiency in cement production. The authorised and paid-up capital of the company as on 31.3.2003 was Rs. 700 Crores and Rs. 428.28 Crores respectively.

Bongaigaon Refinery & Petrochemicals Ltd\textsuperscript{12}

Bongaigaon Refinery & Petrochemicals Limited (BRPL) was incorporated as Government of India Undertaking under the administrative control of the Ministry of Petroleum and Natural Gas on 20th February 1974. The company became a subsidiary of Indian Oil on 29th of March 2001 after disinvestments of share by Government of India.

Central Coal fields Ltd (CCL)\textsuperscript{13}

Central Coalfields is a Category-1 Mni-Ratna Company since October 2007. During 2009-2010, coal production of the company reached its highest-ever figure of 47.08 million tonnes, with net worth amounting to Rs 2644 crore against a paid-up capital of Rs 940 crore.

Formed on 1\textsuperscript{st} November 1975, CCL (formerly National Coal Development Corporation Ltd) was one of the five subsidiaries of Coal India Ltd. This was holding company for coal in the country (CIL now having 8 subsidiaries).

The Mission of CCL is to produce and market the planned quantity of coal and coal products efficiently and economically with due regard to safety, conservation and quality.

Centre For Railway Information Systems\textsuperscript{14}

Centre for Railway Information Systems is entrusted with the task of design, development and implementation of the Freight Operations Information Systems (FOIS), along with its associated communications infrastructure. The Centre started functioning from July, 1987. It is a registered society having an autonomous status.
and headed by a Managing Director. CRIS is mainly a project oriented organisation engaged in the development of major computer systems on the Railways.

**Coal India Ltd**

The company is incorporated under the Companies Act, 1956 and is wholly owned by the Government of India (GOI). The Company's objective is to promote the development and utilisation of the coal reserves in the country for meeting the present and the likely future requirement of the nation with due regard to conservation of non-renewable resources and safety of mine workers.

**Engineers India Ltd**

Engineers India Limited was established in 1965 to provide engineering and related technical services for petroleum refineries and other industrial projects. In addition to petroleum refineries, with which EIL started initially, has diversified into and excelled in other fields such as pipelines, petrochemicals, oil and gas processing, offshore structures platforms, fertilizers, metallurgy and power.

**Gas Authority of India Limited**

Gas Authority of India Limited (GAIL) (Erstwhile Gas Authority of India Limited) was set up by the Indian Government in August 1984 to create gas sector infrastructure for sustained development of the gas market in India. Primarily a natural gas company, it deals with all aspects of the gas-value chain, including exploration, production, transmission, extraction, processing, distribution, marketing of natural gas and its related process, products and services.

**Food Corporation of India**

The Food Corporation of India was set up under the Food Corporations Act 1964, in order to fulfil the objectives of the Food policy such as effective price support operations for safeguarding the interests of the farmers, distribution of food grains throughout the country for Public Distribution System, maintaining satisfactory level of operational and buffer stocks of food grains to ensure National Food Security.
**Heavy Water Board**

Heavy Water Board (HWB), a constituent unit under Department of Atomic Energy, is primarily responsible for production of Heavy Water (D2O) which is used as a 'moderator' and 'Coolant' in the nuclear power as well as research reactors. HWB is successfully operating six Heavy Water Plants in the country.

**Hindustan Aircraft Limited**

Hindustan Aircraft Limited (HAL) came into existence on 1st October 1964. The Company was formed by the merger of Hindustan Aircraft Limited with Aeronautics India Limited and Aircraft Manufacturing Depot, Kanpur. Today, HAL has 19 Production Units and 10 Research & Design Centers in 8 locations in India. Provides supply/services mainly to Indian Defence Services, Coast Guard and Border Security Force. Transport aircraft and Helicopters have also been supplied to Airlines as well as State Governments of India. The Company has also achieved a foothold in export in more than 30 countries, having demonstrated its quality and price competitiveness.

**Hindustan Insecticides Limited (HIL)**

Hindustan Insecticides Limited (HIL) a Government of India Enterprise under the Ministry of Chemicals and Fertilizers, Department Of Chemicals and Petrochemicals, Government of India, was incorporated Programme launched by the Government of India. Subsequently the Company diversified into agro pesticides to meet the requirements of agriculture sector, and has grown manifold, with a turnover of 1148 million rupees in 2001-02. The company has also entered into the field of safe and eco-friendly botanical and bio-pesticides for public health and plant protection.

**Hindustan Aeronautics Ltd**

The history of the Indian Aircraft Industry can be traced back to the founding of Hindustan Aircraft Limited at Bangalore in December 1940 in association with the erstwhile princely State of Mysore and late Sri Seth Walchand Hirachand, an Industrialist of extra-ordinary vision. The Govt. of India became one of its shareholders in March 1941 and took over the management in 1942. Hindustan Aircraft Limited was merged with Aeronautics India Limited and Aircraft
Manufacturing Depot, Kanpur to form Hindustan Aeronautics Limited (HAL) on 01st October 1964.

**India Trade Promotion Organisation (ITPO)**

India Trade Promotion Organisation (ITPO) is the nodal agency of the Government of India for promoting the country's external trade. ITPO, during its existence for nearly three decades, in the form of Trade Fair Authority of India and Trade Development Authority, has played a proactive role in catalysing trade, investment and technology transfer processes. Its promotional tools include organizing of fairs and exhibitions in India and abroad, Buyer-Seller Meets, Contact Promotion Programmes, Product Promotion Programmes, and Promotion through Overseas Department Stores, Market Surveys and Information Dissemination.

**Indian Oil Corporation**

Indian Oil Corporation Limited (Indian Oil) is the country's largest commercial enterprise, with a sales turnover of Rs.1, 30,203 Crores. Indian Oil is India's No.1 Company in Fortune's prestigious listing of the world's 500 largest corporations, ranked 189 in the year 2004 based on fiscal 2003 performance. It is also the 19th largest petroleum company in the world.

**Kudremukh Iron Ore Company Limited**

Kudremukh Iron Ore Company Limited, a wholly owned Government of India Enterprise, was established in 1976 to develop the mine and plant facilities to produce 7.5 million tonnes of concentrate per year. The mine and plant facilities were commissioned in 1980 and the first shipment of concentrate was made in October 1981. A palletisation plant with a capacity of 3 million tonnes per year was commissioned in 1987 for production of high quality blast furnace and direct reduction grade pellets for export.

**National Fertilizers Ltd**

National Fertilizers Ltd (NFL) was incorporated on 23rd August, 1974 with two manufacturing Units at Bathinda and Panipat. Subsequently, on the reorganization of Fertilizer group of Companies in 1978, the Nangal Unit of Fertilizer
Corporation of India came under the NFL fold. The Company expanded its installed capacity in 1984 by installing and commissioning of its Vijaipur gas based Plant in Madhya Pradesh.

**National Scheduled Tribes Finance and Development Corporation (NSTFDC)**

NSTFDC is the Apex organisation for providing financial assistance for scheme(s)/project(s) for the economic development of Scheduled Tribes. The objectives of NSTFDC are Identification of economic activities of importance to the Scheduled Tribes so as to generate employment and raise their level of income, upgradation of skills and processes used by the Scheduled Tribes through providing both institutional and on job training etc.

**National Small Industries Corporation Ltd.**

The National Small Industries Corporation Ltd., an ISO 9001:2000 Company, was established in 1955 by the Government of India with a view to promote, aid and foster the growth of Small Industries in the country. NSIC continues to remain at the forefront of industrial development throughout the country, with its various programs and projects, to assist the small scale sector in the country.

**Naively Lignite Corporation**

Naively Lignite Corporation (NLC) Limited is an integrated project complex owned by Govt. of India. Lignite excavation and power generation are the core activities of NLC. It has three open cast lignite mines.

**Nuclear Power Corporation of India Limited (NPCIL)**

Nuclear Power Corporation of India Limited (NPCIL) is a wholly owned Enterprise of the Government of India under the administrative control of the Department of Atomic Energy (DAE), Government of India. It has been incorporated in September 1987 as a Public Limited Company under the Companies Act, 1956 with the objective of undertaking the design, construction, operation and maintenance of the atomic power stations for generation of electricity in pursuance of the schemes and programmes of the Government of India under the provision of the Atomic Energy Act, 1962.
Oil and Natural Gas Corporation Limited (ONGC)  
A modest entity in the serene Himalayan settings - Oil and Natural Gas Corporation Limited (ONGC) was set up as a Commission on August 14, 1956. The company became a corporate on June 23, 1993, which has now grown into a full-fledged horizontally integrated petroleum company. Today, ONGC is a flagship public sector enterprise and India's highest profit making corporate, achieving the record of being the first Indian corporate to register a five digit profit figure of Rs. 10,529 Crores in the year 2002-03.

Shipping Corporation of India  
The Shipping Corporation of India was established on 2nd October 1961 by the amalgamation of Eastern Shipping Corporation and Western Shipping Corporation. Starting out as a marginal Liner shipping company with just 19 vessels, the SCI today has metamorphosed into a giant conglomerate having 83 ships of 4.6 million DWT with substantial interests in 10 different segments of the shipping trade.

Steel Authority of India Limited (SAIL)  
Steel Authority of India Limited (SAIL) is the leading steel making company in India. It is a fully integrated iron and steel maker, producing both basic and special steels for domestic construction, engineering, power, railway, automotive and defence industries and for sale in export markets.

The Nuclear Fuel Complex (NFC)  
The Nuclear Fuel Complex (NFC), established in the year 1971 is a major industrial unit of Department of Atomic Energy, Government of India. The complex is responsible for the supply of nuclear fuel bundles and reactor core components for all the nuclear power reactors operating in India. It is a unique facility where natural and enriched uranium fuel, zirconium alloy cladding and reactor core components are manufactured under one roof starting from the raw materials.

Uranium Corporation Ltd  
Incorporated on 4th October 1967, Uranium Corporation of India Ltd, a public sector Enterprise under the Department of Atomic Energy, is at the forefront of the
2.1.2 **Infrastructure development in India and role played by public sector undertakings:**

Before proceeding with the basic needs and requirement of Indian infrastructural sector and the role of Indian public sector undertakings will have to look first into some important reports and budget allocation with respect to this sector which shows the importance and need for the study and understanding of Indian infrastructure sector.

The Compare InfoBase Limited (An ISO 9001:2000 Certified Company) information under the head “Infrastructure Sector Growth Rate” gives the recent data with regard to infrastructure development in India. Infrastructure Sector Growth Rate in India GDP has been on the rise in the last few years. The Growth Rate of the Infrastructure Sector in India GDP has grown due to several reasons and this in its turn has given a major boost to the country’s economy, within the specified period of time. (India gross domestic product (GDP) means the total value of all the services and goods that are manufactured within the borders of the country).

After independence the Infrastructure Sector in India was completely in the hands of the public sector and this hampered the growth of this sector. India's lesser spending on real estate, power, telecommunications, construction, and transportation prevented the country from sustaining very high rates of growth. The amount that India was spending on the Infrastructure Sector was 6% of GDP or US$ 31 billion in 2002.

**The contribution of the Infrastructure Sector to the Indian GDP**

Infrastructure Sector Growth Rate in India GDP came to 3.5% in 1996-1997 and in the next year, this figure was 4.6%. The Growth Rate of the Infrastructure Sector in India GDP increased after the Indian government opened the sector to 100% foreign direct investment (FDI). This was done in order to boost the Infrastructure
Sector in the country. The result of opening the sector to the private sector has been that Infrastructure Sector Growth Rate in India GDP has increased at the rate of 9%. It is estimated that the Growth Rate of the Infrastructure Sector in India GDP will grow at the rate of 8.5% between 2006 and 2010. The biggest ongoing project in the Infrastructure Sector in India is the Golden Quadrilateral, which is improving the main roads that connect the four cities of Chennai, Mumbai, Delhi, and Kolkata.

**The Government of India and the Infrastructure Sector:**

Infrastructure Sector Growth Rate in India GDP thus has increased over the last few years due to the efforts that have been made by the Indian government. The government of India must continue to take steps to improve the Infrastructure Sector in the country. In turn it will help boost the Indian economy in future.

The India budget information centre\(^36\) based report 2010 gives the following vital information with regard to the Indian Rural Infrastructure. This India Rural Infrastructure -Report indicates the rural infrastructure in India gets 31% hike. The focus is on agriculture and development of India's rural areas.

A consolidated India Rural Infrastructure Report is as follows -

A special plan is being implemented over a period of three years in 31 suicide-prone districts in four states, involving a total amount of Rs 16,979 Crores. Of this, around Rs 12,400 Crores will be spent on water-related schemes. A Special Purpose Tea Fund to rejuvenate tea production, financial mechanisms for re-plantation and rejuvenation will also be implemented for coffee, rubber, spice, cashew and coconut plantations.

This huge budgetary allocation of funds for rural development will call for huge infrastructure development in rural areas and will be mostly managed by the public sector undertakings related to infrastructure development and agricultural development government organisations and corporations.

**Infrastructure in India:**

Infrastructure in India include transportation, agriculture, water management, telecommunications, industrial and commercial development, power, petroleum and
natural gas, housing and other segments such as mining, disaster management services, technology-related-infrastructure.

**Important sectors in Infrastructure in India:**

Within the Infrastructure of India, the transportation sector is the most important, including the aviation, ports, roads, rail system and logistics. The agriculture sector comprises infrastructure-related storage facilities, construction relating to agro-processing projects and reservation and storage of perishable goods. Among other essential sectors, real-estate development, including industrial parks, special economic zones, tourism and entertainment centres, educational institutions and hospitals and solid waste management systems, also play significant role in Indian economy.

**Finance for Infrastructure in India:**

The rules for government-owned infrastructure companies for raising funds through initial share offerings are made flexible by the Securities and Exchange Board of India, which would naturally increase the flow of investment in the Infrastructure of India. To bridge the wide gap between the potential demand for infrastructure for high growth and the available supply, there is an urgent need for a close partnership between the public and private sectors, with a vital role reserved for foreign capital. In India infrastructure sector itself is becoming an attractive investment area for FDIs. To encourage foreign funds flow into the Infrastructure in India, the Indian Finance Ministry has allowed Foreign Institutional Investors (FIIs) also to invest in unlisted companies. FIIs now can invest 100 per cent of their funds in the Infrastructure in India. In order to make the core sector more attractive for FDI, the Cabinet Committee on Foreign Investment (CCFI) has modified the 49 percent cap on foreign equity in the infrastructure sector to make fund mobilization easier. This major policy decision will indirectly raise the foreign equity investment in infrastructure sector to well over 51 percent.

Besides, even if allocation in the Infrastructure in India is raised with a greater inflow of FDI and a large participation of private sector, the immediate problem would still remain, since infrastructure is subjected to long gestation period. Consequently, the inadequacy of Infrastructure in India will continue for quite some
time, unless technology upgradation can be done in the infrastructure production, including construction activities, for reducing the gestation lags and simultaneously improving the quality of products. With this infrastructure limitation any indiscriminate growth may lead the economy of the country to a situation of overheating and a further rise in inflation.

Under the Infrastructure in India the most essential field in which there should be development is the urban infrastructure. Except for a few large projects in a handful of cities, paucity of urban infrastructure projects is a major problem. Although city mass transport systems and airports have found place in developmental plans, essential services such as roads, drinking water, sewerage management, drainage, primary health need to get attention.

However, with the economy growing at the rate of more than 8 per cent, the government is aiming at an economic growth rate of 8 per cent during the eleventh Plan (2008-2012), for which the government is taking necessary steps to develop the Infrastructure in India.

National highway projects:

The National Highways Authority of India (NHAI)\(^{37}\) is mandated to implement National Highways Development Project (NHDP) which is India’s Largest ever highways project with world class roads with uninterrupted traffic flow. The National Highways of 70,548 km serve as the arterial network of the country. The development of National Highways is the responsibility of the Government of India. The Government of India has launched major initiatives to upgrade and strengthen National Highways through various phases of National Highways Development project (NHDP), which are briefly stated below:

**NHDP Phase I:** NHDP Phase I was approved by the Cabinet Committee on Economic Affairs (CCEA) in December 2000 at an estimated cost of Rs.30,000 Crores. It comprises mostly of GQ (5,846 km) and NS-EW Corridor (981km), port connectivity (356 km) and others (315 km).
**NHDP Phase II:** NHDP Phase II was approved by CCEA in December 2003 at an estimated cost of Rs.34,339 Crores (2002 prices) comprising mostly NS-EW Corridor (6,161 km) and other National Highways of 486 km length, the total length being 6,647 km. The total length of Phase II is 6,647 km.

**NHDP Phase-III:** Government approved on 5.3.2005 up gradation and 4 lanes of 4,035 km of National Highways on BOT basis at an estimated cost of Rs. 22,207 Crores (2004 prices). Government approved in April 2007 up gradation and 4 lane roads of 8074 km at an estimated cost of Rs. 54,339 Crores.

**NHDP Phase V:** CCEA has approved on 5.10.2006 six lanes of 6,500 km of existing 4 lane highways under NHDP Phase V (on DBFO basis). Six lanes of 6,500 km include 5,700 km of Amalendu and other stretches.

**NHDP Phase VI:** CCEA has approved on November 2006 for 1000 km of expressways at an estimated cost of Rs. 16680 Crores.

**NHDP Phase VII:** CCEA has approved on December 2007 for 700 km of Ring Roads, Bypasses and flyovers and selected stretches at an estimated cost of Rs. 16680 Crores.

The planning commission report (2010)\(^\text{38}\) gives the following vital information regarding Indian infrastructure and the efforts from Indian government to build Indian economy and for all round development of India.

The Industry Research Report from planning commission states under the heading “Indian overview” The huge investments by the Government of India on development of infrastructure in the country has resulted in a positive spill over effects on the economy by triggering growth in other sectors like manufacturing and service sector and has helped in sustaining India's growth rate in comparison with the rest of the world. The investment in infrastructure in India has increased from 4.9 percent of the gross domestic product (GDP) in 2002-03 to 6 percent last fiscal year. The Union Budget 2010-11 has allocated USD 37 billion for infrastructure up
graduation in both rural and urban areas. This amounts to over 46% of the total plan allocation for infrastructure development in the country.

As per the Budget Estimates, disbursements by the India Infrastructure Finance Company Ltd (IIFCL), established by the government to extend long-term financial assistance to infrastructure projects, are expected to touch Rs 9,000 Crores by the end-March 2010 and Rs 20,000 Crores by March 2011. Indian government is planning a US$ 354 billion investment in its infrastructure by 2012, with another US$ 150 billion expected to come from the private sector, according to the latest report by Pricewaterhouse Coopers. Projected spending under the Eleventh Five Year Plan (FY07-FY12) expect the electricity (US$ 167 billion), railways (US$ 65 billion), roads and highways (US$ 92 billion), ports (US$ 22 billion) and airports (US$ 8 billion) sectors receive a total of US$ 354 billion. According to World Bank India is expected to expand at 8 per cent in 2010, the fastest among major economies in the world, and 8.5 per cent the year after, matching China's growth rate, according to a World Bank. An estimated US$ 500 billion is required by 2012 to upgrade India’s infrastructure.

**Roads:** India has the world's second largest road network, aggregating over 3.34 million kilometres (km). Being well-aware of the necessity to attract FDI in the segment, the Government has allowed 100 per cent FDI under the automatic route for all road development projects, in addition to offering 100 per cent income tax exemption for a period of 10 years. According to the Planning Commission, the road freight industry will be growing at a compound annual growth rate (CAGR) of 9.9 per cent from 2007-08 to 2007-12. A target of 1,231 billion tonne km (BTK) has been put on road freight volumes for 2011-12. According to industry sources, the road sector in the country would require an investment of US$ 80 billion in the next 3-4 years of which US$ 45 billion is anticipated from the private sector.

The Indian government has launched the ambitious National Highway Development Programme (NHDP) involving a total investment of US$ 54.1 billion up to 2012. For the roads and bridges sector, the Eleventh Five Year Plan envisages a total investment of approximately US$ 78.5 billion over the five-year period starting from 2007-08. According to the Press Information Bureau, in the third week of
December 2009, the government approved four-lining 384 km of highways with an investment of US$ 673.88 million. Moreover, in January 2010, the government approved road projects worth US$ 1.33 billion in five states for upgrading nearly 562 km of four-lane highways into six lanes.

India Infrastructure Summit 2010: Union Road Transport Ministry, by March 2011, is envisaging an ambitious target of awarding at least 15,000 km of national highways projects. Also 10,000 km are in advanced stage of bidding so as to have a considerable amount of work in progress to achieve the target of 20-km a day. The ministry has awarded 3,600 km by March 2010. Out of the 12,000 km Plan I for FY10, apart from the 3600 km, 21 projects spanning 1568 km are currently undergoing the tendering process. Around 13 projects were awarded by the NHAI recently. Further, National Highway Authority of India (NHAI) would award 50 projects in 2010-11. Infrastructure Finance Company Ltd. (IIFCL) already provides refinance of up to 60% of the loans provided by banks to infrastructure projects. According to the Ministry of Finance, the ongoing focus on the highway infrastructure development is targeted to yield an annual growth of 12-15 per cent for passenger traffic and 15-18 per cent for cargo traffic.

Railways: The Indian Railways is the backbone of the Indian transport system. The US$ 18 billion Indian Railways industry has one of the largest developed networks in the world. It runs throughout the country covering 63,140 route km, carrying 20 million passengers a day in about 18,000 trains. It employs 1.4 million people. A quarterly estimate for Q3, 2009-10 for railways by the Central Statistical Organisation suggests growth rates at 12.5 per cent and 6.7 per cent for net tonne km and passenger km, respectively. Indian Railways' revenue earnings have increased by 8.56 per cent to US$ 15.30 billion during April 2009-January 2010, compared to US$ 14.09 billion during the same period last year, according to the data released by Press Information Bureau (PIB).

The total earnings from goods traffic went up by 8.47 per cent to US$ 10.36 billion during April 2009-January 2010 from US$ 9.55 billion during the same period last year. During the first 10 months of the financial year 2009-10, total passenger
revenue earnings increased by 7.40 per cent to US$ 4.20 billion compared to US$ 3.91 billion during the same period last year. The total approximate number of passengers booked during April 2009- January 2010 increased by 4.59 per cent to 6.18 billion from 5.91 billion during the same period last year. According to PIB data, the Railways has generated US$ 10.25 billion of revenue earnings from commodity-wise freight traffic during April 2009- January 2010 as compared to US$ 9.38 billion during the corresponding period last year, registering an increase of 9.32 per cent. Railways carried 730.96 million tonnes of commodity-wise freight traffic during April 2009-January 2010 as compared to 681.28 million tonnes carried during the corresponding period last year, registering an increase of 7.29 per cent. Broadly, Railway Budget appears to be more pragmatic and realistic owing to the focus on Public Private Partnership (PPP) for developmental projects as well as sourcing of Railway rolling stocks. The Minister for railways also announced laying of 1000 Km of new railway tracks and 700 Km of doubling the tracks on select existing routes. Railways would flag off 117 new trains this year [by March 2010] and 54 new trains in FY 2011 which will improve the rail connectivity. Railway also plans to set up 5 new wagon factories.

**Ports:** The Indian coastline is dotted with 12 major ports and 187 minor ports. During the period from April to December 2009, major ports handled 411.95 MT, an increase of 5.14 per cent over the same period in 2008. For the third quarter ended in December 2009, the major ports in the country have registered cargo growth of 10.7 per cent compared to the same period last year, while sequential growth has been 9.7 per cent, according to data from the Indian Ports Association (IPA). Hundred per cent foreign direct investment (FDI) under the automatic route is permitted for port development projects. Hundred per cent income tax exemption is provided for a period of 10 years for port developmental projects. The government has opened all the areas of port operation for private sector participation.

According to the Planning Commission of India there is an investment opportunity of around US$ 25 billion by 2011-12 in India's ports and shipping sectors, as the country plans to double its ports capacity to 1,500 MT. While ports sector would offer a US$ 13.75 billion investment opportunity, inland waterways and shipping are likely to encapsulate US$ 11.25 billion in domestic and foreign
investments. India needs to spend $500 billion in the five years to overhaul its congested ports and airports, fix its potholed roads and generate more power to sustain 8-9% economic growth.

**Airports:** Flying high on strong economic recovery, air travel has made a comeback in 2009. Airports handled a record 121.2 lakh passengers in December 2009. A strong rebound in demand coupled with a low base led to a robust 29.1 per cent growth in air passenger traffic during the month. During April-December 2009, passenger traffic grew by 12.3 per cent as against a 5.8 per cent decline in the year of the previous period. The year 2009-2010 is estimated to have ended with a healthy 15.2 per cent per cent growth in passenger traffic. Growth is expected to remain healthy at nine per cent in 2010-2011 backed by higher demand for business and leisure travel. CMIE’s 61st CapEx survey revealed that fresh investments in the air transport industry increased to Rs.1, 91,717 crore as on March 2010. Seven fresh investments worth more than Rs.741 crore were announced during the March 2010 quarter including airport infrastructure projects, maintenance, overhaul and repair (MRO) facilities, and a fleet expansion project. Budget 2010-2011 Govt thrust to boost Infrastructure with a growing economy and a two digit growth is expected over the next four years. Infrastructure sector would require a lot of growth and the right amount of incentives. The Budget 2010-2011 has addressed the Infrastructure problems with a number of allocations as per the various aspects of the sector. The Finance Minister has announced Rs 10,000 Crores allocation towards Indira Awaas Yojna and Rs 48000 Crores towards Bharat Norman. 25% of the planned allocation is towards rural infrastructure. There has also been interest subvention for housing loans up to Rs 1 lakhs. Allocation for infrastructure projects for the ensuing fiscal year will be Rs.173, 552 crore ($38.5 billion), or 46 percent of the total plan outlay, since good roads, ports and railways are essential to sustain growth. Also included is the allocation towards the NREGA scheme. This has been enhanced to Rs 41,000 Crores. Further, additional deduction available for investment in long-term infrastructure bonds for individuals will aid the faster execution of infrastructure projects.

A fund of Rs 5130 cores has been set aside for the power sector. Allocation for Road Transport was raised by over 13% i.e., Rs19, 894 Crores, whereas allocation for improving Railway infrastructure was increased by 6.0%. Tax deductions on
investments on long-term Infrastructure bonds of Rs 20000 pa. (Under the new Section 80CCF), besides the existing limit of Rs 1 lakh under Section 80C, thereby improving liquidity for the Infra Sector was also announced.

Disbursements by India Infrastructure Finance Company Ltd (IIFCL) are expected to reach about Rs. 20,000 crore by March 2011 and it is expected to refinance over Rs. 6,000 crore in 2010-11. New Norms: The National Highway Authority of India (NHAI), in its bid to improve operational efficiencies in road development, has tweaked the bidding norms of the segment. In line with this, the NHAI has barred highway contractors and developers from bidding for new projects, if financial closure is not achieved for three or more projects. As per the proposed norm, however, if a bidder convinces NHAI about surety of arrangement of funds for the project, it can bid for more projects. Currently, the bidder/consortium is required to have a net worth equivalent to at least 25% of the project cost, irrespective of the project cost. Going ahead, while the same arrangement will continue for projects up to INR 20 billion, higher net worth will be required for projects above INR 20 bn. Healthy order inflows strengthen order book of companies.

**TABLE 2.6:** Order booking position of different infrastructure companies in India

<table>
<thead>
<tr>
<th>Dec-08</th>
<th>Mar-09</th>
<th>Jun-09</th>
<th>Sep-09</th>
<th>Dec-09</th>
<th>Growth (%)</th>
<th>Sales ratio</th>
</tr>
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<tbody>
<tr>
<td><strong>Larsen &amp; Toubro</strong></td>
<td>67.029</td>
<td>68.753</td>
<td>69.952</td>
<td>79.857</td>
<td>91.104</td>
<td>35.92</td>
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<td><strong>Punj Lloyd</strong></td>
<td>21.908</td>
<td>20.803</td>
<td>27.889</td>
<td>26.808</td>
<td>23.431</td>
<td>6.95</td>
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<tr>
<td><strong>Lanco Infratech</strong></td>
<td>11.335</td>
<td>10.317</td>
<td>9.467</td>
<td>14.711</td>
<td>20.902</td>
<td>84.41</td>
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<td><strong>Hindustan Cost.</strong></td>
<td>12.177</td>
<td>16.400</td>
<td>15.412</td>
<td>15.542</td>
<td>15.703</td>
<td>28.96</td>
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<td>Nagarjuna Const.</td>
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<tr>
<td>Simplex Infrastructure</td>
<td>10.231</td>
<td>10.200</td>
<td>10.012</td>
<td>10.517</td>
<td>10.606</td>
<td>3.67</td>
<td>2.31</td>
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<td>Patel Engineering</td>
<td>7.100</td>
<td>7.200</td>
<td>7.350</td>
<td>6.900</td>
<td>6.300</td>
<td>-11.27</td>
<td>3.06</td>
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<td>Consolidated construction.</td>
<td>3.649</td>
<td>3.323</td>
<td>3.612</td>
<td>3.724</td>
<td>3.657</td>
<td>0.21</td>
<td>2.04</td>
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<td>Order book to sales ratio</td>
<td>2.44</td>
<td>2.32</td>
<td>2.37</td>
<td>2.53</td>
<td>3.00</td>
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</tr>
<tr>
<td>New orders during quarter</td>
<td>17,905.0</td>
<td>14,867.0</td>
<td>9,700.0</td>
<td>22,661.0</td>
<td>14,830</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Order book to sales ratio is based on trailing four quarter sales.

**Gujarat’s infrastructure development**: Gujarati infrastructure is mainly based on the state's industrial sector with 1/5th of India's industrial output coming from Gujarat. Bordered by Pakistan, Rajasthan, Madhya Pradesh, and Maharashtra, and the Arabian Sea, Gujarat infrastructure has led to the state becoming one of the most affluent and advanced states of India

**Facts and figures**: Gujarat has always led from the front as far as infrastructural advancement is concerned. From a gross state domestic product (GSDP) of INR 74,270 million in 1980, the GSDP of Gujarat grew to an impressive INR 700,000 million in 2000. Gujarat's GDP is now growing at a rate of around 12% each year. The per capita GDP of Gujarat is more than thrice the all-India average. If Gujarat was considered a country, it is likely to be the 67th most prosperous nation in the world ranked above China.

**Economic Infrastructure of Gujarat**: Gujarat was among the first states in India to invite private sector investment in infrastructure. Gujarat is well connected by about
74,000 km of roads, 11 airports, and the well-planned Indian Railways network. There are as many as 41 ports in Gujarat along its 1600 km coastline.

**Gujarat Agriculture:** In spite of its industrial reliance, agriculture is an important sector of Gujarat infrastructure. The main agricultural produce of Gujarat comprises.

- Cotton
- Sugarcane
- Peanuts
- Dates
- Milk
- Milk-based products

It is pertinent to note here that Amul Milk Co-operative Federation originated in Gujarat and was responsible for the White Revolution ushered in India by Varghese Kurien, making India the world's largest producer of milk and milk-based products.

**Gujarat Industries**

Gujarat infrastructure derives most of its robustness from Gujarat industry. Not only does Gujarat produce 1/5th of India's industrial production, but is also responsible for producing 35% of India's pharmaceutical products, 24% of its textiles, 22% of India's exports, and 9% of India's minerals.

Gujarat is home to some of the world's most extensive business empires. Gujarat is home to the world's largest ship breaking yard and Jamnagar oil refinery owned by Reliance Petroleum Ltd., is the largest grass-root refinery of the world. Salt, cement, ceramics, gems, jewellery, and petrochemicals are some of the other prominent industries of Gujarat.

**Investments in Gujarat**

Gujarat holds only 6% of India's geographical area and 5% of its population, but accounts for more than 16% of India's investments and around 30% of stock market capitalization. Projects worth INR 34,000 crore have been planned and are being implemented in Gujarat.
Significant investment opportunities exist in the following sectors in Gujarat:

- Biotechnology
- Bio-informatics
- Agricultural Export Zones (AEZs)
- Industrial biotechnology

The Gujarat government also plans to build 271 check dams in around 20 rivers of Gujarat under Narmada-based plans. The Kalapasar Project undertaken by the Gujarat government aims at connecting Kathiawad and Gujarat and thus, enhances transport facilities, initiate land reforms, and provide water for irrigation.

**The government initiative for the Top infrastructure development in India**\(^{41}\)

The government also has been focusing on infrastructure spending heavily and the last five years has been worthwhile in this regard. In this context, the infrastructure companies in India have also been faring well and have surpassed all expectations. A recent survey on the infrastructure companies in India reveals that the sample of 22 companies, based on consolidated revenues have been able to withstand the global meltdown. The combined revenues of these 22 Indian infrastructure companies have surged up by 32.3% in 2009, mostly driven by government initiatives.

Some of the best infrastructure companies of India:

1. **HCC Infrastructure:** HCC Infrastructure Ltd. is a wholly owned subsidiary of HCC Ltd with infrastructure projects in the transportation (viz, roads, bridges, ports, airports) sector, power sector, and has in its kitty other special infrastructure projects. Mainly operating through the public-private partnership route, this player has huge scope. Over US $250 billion needs to be imbibed through varied investments in the infrastructure sector in the next five years (aggregating to approximately Rs. 200,000 Crores every year.

   The power sector needs more than 40% of this investment and the transportation sector needs a little over 50% of the investment. With these sectors
growing at a steady pace of more than 10% every year, the market has tremendous
growth opportunity. In the next five years, HCC has the potential to come in the list of
top 5 infrastructure companies in India.

TABLE 2.7: HCC infrastructures Ltd: Income from operations and Net profit
(Rs in Lakhs)

<table>
<thead>
<tr>
<th>Particulars</th>
<th>Quarter ended 30 Sep, 2009</th>
<th>Quarter ended 30 Sep, 2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Income from operations</td>
<td>86,220.82</td>
<td>69,771.12</td>
</tr>
<tr>
<td>Net Profit</td>
<td>551.49</td>
<td>1994.35</td>
</tr>
</tbody>
</table>

2. **Maytas Infra Limited**: This leading player in the infrastructure segment has more
than 20 years of experience in infrastructure development, construction and project
management. They handled various landmarks across India

TABLE 2.8: Maytas Infra Limited: Income from operations and Net profit:

<table>
<thead>
<tr>
<th>Particulars (Rs in Crores)</th>
<th>Year ended 31 Mar, 2009</th>
<th>Year ended 31 Mar, 2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>Turnover</td>
<td>1335</td>
<td>1637</td>
</tr>
<tr>
<td>Net Profit/Loss</td>
<td>(-) 489.79</td>
<td>99.64</td>
</tr>
</tbody>
</table>

3. **Patel Engineering**: This Indian infrastructure company has handled building bridges
to dams to highways and varied other infrastructure projects. In a span of just 60 years
– they have a track record of building 75 dams, handling 30 hydroelectric projects, 30
micro tunnelling projects, 250 kms tunnelling works.

TABLE 2.9: Patel Engineering: Income from operations and Net profit:

<table>
<thead>
<tr>
<th>Particulars (Rs in Crores)</th>
<th>Quarter ended 30 June, 2009</th>
<th>Quarter ended 30 June, 2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net Sales/ Income from operations</td>
<td>643.00</td>
<td>558.39</td>
</tr>
<tr>
<td>Net Profit</td>
<td>36.34</td>
<td>29.12</td>
</tr>
</tbody>
</table>
4. **Reliance Infrastructure:** It is India’s largest private sector power utility enterprise and has been the pioneer in the Indian infrastructure sector. In the infrastructure space, their focus has been on roads, urban infrastructure including the MRTS, Sea link and Airports, Specialty Real Estate (business districts, trade towers, convention centre) and SEZ (IT & ITES SEZ and non-IT-SEZ)

<table>
<thead>
<tr>
<th>Particulars (Rs in Crores)</th>
<th>Year ended 31 Mar, 2009</th>
<th>Year ended 31 Mar, 2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total operating income</td>
<td>9868.61</td>
<td>6448.42</td>
</tr>
<tr>
<td>Profit after tax</td>
<td>1138.88</td>
<td>1084.63</td>
</tr>
</tbody>
</table>

The government has taken initiative for the development of infrastructure in India through funding the private infrastructure companies indirectly and funding and supporting order positions of public sector infrastructure undertakings in India.

Ian Thynne and Roger Wettenhall\(^{42}\) write in their article “Public management and organizational autonomy: the continuing relevance of significant earlier knowledge” that “A key theme of recent reforms in public management in various countries is the perceived need for many organizations in government to have a degree of legal and operational autonomy. In studying this and other aspects of the reforms, there is considerable merit in examining how the underlying ideas have been explored in earlier works. In this article, they argue that this is particularly relevant to the current interest in organizational autonomy. Pertinent ideas, issues and concerns were addressed several decades ago by scholars such as Macmahon, Seidman, Selznick and Follett. The contributions of these scholars have continuing analytical value and deserve to be revisited.
Performance of public enterprises

The National income and expenditure report\textsuperscript{43} states that the overall, the financial performance of public corporations prior to 1979 has been weak. Rates of return for public corporations have been substantially below their private sector counterparts. Detailed analyses of pricing behaviour of individual nationalised industries have indicated that efficiency objectives have not been met and this has been attributed to a combination of over-investment and internal inefficiencies. With respect to the measurement of internal efficiency, comparative approaches have been adopted: comparing public corporation performance to other UK industries and to firms abroad. Efficiency audits have also been conducted by bodies such as the Monopolies and Mergers Commission. In general, results have not been favourable for the UK public corporations. Performance assessment has been complicated by methodological difficulties of choosing appropriate indicators of performance, finding appropriate benchmarks against which to compare performance, and in assessing the importance of market structure as a determining factor for performance.

The author Demirguc-Kunt, Asli; Levine, Ross; Dec\textsuperscript{44}; Policy Research Working Paper “The financial system and public enterprise reform: concepts and cases”, Volume 1 writes about the evaluation systems and public reform as tools to improve public enterprises. This paper summarizes that “Public enterprise reform” is an important part of policy strategies to accelerate economic growth in many countries. The authors identify two distinct but complementary approaches to public enterprise reform: the private sector development approach and the corporation approach. The private sector development approach involves privatizing public enterprises and encouraging private sector development to improve economic efficiency and shrink the relative size of the public sector. The corporation approach involves improving managerial incentives and clarifying budget constraints on public enterprises, so that their performance improves without the government relinquishing ownership. The authors study the relationship between the financial system and public enterprise reform. The conceptual framework describes the role of three financial services -- mobilizing resources, evaluating firms and monitoring managers -- in promoting both the private sector development and corporation approaches to reform. Using nine country case studies (of Chile, Egypt, Ghana, India, Mexico, the
Philippines, the Republic of Korea, Senegal, and Turkey), they study the links between public enterprise reform and both financial sector reform and the initial state of the financial system.

2.3 Review of recent research papers on Indian public sector undertakings:

The author Laxman K Behera\textsuperscript{45} states that India has established eight defence Public Sector Undertakings (DPSUs) whose responsibility is to provide the Armed Forces state-of-the-art equipment and at the same time enhance country's self-reliance in defence production. However the performance of these Undertakings is not up to the mark, resulting in import of arms worth billions of dollars every year. A deeper insight into DPSUs' production profile reveals that most of them are over-dependent on external sources for the production needs, and have a very low labour productivity level, negligible export, and a low R&D base. What the DPSUs need to do is to overcome these aspects and in turn make India truly self-reliant in defence production.

India has eight Defence Public Sector Undertakings (DPSUs) under the control of Department of Defence Production, Ministry of Defence (MoD). These Undertakings together with 39 Defence Ordnance Factories (DOFs) form the backbone of India's defence production and are responsible for making India self-sufficient in defence production. However, unlike the DOFs which mostly cater to the low-technology defence items, the DPSUs cater to the “strategic requirements” of the Armed Forces. The items produced by DPSUS range from “aircrafts to helicopters, warships, submarines, heavy vehicles and earth movers, missiles, electronic devices and components, alloys and special 65 per cent of the total industrial output of all defence public sector enterprises, including Ordnance Factories. Over the years, the Undertakings have grown both in size as well as in their portfolio of items. However, the growth of DPSUs in terms of range and depth of production has not corroborated with the requirements of the Armed forces. This is evident from the huge arms import by India. This in turn raises the question as to the capability and efficiency of DPSUs in meeting the Armed Forces' requirements.
The author Alexia Caisse\textsuperscript{46} states that Public sector is distinctly different from the state controlled enterprises. Employees of the public sector are not Government servants or members of the civil service. It is an entity which can be classified in between the Government and private enterprises. The state is the predominant share holder in some of them. Some others are enterprises of the completely owned by the Government. They are not managed by the government departments but by autonomous boards. The advent of globalization and liberalized economic policy made remarkable impacts on the PS units. Not only the role of government but also that of PS in the running the economy started diminishing when neo-liberal economists wanted privatization of all economic activities. The protagonists of privatization policy maintain that the new policy changes will be able to stimulate the British economy.

S.K. Khatik and Titto Varghes\textsuperscript{47} state that solvency ratio measured in short term is known as liquidity and in the long term is known as stability. Short term solvency ratio can be classified into current ratio, quick ratio and acid test ratio. The long term solvency was measured using debt equity ratio, proprietary ratio, fixed assets ratio, capital gearing ratio, debt service coverage ratio and solvency ratio. The objective of this study was to examine the solvency position of a sample company and testing the significance of correlation to assess the critical factors which affect the solvency of power finance corporation limited (PFCL) and to give some suggestions for the betterment of future solvency on the basis of findings of the study. The study has been conducted by selecting a few important parameters such as assets, liquid assets, absolute liquid assets, debt, equity, fixed interest or dividend bearing funds, tangible assets, outsider's liabilities. For making the analysis of solvency position of PFCL ratio analysis techniques of financial management have been used For assessing the behaviour of above ratios, statistical techniques have been used i.e. arithmetic mean, standard deviation, coefficient of correlation and t-test by the observations of this study, it is found that the short and long term solvency position of PFCL was not satisfactory. The company should improve their short term stability by increasing the current assets and decreasing current liabilities. The long term solvency can improve by increasing equity share capital and decreasing debt capital.
Current ratio is an indicator of firm’s financial stability i.e. an index of technical solvency and the strength of working capital. The logic behind current ratio is that cash need not be immediately available to meet all current liabilities on a particular date, but there should be good prospects for an adequate inflow of cash indicated by the amount of individual components of current assets. The absolute liquidity is represented by cash and cash like items, such as marketable securities. The long term solvency ratio includes Debt-Equity ratio enables one to ascertain the proportion of shareholder’s stake in the business. This ratio indicates the extent of cushion available creditors on liquidation. The proprietary ratio indicates the long term or future solvency position of the business. This ratio is a test of the capital structure of the company. The Debt service coverage ratio indicates whether the business has earned sufficient profits to pay periodically the interest charges. It is an indicator of the financial strength of an enterprise and an index of margin of safety of long term creditors. The capital gearing ratio indicates the proportion between funds bearing fixed interest or dividend bearing funds and funds not bearing fixed interest or dividend. This ratio reveals the suitability.

The authors Anastassiou Th. and Doumpos M.48 state that within any national economy, public enterprises play an essential and vital role, serving specific social purposes and contributing in the formulation and control of national policies in strategic fields such as telecommunications, transport, energy, etc. However, the international economic changes continuous deregulation of the markets and the new competitive environment that is formulated, require the reformation of public enterprises so that they can operate in a more corporate way, while retaining their social and strategic role. Within this new context the evaluation of the financial performance of public enterprises is essential in order to ensure their viability. Especially in the case of Greece the aforementioned problem is more challenging than ever before. Focusing on the Greek case, this paper proposes a multi criteria decision aid methodology to evaluate the financial performance of public enterprises. The proposed approach is applied on 40 Greek public enterprises, and useful conclusions are drawn regarding the capabilities and the efficiency of the approach.”
The author Shefali Nandan, Y. S. Thakur state that the liberalization of the economy; focus on performance is increasing in Indian public sector enterprises. A periodic review of the appraisal system is required so that it is appropriately modified and made adequate to fulfil the changing needs of the organization as well as employees. It needs to be regularly checked for its relevance and utility. Hindustan Aeronautics Limited, a public sector organization, engaged in manufacturing defence related products, has Performance Appraisal and Review (PAR) System. It is an annual exercise, with quarterly task setting and evaluation. The criteria of appraisal are the evaluation of job performance and traits of the appraisal. The system is based on work planning, self review and performance analysis. Appraisal is done at more than two levels. A critical analysis of the system has been made in this paper.

Arief Budiman, Diaan-Yi Lin, and Seelan Singham. Focus on developing markets in the 1980s and '90s. State-owned enterprises continue to control national GDP more than 50 percent in some African countries and up to 15 percent in Asia, Eastern Europe and Latin America. These companies controlled by a government or a government agency, struggle to meet the private sector’s performance levels and potential profits remain unrealized. During the current downturn, some state-owned enterprises even as they face increased pressure to become more efficient have been called on to support government stimulus plans through higher spending and job retention. Nevertheless, our research and experience show that notwithstanding the constraints of the public-sector model and the tough economic times, these enterprises can significantly improve their performance.

The authors highlight the efficiency of public sector enterprises with special reference to C.C.L., Ranchi, efficiency being defined in terms of (a) capital employed, (b) sales, (c) profit-gross and (d) profitability ratio. The total capital, employed is total net assets, which includes fixed as well as working capital. In the fixed assets, the work in progress is also included. In the working capital, inventories, debtors, fund, cash and bank balances and other current assets are included. The study period was 1990-1991 to 1999-2000, long enough to know the behaviour of the variables.
The authors Anastassiou Th. and Doumpos M\textsuperscript{51} in their book “Efficiency in the public sector” state “Regardless of where we live, the management of the public sector impacts on our lives.” Hence, we all have an interest in one way or another, in the achievement of efficiency and productivity improvements in the activities of the public sector. For a government agency that provides public service, striving for unreasonable benchmark targets for efficiency may lead to a deterioration of service quality, along with an increase in stress and job dissatisfaction for public sector employees. Slack performance targets may lead to gross inefficiency, poor quality of service, and low self-esteem for employees. In the case of regulation, inappropriate policies can lead to unprecedented disasters. Examples include the decimation of fish stocks through mismanagement of fisheries, and power blackouts through inappropriate restrictions on electricity generators and distributors. Efficient taxation policies minimise the tax bill for citizens. In all of these cases, efficient management is required, although it is often unclear as to how to assess this efficiency. In this volume, several authors consider various aspects and contexts of performance measurement. Hence, this volume represents a unique collection of advances in efficiency assessment for the public sector by leading researchers in the field. Efficiency in the Public Sector is divided into two sections.

The author R.K. Mishra\textsuperscript{52} highlights on the Performance of public enterprise and says that it always occupies the front page in newspapers and the headlines of mass media. The success of the Indian economy in terms of growth and distributive justice largely hinges on the performance of public enterprises. Both the central and the state governments depend on the good performance of public enterprises to a great extent to achieve their socio-economic objectives. Performance Evaluation of Public Enterprises makes an attempt to provide a backdrop of performance of public enterprises during the decade of liberalization, offer a detailed formulation in the theory of public enterprise performance evaluation and present a survey of research in this area. The author has used a wide range of annotators of topical studies on performance evaluation published in the form of books, articles, papers, official and non-official reports. The author has peeped into the research areas in the field of performance evaluation for future.
The authors T. L. Sankar, Misra R. K, and S. Ravishankar\textsuperscript{53} state that reforms in the public sector undertakings is the most important one relating to public enterprise (PE) policy in India, namely divestment of their share-holdings. The authors have discussed the philosophy, process, organizational mechanism, expectations and outcomes of divestment in PEs. Finally they point out the major weaknesses retarding the success of the newly introduced divestment policy and outline some reformatory measures to overcome them. As a backdrop they present the historical background, current scenario, and problems and performance of PEs in India, but they have confined themselves to the central PEs, i.e. enterprises owned and managed by the central government only.

The author Peter Hittite\textsuperscript{54} has emphasized that the Postal services in the United States and Europe have been subject to major reforms. In Europe, the last of the national postal monopolies will fall in 2013; full privatization of some postal providers has occurred. Postal services constitute an important branch of infrastructure, but do not constitute an inherently governmental function. There are hardly any reasons to deny private enterprises’ entry in postal services. To maintain universal service, governments have imposed pervasive regulatory frameworks on postal markets. Some governments continue to provide postal services directly through their State-owned Enterprises (SoEs). A basic economic analysis reveals the inefficiency of the current regulatory framework; the rationale behind a uniform pricing scheme and a cross-subsidy to sustain rural service is questionable. While the analysis in this paper has received much support from practitioners and executives in postal services, it has also drawn some criticism from public law scholars for its focus on economic arguments.

The authors Sarker, Debnarayan and Das, Debraj\textsuperscript{55} state that the author attempts to present the disparities of state-level performance of manufacturing industry on some key variables and tries to examine as to why the poorer states lose in relation to the richer ones. The study suggests that Indian states which could contribute to higher economic and administrative reforms during the reform period by various fiscal measures did gain in industrial achievements. So in order to gain industrial upliftment, the fiscal reforms of a state must help in raising the income level
of the particular state reflecting thereby developed economy by receiving the fruits of industrial development.

The authors R.K. Mishra, K. Jayaditya Sarma, Pawan Kumar Avadhanam, have stated that Banks and Financial Institutions in India were under the clutches of a few individuals and trusts before their nationalization. In 1969, after the post-nationalization and subsequently, in the 1980s after the second phase of nationalization, banks have expanded phenomenally and have ventured into new areas. After the advent of liberalization in the 90s and the entry of private players, banks have experienced a phenomenal change in the levels of competition. However, at the same time, many banks in the public sector are still doing well and contributing significantly to the exchequer and have maintained immunity against global factors. The present study focuses on the Public Sector Banks and Public Sector Financial Institutions in the era of liberalization, globalization and privatization.

The author Awasthi I C states that The Indian Telephone Industries Ltd, (ITI), one of the first post-independence public sector enterprises, has pioneered the development of telecom in India presently contributing to 50 per cent to national telecom network that is existing. ITI has enjoyed near-monopoly position till the 1980s and as a result, its product lines, turnover and profitability have shown remarkable progress over the years. But then the period of 1990s saw a sea change in telecom policy consequent upon opening up of the economy. Simultaneously, a large number of players entered into the small and medium switch and transmission equipment segments and the presence of multi-nationals in large switch market had an adverse effect on the company’s position, particularly after 1994. In the1990s, the overall financial performance of the company was weakened substantially. Turnover showed consistent decline, stocks values registered huge decline and value of production also indicated downward trends. Profits had declined and turned to be negative since 2003-2004, gross and net margins decelerated, return on capital employed dipped down and the share value gradually showed a downward trend. This gave a clear signal of weakening financial position of the company and cautioned the ITI to work out a road map of re-structuring with a clear vision in the context of the
emerging market scenario. A new road map, based on the current market scenario, needs to be drawn to achieve greater efficiency and profitability.

The author Mishra R K states that Public Enterprise reforms occupy the central place in the scheme of economic reforms in India. With many developing countries opting for economic reforms, public enterprise reforms have come at the beginning of the cycle of economic reforms. In India, it has not happened so and the results are there for us to see. The present book makes an attempt to present a case for reforming public enterprises in India and also an agenda for action for this purpose. It outlines the challenges ahead for public enterprises and the need for reforms viewed from the global perspectives.

Mishra, R. K. and Geeta, P. and Navin B state that the constellation of global economic forces acting upon the various economic and business sanctities in a transforming economy such as India necessitates a thorough inquiry into its major dimensions. The book is an attempt to capture the salient features of such major issues. Government policies with respect to disinvestments, problems in disinvestment processes, disinvestment experiments in late 90s, the role of various agencies in disinvestment process; development of MoU as a tool in public enterprise management, competitiveness in public sector, productivity scenario in public enterprise, MOU in India, financial autonomy, accountability and administration of public enterprises and such topics are given competent treatment in this book. The book on the whole attempts to bring together, the manifold dimensions of critical issues at the policy and operational levels of the Indian public enterprise management process.

The author Ramanadhan encapsulates his long life and distinguished career from his birth in an obscure Andhra village to his present position as an international expert on public enterprise and privatisation. Studded with personal anecdotes and perceptive insights, the work contains a wealth of thought provoking discussion on development, and the role of the United Nations, the author is uniquely placed to analyse current trends in these subjects. The book is notable, not so much
for its chronology, as for the professional, cultural and human content of a life necessary for achievement.

The authors Venugopal Reddy and Koteswara Rao and Mishra\textsuperscript{61} state that the State Level Public Enterprises (SLPEs) in India play a significant role in the Indian economy. They are a mixed bag in terms of structures, objectives and activities pursued. They're important instruments of state policy with great relevance to the common man. However, published literatures are conspicuous by its absence on this segment of the public enterprise system in India. The present book initiates a bold attempt to remove this paucity. The book gives an overall view of the SLPEs. The constraints and advantages in which they operate are listed, thus identifying areas for further research. It provides an insight into the challenges and responses in the context of policy making and process of implementation in Andhra Pradesh. The book contains background papers, which lead to the formulation of a draft White Paper in Andhra Pradesh the first ever in India. The book is an original contribution to the body of knowledge available on PEs in general and the SLPEs in particular. The organizational, financial operational and legal aspects with special reference to the Government and PE interface are comprehensively covered.

The authors Sankar, Misra R K, Sastry A S and Ravishankar S\textsuperscript{62} have studied the key issues of R&D and state that Research and Development (R & D) play a key role in the Industrial and economic development of our country. Effective management of R & D in public sector is considered as a crucial factor in the development process, since the bulk of expenditure on R & D is in the public sector. To examine and discuss the various issues concerning R & D a National Seminar on Management R & D in Public Sector was organized by the Institute of Public Enterprise, Hyderabad. This volume contains the papers presented at the seminar by eminent experts in the field of research and development.

The authors Mishra, R. K. and Geeta, P. and Navin, B\textsuperscript{63} has given details on the expansion of the public enterprises (PEs), their performance and productivity which has become a matter of concern for policy makers and top managements of PEs. There are many operational and managerial problems in PEs, which have to be
identified and new approaches have to be evolved to solve them. In this book, an attempt is made to identify and discuss specific current problems of public enterprises. A broad framework is provided into the areas of corporate planning, technology, managerial productivity, human resources management and a few issues of PEs abroad. Eminent management experts from India and abroad have written in the book. This book will be useful to the policy makers, PE managements, training institutes and the academic community in the developing countries.

The book titled “Efficient management of working capital” has come to be recognized as the basic function of business enterprises in modern times. This not only influences their profit earning capacity but also determines largely their scope and content of operation. Public Enterprises have been chosen as vehicles for the economic development of India. This role calls for a business like management of their working capital. The present work is based on the case studies of working capital management in six central public enterprises in India. They have merited selection on the basis of certain specific criteria. The study points out that the efficient and effective utilization of working capital has been a neglected area in public enterprises, causing them to operate in the red or earn low profits. It identifies inventory, receivables, cash and working finance as the four problems of working capital facing public enterprises. It unfolds the dimensions of these problems, highlights the causes responsible for their existence and suggests appropriate correctives to remedy them. Ratios and funds-flow from the main tools of analysis, the study will make interesting reading to the managers, teachers, researchers and students of public enterprises. It is a significant contribution to the existing literature on the working of public enterprises in India.

The author Ramanadhan, V. in the book titled “Pricing and investment in public enterprise” has made a pragmatic discussion on some of the crucial aspects of the working of public enterprises in India enumerated by eminent scholars and a cross-section of top-level enterprise executives. A high level academic and analytical analysis is found in nine working papers presented at two All India Seminars conducted by the Institute at Delhi, January 1970 and Bangalore, September 1969 in which 71 and 79 top-level executives had participated. The multifarious problems
faced by public enterprises have been analyzed with a view to find suitable measures to solve them as expeditiously as possible. The need for finding solutions for public enterprise problems has become greater now than ever mainly because of the spate of mounting, scathing and very often ill-informed or un-informed criticism against its working as well as its very existence. Being relatively a new field, there is dearth of empirical and analytical literature on the working of public enterprises. This book enriches the existing literature on the object, analyses critically the problems faced by public enterprises, constraints operating in their working and their strengths and weaknesses, so as to assess their constructive role in transforming a subsistence economy into an economy of affluence.

The author Vijayan Bharkar Punekars study aims at a critical analysis of the incentive schemes in public enterprises and an assessment of their impact on productivity of the enterprises and earnings of the workers. Even though the main focus of the work is on the inter-relationship between incentives and productivity on the one hand and that of incentives and earnings of the workers on the other, the role of wages and the changes in the level of wages and wage-structure in relation to incentives are referred to, wherever necessary. The study assumes importance in the context of the planned development of the country as it helps in gaining an insight into the problems of increased the productivity of public enterprises and of increased the wages of the workers.

The author Ravishankar S. and R.K.Misra have brought the growing importance of education and training function. This volume has been prepared to meet the needs of public enterprises and training institutions concerned with the application of human resources development. The contents of this volume would be useful in designing and implementing management training systems for PE managers and would provide insight into the philosophy, the problems and strategies of training. Training practices prevalent in different countries, roles of different training institutions, training the executives in different functional areas and current dimensions of training are the major issues in this volume. In reaching their decision the authors felt that the advantages clearly outweigh and limitations; the different authors who have written in this book offer a total enrichment that cannot be provided
by one writer. Many experts from the management discipline with different backgrounds are using new concepts, methods and approaches to develop managerial resources in public enterprises.

Sebastian Morris\textsuperscript{68} “Cost and Time Overruns in Public Sector Projects” states that delays and cost overruns in Public Sector investments can raise the capital-output ratio in the sector and elsewhere, bringing down the efficiency of investments. Yet there are no estimates of the delays and cost overruns, and of their opportunity cost. Since the public enterprises particularly those in the core sector have large dealings with each other, a’ vicious circle of delays has been built up. The politically expedient tendency to take up large numbers of projects and short fund them all, except those with the very highest priority, is perhaps the most important factor in delays. The Government's adhoc approach in according high priority to certain sectors- oil and natural gas, and petroleum- while perhaps overcoming the problem in these sectors have compounded the problem elsewhere, particularly in the infra-structural areas- railways, coal and steel.

Delays in project implementation and the attendant cost overruns have become a regular feature of public sector projects. Official statistics reveal that the projects under implementation which were scheduled for completion during or before 1987 had an average cost overrun of 82% and time overrun of 70.5%. There are general factors, apart from factors specific to sectors that underlie cost overruns. Inadequate project preparation leading to scope changes during implementation is perhaps the most important reason for cost and time overruns. The inadequacies cover deficiencies in demand forecasts, ground surveys, technology choice, etc. Inadequate funding delays project implementation which in turn results in cost overruns warranting higher outlays. Short-term political expediency among other things makes the Government to spread thin its resources over many more projects than it should have. In the short run, this practice allows the Government to take up more projects than it can give resources, but the resources are tied up for longer periods. Government could have taken up and completed at about twice as many projects (in cost terms) more than what it does today in a given period if it could had come out of this vicious circle of time and cost overruns.
Broadly, the purely environmental factors such as natural calamities, political disturbance, and labour strife are of least importance in explaining cost and time overruns. Factors related to public enterprises as a whole - poor project planning and management skills, inadequate technical skills, or poorly done ground surveys in the case of mining projects, delays in construction and equipment supply by other public enterprises are the most important set of factors. Delays in construction and equipment supply (largely by other public enterprises) are the most important among this class of factors. Here, the problem has the characteristics of a vicious circle. The large linkages between public investments implies that delays in a few enterprises get transmitted to other enterprises either as delays in supplies, or in the way of the expected market demand being pushed into the future.

Ariff M. and T.K.K. Iyer state that their article re-examines privatization in the broader context of reforms and development strategies. Three key issues are considered. The first issue is the theoretical justification for privatization; the second is the demand for re-regulation; and the third the sequencing of reform steps within the context of macroeconomic policies and public sector reforms. A discussion of these shed some new light on privatization, public sector reforms and the formulation of effective development strategies for developing economies.

Critical issues concerning privatization have been examined here from the perspective of public sector reforms within development strategies. Because of the greater public sector involvement in the economic activities of developing countries, a more planned and cautious approach to privatization is advocated. The success stories of privatization (e.g. Chile, France, Germany, Malaysia, Mexico, Singapore, Thailand and the United Kingdom) have actually occurred in countries with more capitalist market-based environments. Countries with more central planning or at early stages of industrial development are likely to find that privatization passes numerous problems (e.g. China, Poland, Russia and Vietnam from former command economies, and Brazil, India and Indonesia from mixed economies). To ensure success, reforms that precede and follow privatization must be judiciously studied for each country. There are preconditions for successful privatization. Property rights, an independent judiciary, efficient processes for the sale of enterprises, the existence of a more-or-less
efficient financial market, and so on must be in place before any neo-classical reforms can be pursued. When these preconditions have been met, a privatization programme should be drawn up with the acceptance especially of trade unions- and political parties. Once the enterprises have been privatized, post-performance monitoring is essential to avoid featherbedding practices especially in monopolistic enterprises, thus emphasizing the need for re-regulation to ensure transparency and the speedy resolution of complaints against shoddy goods or services. Also, some degree of competition should be built into the redesign of monopolies. Privatization is recognized as a tool among a host of others to reform the public sector in the context of an overall development strategy. This calls for careful analysis and continuity of effort if the programme of privatization has to be successfully implemented.

Kalirajan K P and R T Shand\textsuperscript{70} state that privatisation is a major theme in public sector reform. This article argues on the basis of empirical evidence that improving the performance of public enterprises is an alternative measure where privatisation is a difficult policy option to implement in the short term. A bench-mark for measuring productive performance of public enterprises has been evolved and applied to measure productive performance and production behaviour.

Geeta Gouri\textsuperscript{71} the author of research article “Privatisation and Public sector enterprises in India: Analysis of impact of a non – policy” states that the lack of a comprehensive policy on privatisation stands out in contrast to other aspects of the New Economic Policy. Perhaps this is politically expedient, but in terms of economic management and more so public sector management, the lack of a policy can result in unexpected outcomes which may not be all that expedient. This paper attempts to provide glimpses of the possible outcomes of the non-policy on privatisation, focusing on the fiscal, efficiency and intersectional dimensions.

Sanjeev K Mahajan\textsuperscript{72} The author of research article “Social Responsibilities and Public Accountability of Public Enterprises in a Small Indian State” States that his article focuses on the public enterprises — or public sector undertakings (PSUs) 1 — of the small Indian State of Himachal Pradesh. It begins by offering a brief description of the constitutional and social setting of Indian public enterprises
generally, and then presents a profile of that State's own enterprises. The sections which follow consider these enterprises in relation to social responsibility and public accountability respectively, each section beginning with a brief note on the basic concept and then exploring how the Himachal Pradesh enterprises perform in the light of that concept. The conclusion is that it is inappropriate to measure performance according to financial targets only.

As this article demonstrates, the public sector in HP covers a variety of activities ranging from economic to social, all intended to accelerate the pace of development. Overall, the performance of the state-level enterprises shows that resource mobilisation in the form of investment has increased steadily over the study period 1991-92 to 1998-99, with maximum investment occurring in the category-I (business-focused) enterprises. The data is examined with a view to discover the extent to which surpluses are generated for reinvestment, using two yardsticks: net profit and loss, and rate of return. On both tests, the results were not up to financial expectations, demonstrating that a huge investment was not utilized to best advantage. An important message is, however, that the enterprises have social as well as commercial objectives to meet. It is not sufficient to judge their performance on the basis of financial targets only, especially for the reason that they are publicly owned, they should be judged also on their degree of success in contributing to social development.

Sangeetha\textsuperscript{73} states that Policy measures adopted by countries to reform the public sector enterprise performances can be classified into two broad categories. The first category of reform focuses on distancing the government from ownership and control of these enterprises. Partial privatization falls in this category of reform. The second category aims at improving the environment in which these enterprises operate. One such environmental reform is delegation of operational and functional autonomy to managers of publicly owned enterprises through performance contracts. Empirical evidence on the gains of privatization versus benefits of autonomy delegation from the countries that have undertaken these reforms in the past are yet inconclusive. The present case study of India spanning over two decades of panel data with a decade of data for evaluating the post reform performance of the centrally
owned enterprises, provides evidence of significant positive impact of autonomy delegation to public enterprise management on firms profitability. The study, however, does not find any evidence of significant impact of partial privatization. Further the study also finds significant impact of environmental reforms of hard-budget constraint and deregulation of sectors earlier under government domain to private participants on the profitability performance of the public enterprises in India.

In contributing additional empirical evidence on the benefits of environmental reform and ownership change reform, the chapter analyzes the case study of India, where both these type of reforms have been implemented over the past decade. Indian centrally owned PSEs have undergone environmental reforms of delegation of autonomy through signing of MoU’s, dereservation of sectors by the government that were earlier under public sector domain to private investment and hard-budget constraint where government put pressure on PSEs to live within their budget. Further, the Government of India has also partially privatized its equity holdings in some of the enterprises that have undergone the reforms of autonomy delegation. Thus the case study of Indian PSE reforms has provided one with an opportunity to study the differential impact of both category of reforms while allowing one to draw comparisons between firms that have not undergone any reform against those that have undergone only environmental reforms of autonomy delegation and those that have undergone both ownership change (partial privatization) and environmental reforms (autonomy delegation).

Arghadeep Laskar and C. V. R. Murty state that the construction industry is the second largest industry of the country after agriculture. It makes a significant contribution to the national economy and provides employment to large number of people. The use of various new technologies and deployment of project management strategies has made it possible to undertake projects of mega scale. In its path of advancement, the industry has to overcome a number of challenges. However, the industry is still faced with some major challenges, including housing, disaster resistant construction, water management and mass transportation. Recent experiences of several new mega-projects are clear indicators that the industry is poised for a
bright future. It is the second homecoming of the civil engineering profession to the forefront amongst all professions in the country.

In the years ahead, the construction industry in India has to overcome various challenges - be it with respect to housing, environment, transportation, power or natural hazards. Technocrats associated with the Indian construction industry need to employ innovative technologies and skilled project handling strategies to overcome these challenges. The outstanding performance under demanding situations in the past will stand in good stead and give confidence to the Indian construction industry to bring about an overall development in the infrastructure of the nation. The gains of large investments in the mega-projects eventually will feedback the construction industry itself in the form of better economy and improved work conditions.

Kolagotla Vijay states that the construction industry is huge and it involves a large number of activities. Various traditional techniques for scheduling and controlling are still being used in the construction industry which fail to provide the spatial (layouts, drawings) and non-spatial (specifications, cost estimates etc) aspects of information in a construction project. So it was felt that integration between the Project Management and GIS (Geographic Information System) would be a key part of the solution. This integration would show visualisation of construction progress with respect to time. In this integration the drawings were drafted using a computer – aided drafting (CAD) program (AutoCAD), the construction schedule was prepared using Project Management Software (MS Project 2003), the updated schedule information (which mainly includes percent complete) which is updated in the Geo-database (Arc Info). As the updating is being done, a custom application (net with C# language) was prepared to automatically update the Geo-database. Thus the project management software is updated and simultaneously the Geo-database is also updated and 3-D view of the progress of view can also been seen. The Integrated GIS Project Management system would help all the parties involved in the construction project (especially for decision making) as they would be able to see all the spatial aspects of project in one system.

This system will benefit project managers, site engineers and clients in the following manner:
PROJECT MANAGER
- Up-to-date information about the progress of work
- Helps in controlling big project sites
- Comes to know about the Cost incurred/Spent and the quantity of materials used on site
- Reduces time for decision making as all information is in one system

SITE ENGINEER
- Controlling the project site by knowing the progress of work
- Helps in easy decision making for procurement of funds or materials
- Helps in informing the contractors beforehand about the start of their work
- Helps in knowing how much more material is required
- Helps in reducing wastage of materials
- Helps in ordering the ideal quantity of materials thus by reducing over ordering of materials

CLIENT
- Helps in knowing the exact status of the project
- Has a 3-D view of the progress of work thus knowing where large cost has been incurred.

Because of the limitations of this version of Integration of Project Management with GIS, the interfaces between ArcGIS, AutoCAD, and MS Project, only one database should be available and that is the one that is essential for the operation of the system (i.e., percent completion information), and the system is designed for use in single-user desktop environments. The database of the study area was prepared for columns, walls, beams, slabs, doors, and windows. The database of staircase, site layout, reinforcement detailing, drainage, plumbing, electrical and gas pipelines can also be added for further detailed knowledge of the progress of work. The scheme of integration of GIS with project management software can be further improved by core software professionals. Links of Photographs showing the present status of work can also be added. It should be further explored to integrate GIS with ERP (Enterprise Resource Planning) analysis, billing software’s and SAP (System Applications Product).
Kulkarni G K⁷⁶ – author of the research article “Construction industry: More needs to be done” states that the construction industry is an essential contributor to the process of development. Roads, dams, irrigation works, school, house, hospitals, factories and other construction works are the physical foundation on which development efforts and improving living standards are established. The products of the construction industry are investment or capital goods. Thus construction industry has linkage with rest of the economy in terms of generation of output and employment. The two broad categories of construction projects are building and civil engineering. Building applies to projects involving houses, offices, shops, factories, schools, hospitals, power plants, railway stations and so on. Civil engineering applies to all the other built structures in our environments, including roads, tunnels, bridges, railways, dams, canals and docks.

The construction industry is not confined to the process of building only. It is involved in painting, landscaping, electrical supply, telecommunications, plastering and paving. All these constitute an industry. But each has its problems. Construction workers are exposed to following hazards

1. Physical hazards include injuries, and outcome, noise related damages, exposure to excess of heat or cold, wind and snow, radiation and so on
2. Chemical hazards include exposure to chemical dust, fumes and dangerous gas substances. Silicosis and asbestosis are great hazards.
3. Ergonomic issues and degenerative disorders
4. Biological hazards and Environmental hazards. Malaria, dengue, attacks by animals, histoplasmosis (a lung infection caused by a common soil fungus) and diseases caused by poor sanitation and polluted water.
5. Temporary or adhoc employees, frequently, have to be away from their homes. This can cause psycho-social hazard. Further they suffer from lack of recreation. Quite often they don’t get educational and sanitary facilities. The work force often come under extreme stress and get addicted to alcohol, tobacco which are hazardous to health.

Amalendu Bhunia⁷⁷ states that an assessment of management of working capital examines the adequacy or otherwise of the working capital, the liquidity
position and areas of weakness and gives suggestions for removal of the weaknesses of the public sector units of Iron and Steel enterprises in India. The main objective of the present work is to make a study on the efficiency in the management of short-term liquidity in selected public sector Iron and Steel enterprises in India. More specifically, the objectives of the present study are:

1. To assess the management of working capital;
2. To examine the adequacy or otherwise of the working capital;
3. To observe the liquidity position and areas of weakness, if any;

Conclusions of the Study

1. The actual values of working capital have been found to be lower than the estimated values of working capital for both the companies under study. This indicates inadequate level of working capital for both. This unsatisfactory position may be attributed to low raw materials inventory in the case of SAIL and to low level of receivables in the case of IISCO.
2. Poor liquidity position in case of both SAIL and IISCO.
3. Inefficient inventory management in the case of SAIL.
4. Inefficient receivable management in case of both the enterprises.

Meine Pieter van Dijk\textsuperscript{78} states that India has changed rapidly and the IPAD project has documented some of the changes in the process (for example Put and van Dijk, Eds, 2000 and Sijbesma and van Dijk, Eds, 2006). The contribution focuses on one aspect: the increasing role of the private sector and of private finance in the urban infrastructure development process. The focus is on urban development and in particular urban water supply and sanitation. In this field public-private partnerships (PPP) became more and more important and the Financial Institutions Reform and Expansion (FIRE) project played a catalytic role supporting urban environmental infrastructure projects with private financial support. Andhra Pradesh, Gujarat, Maharashtra and Tamil Nadu are the example for implementing ppp. The question is what has been the impact of these PPPs on urban basic service delivery and in particular on service delivery for the urban poor. The objective of this paper is to review the evidence that the PPPs contributed to urban poverty alleviation often PPP play a critical role in assisting countries to obtain the necessary infrastructure. It is
important to learn from PPP case studies so far, for example through publications of the FIRE project, which in the case of India facilitated the development of solid waste, roads, urban renewal and water projects (for example FIRE, 1996). PPPs are a flexible instrument, which allow tailor made solutions. At the same time that makes it difficult to evaluate the instrument and identify the conditions for success. Often the PPP cannot even be formed, because no parties can be found, or the partners can be very secretive, which does not give the desired transparency. Through a series of case studies to be undertaken in the POWER network, while using a similar format we want to find out what the most important factors are, which explain the success and failure of PPPs? Such studies can also help in having the PPP dialogue in a number of countries and thus achieve success.

Sanghamitra Das, Kala Krishna, Sergey Lychagin, and Rohini Somanathan, state that the importance of Total Factor Productivity (TFP) in explaining output changes is widely accepted, yet its sources are not well understood. We use a proprietary data set on the floor-level operations at the Bhilai Rail and Structural Mill (RSM) in India to understand the determinants of changes in plant productivity between January 2000 and March 2003. During this period there was a 35% increase in output with minimal changes in the stock of physical capital or the number of employees, but sizable reductions in the number and duration of various types of production delays. Model interruptions to the production process as a function of worker characteristics and that a large part of the avoidable delay reductions are attributable to training. Overall, changes in all delays account for over half the changes in productivity. Our results provide some explanation for the large within-industry differences in productivity observed in developing countries and also suggest that specific knowledge-enhancing investments can have very high returns.

In this paper there is a study of a proprietary dataset that documents floor-level operations at Bhilai Rail and Structural Mill, a unit of Steel Authority of India, during a time when output increased by about a third in response to external pressures. It provides a decomposition of output changes into six components: due to changes in the processing rate, the share of defectives and the four types of downtime. The changes in the rate and delays account for an almost all of the growth. Delays account
for about 55% of the growth. Avoidable, planned and outside delays account for 39%, 33%, and 28% respectively. They contribute all delays. The paper present and estimate a simple model of production that goes beyond the traditional production functional approach and exploits the structure of the technological process. 19 estimated models allow turning on and off various channels through which production could have increased. By conducting such counterfactual experiments they shown, for example, that most of the growth in production that came from reductions in avoidable delays occurred due to a single training episode. That also show that there were significant changes in rates across quarters that we attribute to the installation of new equipment. Their results suggest that training and other improvements have the capability to increase output significantly. Yet these were not undertaken by the firm until the threat of closure in the face of non-performance. In this way, the work suggests that the old fashioned ‘x-inefficiency” ala Liebenstein (1966) exists today, at least in public sector undertaking like the Bhilai RSM.

Elizabeth Mathew and Joanne Sprague\textsuperscript{80} state that the Government of India purports to be committed to impact, having set aside billions of rupees to development programs and built poverty reduction agendas into political campaigns. In 2005, the first Outcome Budget was released in India because it was observed that “there is a need to track not just the intermediate physical ‘outputs’ that are more readily measurable but the ‘outcomes’ which are the end objectives,” emphasizing the need to focus on meaningful development results. But what do these results look like, and how can we know that they are being achieved? Development results are most often examined through impact evaluations of the initiatives that are meant to produce them. The concept of results-based development evaluation has existed for a long time and it is certainly not new to India.

Effective impact evaluation is a challenging task. The development evaluation culture in India suffers not only from challenges in political will and institutional design, but also from the inherent difficulty in measuring development results and attribution to the many actions that may have caused them. In this regard, public schemes in India are not exclusive case. Other nations experience the same challenges in implementing impact evaluations, and private donors and non-profit organizations
struggle just as much to define causal pathways to their development goals. Nevertheless, the scale and importance of public development programs in India mean that it is critical to work towards improving evaluation practices to identify roadblocks and maximize the capacity of public expenditures to create development impact.

Sanghamitra Das, Kala Krishna, Sergey Lychagin, and Rohini state that they use a proprietary data set on the floor-level operations at the Bhilai Rail and Structural Mill (RSM) in India to understand how the output rose sharply in response to competitive pressures. Output increases came predominantly from reductions in production delays of various kinds. Their model interruptions to the production process as a function of worker characteristics and training and that a large part of the avoidable delay reductions are attributable to a particular form of training, suggesting that such investments can have very high returns. Their work suggests very high returns to knowledge-enhancing investments in emerging economies.

They found that the contribution of this paper as both empirical and methodological. They attempt to explain output growth at Bhilai Rail and Structural Mill, a unit of the state-owned Steel Authority of India. In line with recent work in industrial organization we find worker training to be a low cost approach in improving productivity. Their analysis is based on a proprietary dataset that documents floor-level operations in greater detail than available in most studies within the productivity literature. This allows them to control for unobservable worker characteristics, shift-wise changes in the composition of work teams and the effects of periodic maintenance of equipment or availability of inputs. The access to data on all training programs allows them to isolate the types of training that have high returns. We attribute output growth to training that is specifically targeted to improve the output of acceptable rails by reducing the likelihood of mistakes on the factory floor. Training that is designed to achieve formal quality certification or improve safety and worker motivation appears to have no systematic effects in their case. In line with Galdon-Sanchez and Schmitz (2005) and Schmitz (2005), they suggest that competitive pressure was primary driver of productivity improvements. On the methodological side, they explicitly model the process of production. The model they propose is not specific to the steel industry and could be applied to any manufacturing
process that is organized around tasks in an established technological chain. This structural approach also allows them to perform series of counter factual experiments on the role of different potential influences on output.

Debasis Sarkar and Dutta, Goutam, stated that, they discussed a method of measuring project risk based on the expected value method (EVM). Project risk management primarily comprises cost and schedule uncertainties and risks associated with each activity of the project network. “We have identified the major risk sources and quantified the risks in terms of likelihood, impact and severity in a complex infrastructure project for the construction of an underground corridor for metro railways”. A case study of the underground metro corridor in the capital city of an emerging economic nation of South Asia has been considered for this research work. The methodology for this work was the response from the experts associated and involved in this and other similar projects in metro rail. The risk analysis for the determination of risk cost, risk time, expected cost and expected time of the project has been carried out by the expected value method. Based on this study we find that the project cost overrun and time overrun can be about 22.5 % and 23.4 % respectively, if we use the expected value method.

Project risk management which primarily comprises schedule and cost uncertainties and risks should be essentially carried out for complex urban infrastructure projects such as the construction of an underground corridor for metro rail operations. In the current research work it was found that the number of major and minor risks involved during the construction of the project, from the feasibility to the completion of the execution, are large, and if not treated or mitigated properly, the probability of successful completion of the project within the stipulated time and cost frame will reduce. This will have a direct impact on the efficiency and profitability of the organization.

Lakshman Vijayashree and Mali Vishalkumar Jagdishchandra state that the present study thus aims to analyze type of focus of control and its relation with job satisfaction. The study will be of great help for organization to understand and know what type of locus of control their employees have and how it has an impact on job
satisfaction. The objectives of this study were [1] To identify the type of Locus of Control (i.e. Internal or External) present in Public Sector Units (PSU) in Bangalore and [2] to analyze the impact of different type of Locus of Control on job satisfaction of PSU Employees. Further hypothesis was also set to check the relationship between locus of control and job satisfaction. In addition, the relationship between different demographic factors was also examined. The tool used for this study was Loco Inventory. The concept of locus of control by Levenson (1972) was used to develop Loco Inventory (Locus of Control in Organization Inventory). The survey used a questionnaire, which had thirty five questions which highlighted the factors that determined the locus of control and job satisfaction level of the employees. The responses were collected on a Five Point Likert Scale. The response rate was (73\%\text{\%}) only 73\%\text{\%}.The secondary data for literature review was collected from EBSCO Database, Google Website and other Journal Research Papers. The Ratio, ANOVA, and Correlation analysis were used as statistical techniques for analysis.

The Researcher found that there existed more of internal locus of control among the employees of public sectors in Bangalore (As per Ratio Analysis). The researchers were able to identify the internal locus of control had significantly positive impact on job satisfaction of employees. While in case of external locus of control there was a positive relation between externality (others) & externality (chance) and job satisfaction level of employees but it is not significant. 

Mishra, R. K.\textsuperscript{83} author of research article “Board Dynamics in Public Enterprises: Challenges Ahead” states that since the announcement of the new economic policy in July 1991, the restructuring of the institution of board of directors has held centre stage in the reform policy of the government with regard to the central public enterprises (CPEs). Earlier the Krishna Menon Committee (1959), Administrative Reforms Commission (1967), Fazal Mohammed Committee (1983), Economic Administration Commission (1983) and Arjun Sengupta Committee (1984) had advocated farfetched changes in this respect. The present paper makes an attempt to portray the dynamics of public enterprise boards and to study the impact of the changing policy of the government thereon.
The new economic policy mentions reform in the institution of board of directors in CPEs as one of the main planks of public enterprise restructuring. The institution of board of directors determines the destiny of an enterprise. The research on board of directors of 35 CPEs reveals several facets of their malfunctioning. The Boards are not only ageing but also suffer from heavy inbreeding. This ill-equips CPEs to face domestic and global competition. The analysis of the frequency of board meetings of the enterprises under study shows that board meetings averaged to 7 per year. 60 percent of the board level positions remained vacant. The boards suffer from excessive presence of government officials and the other nominated members. In 29 percent cases, the government nominees exceeded more than 50 percent of board strength. Their domination was so intense that 97 percent of the sample enterprises turned down the idea of increasing their strength on public enterprise boards. In 77 percent cases the agenda for board meeting was provided within 7 days of the date of the board meeting. 40 percent of the sample enterprises did not set up board committees. 23 percent of the CPEs did not have a managerial succession planning system and 60 percent of the respondents were for restructuring the role of the PESB. 37 percent of the CPEs felt that the balance of composition of PESB’s second level selection committee was moderate. 68 percent felt that PESB should be provided greater autonomy. The corporate governance function was in low key. The CEOs lacked a clear vision. 9 sample enterprises were not able to state the single most important contribution of their CEOs. To sum up, there is an urgent need to revamp the boards of CPEs to make them business like, organic, competitive and future driven.

Mishra, R. K. and Geeta, P. and Navin B state that the present paper highlights the functioning of public enterprise boards with regard to the effective discharge of corporate governance. The paper highlights that public enterprise boards have to improve their style and content of functioning. The systemic change need to be effected to discard their existing procedures. The paper brings out the point of view that the government will have to rapidly transfer the power of governance to these enterprises to benefit the society in general and ensure benefits accruing to it due to the ownership without the interference in their day to day management.
In the present era of transformational changes of accountability of business enterprises to society ensured by the instrumentality of corporate governance, the governing boards are destined to play a critical role. They should not only engage themselves in the traditional task of boundary management but should also constantly realign the working of the present day corporations with the environmental changes. Public enterprises in India continue to dominate the corporate world. The study of corporate governance function in the 35 responding public enterprises discloses that the corporate governance function is not in a healthy shape. The performance of both the boards and the CEOs are not equal to the norms advocated by the various expert committees and studies. Public enterprise boards have to improve their style and content of functioning. The systemic change need to be effected to discard their existing procedures. The government will have to rapidly transfer the power of governance to these enterprises to benefit the society in general and ensure benefits accruing to it due to the ownership without the interference in their day to day management.

Patkar S. B. states that Public sector undertakings were established in India as a part of mixed economy. The coexistence of private and public sector will make the economy balanced and independent. After independence public sector undertakings played a vital role in the economic development of the country. Generation of employment, balanced regional development and economic development of the country were the objectives of PSE's at the time of their establishment. The government has contributed either wholly or partially in the equities of the public sectors depending on the need and requirement of the projects. During mid 1991 onwards the economic scenario of the country had changed with the onset of liberalisation and Globalisation measures. The goal of service rendering was slowly substituted with profit maximization in PSE's and other government departments.

a) The profitability ratio such as net profit to sales and capital employed is poor in PSE's. This shows the performance of PSE's is declining rapidly.

b) The targeted amount and actual realized disinvestments amount showed that Government had not fulfilled the target except in two years in 1994-1995 and 1998-1999. The realized value is much lower than the targeted amount.
c) If the government borrows amount equivalent to the money realized from disinvestments, the interest burden will be much higher than the dividend received from the equities sold.

SUMMARY

The review of literature related to public sector organisation and its performance in general reveal multi dimensional and multifaceted functions which intern aims at achieving the organisational efficiency and excellence. All the literature focus on one or the other issues and variables which intern contributes directly to the profitability, efficiency and organisational goals as well as mission accomplishment. Though there are galore of literature on public sector units, these aspects differ in different dimensions when it compare to private organisation. Many literatures which were enlisted focus on the profitability, budget estimates, production functions, value creation, cash management etc. There are umpteen other variable which are directly contributing to the overall performance of the organisation. No doubt public enterprises are established with objective of providing basic facilities and utility to society at large, they are not for from profitability. Profit and turnover is also one of the yardsticks to measure the efficiency of the organisation. The sample unit under the study is not away from the aforesaid parameter. The sample organisation by and large is a unique in nature and the only organisation in entire country to have this kind feature. Due to its uniqueness the performance measure which could be gauged for the other organisation may not be matched with the sample unit at times the organisation shall act independently with its discretionary power to execute the estimated projects, but under certain circumstances this organisation has to fallow instruction, given by the various department of the state. These instructions are not in general nature they are specific which makes the organisation unique. The sample unit differ in various parameters such as nature of employment of the worker to a particular task, the flow of information at executive level, the organisation structure and hierarchy definitely contribute the overall efficiency of the organisation. Hence, definitely there is a dire need for a study of working pattern of the organisation.
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