CHAPTER III

PETROLEUM INDUSTRY IN INDIA-MARKETING AND DISTRIBUTION

Previous chapter covered the Nature, scope and research methodology of present study with chapter scheme, hypothesis and limitations of the study. This chapter is going to cover the production, imports of crude oil, consumption and production of petroleum products as a part of marketing of petroleum products it includes products, pricing, taxation policies of petroleum products by Central government, sales promotion schemes, parallel marketing, marketing by PSU, transportation etc. Various distribution channels of petroleum products have been discussed with government policies towards marketing of petroleum industry. Also action plan made by Government regarding to the self reliability in the field of petroleum has been highlighted in this chapter.

Introduction:

The search for oil in India began in 1886 as McKilop Steward Company drilled a well near Jaypore in upper Assam and struck oil; this happened four years after oil was discovered in Pennsylvania, USA in 1882. The Assam
railways and Trading Company acquired rights for exploration of about 30 square miles area in Assam. It struck oil, in 1889 at Digboi marking the beginning of oil production for the first time in India. Then in 1893, rights were granted to the Assam Oil Company Syndicate, which erected a small refinery at Margarita to refine the oil, produced at Digboi. To be more clear about functions and further extensions of petroleum industry in India we divide it into two era’s; pre independence era and post independence era, especially focus is made on the decade 1997-2006.

**Pre Independence Era:** Up to 1886 the consumers of petroleum in India were completely dependent on American imports, but with very few exceptions. Oil was not discovered in the Middle East, until the beginning of the twentieth century, and its production was not significant before the First World War. On contrary the Far East oil production did not start before 1890, and the Russian oil field of Baku did not reach the height of its activity before 1886, since the Suez Canal was closed to the oil-carrying ships in those days for fear of disaster. The transport of oil from Baku to India was not an easy proposition. There was no domestic production of Oil, and Digboi oilfield, did not produce any significant
amount of oil until 1921. In 1902, an agreement was concluded for Shell and Rothenilds to form a new marketing company which took over the marketing activities of the parent companies in the East which are Shell and Royal Dutch. The most important source of oil to India from 1905 to 1942 was Burma, until its refineries were divested by the Japanese during Second World War. During the war these firms managed the supply of petroleum products to the Burma and India. Apart from these, other firms were also engaged in marketing of petroleum products in India. Burma Shell as the major British firm together with its small subsidiary, the Assam Oil Company, dominated the market in India. Total oil consumption in India in 1905 was 125529 (Thousand Gallons), it increased up to 709990(Thousand Gallons) in the year 1946-47.

**Post Independence Era:** After independence Burma Shell continued to dominate the petroleum sector till 1960, in which the Government owned Indian Oil Corporation (IOC) that entered in market and rapidly developed its distribution network. Mean while two American Companies, Standard vacuum and Caltex appeared in Indian market under the leadership of Burma Shell. India was depending on Foreign
Oil Company for the import and distribution of all petroleum products in the country. Due to the urge and self-sufficiency and for avoiding foreign oil company’s domination, the pressure built upon government led to formulate and establish Indian Oil Policy which specified that, all the units in the oil industry would be set up only under government ownership, or under authorisation of the Government. But for seven years after the declaration of that resolution, there was no public sector unit in the oil industry, although permission was given to the foreign companies under their exclusive ownership. In 1955, the Oil and Natural Gas Division was created and very soon it was formed into a commission and in 1959 it became a statutory body under an Act of Parliament. In 1964, Indian Oil Company and Indian Refineries Limited were merged into one company, which is Indian Oil Corporation.

During the period of 1957-1987 a number of Oil and Gas bearing structures were discovered by ONGC, and the government of India is now participating in almost all the sectors of the oil industry from crude exploration and production to processing, transporting, refining, and marketing. Consequently the Indigenous production reached to 30 million tones by 1984-85, a self sufficiency level of
70% of the country’s requirements. During 90’s, a number of
global lubricant oil majors have already established operations
in India, Foreign companies have also been permitted to own
retail outlets for the distribution of petroleum products. In
1997, the Government announced the New Exploration
Licensing Policy (NELP) in an effort to promote investment
in the exploration and production of domestic oil and gas.
Currently, Indian Oil Corporation Limited (IOCL), Hindustan
Petroleum Corporation Limited (HPCL), Bharat Petroleum
Corporation Limited (BPCL), Indo-Burma Petroleum
Corporation Limited (IBPCL), Essar and Reliance etc. market
all the petroleum products, under introduction of parallel
marketing system, with the Super Kerosene Oil (SKO) and
Liquefied Petroleum Gas (LPG) is also being marketed, the
consumption of petroleum products increased rapidly in
Nineties and there after. In 2002, all Petroleum products taken
out of Administered Price Mechanism (APM). Meanwhile in
2004, ONGC launched its much publicised deep-water
campaign dubbed “Sagar Samriddhi.”

On oil pricing oil importing countries Italy, Japan and
India etc., were trying to avoid their large foreign exchange
payments for oil imports and found to be more concerned
with high oil prices. It is assumed that at least in the first half of the 21st century, petroleum product continue to dominate the energy sector. At present, all the activities pertaining to petroleum products are organized under several organizations, like Indian Institute of Petroleum Research, Oil Coordination Committee (OCC), Petroleum Conservation Research Association etc. some of which have also initiated their Research and Development Centers.

Though our study mainly is concerned with marketing and distribution of petroleum products, LPG and SKO, but it is also equally important to outline the production of these products as concern to India. Following paragraphs outlines the features of the crude oil production in India. Oil industry primarily comprises the following activities:

1. Crude oil production and refining;
2. Distribution and marketing of petroleum products.

The various products obtained from the distillation of crude oil include petrol, diesel, kerosene, natural gas, naphtha, fuel oil, aviation turbine fuel, bitumen and paraffin etc. The rest of products which are less valuable hydrocarbon also obtained in the crude oil distillation process as their by-products.
Crude Oil Production and Refineries in India:

In this section an overview is taken of crude oil production and various refineries located in different parts of India, as crude oil is the second most important source of energy in India after coal. Crude oil and its product accounts 35% of energy supply as against nearly 50% by coal. The country has less than 1% share in global production and 2.8% in crude consumption. Much of India’s crude oil reserves are located off the western coast (Mumbai High) and in the northeast of the country, although substantial undeveloped reserves are located in the offshore Bay of Bengal and in Rajasthan state.

Private sector participation in the production and exploration sector started in `1974 by awarding exploration licensing. The prominent private companies are Reliance Petroleum Limited, Essar Oil Limited, Cairn Engineering India limited and British Gas. Public Sector Unit like ONGC and Oil India limited accounts for 90% domestic production of crude oil and natural gas. India depends on imports, for 70% of its crude requirement. The oil exploration and production activity carried out by Oil and Natural Gas Corporation, (ONGC) and Gas Authority of India Limited
(GAIL) primarily involve the discovery and production of oil and gas by carrying out geological surveys, identifying hydrocarbon sources and commercially exploiting them. It may be noted that the price of a specific type of crude depends on its quality and place of availability. Lube Oil Base Stock (LOBS) is manufactured by Hindustan Petroleum Corporation Limited (HPCL), Madras Refineries Limited (MRL) and Indian Oil Corporation Limited (IOCL) at their Mumbai, Chennai and Haldia facilities respectively to aggregate a total out of 670 thousand metric tones (tmt) per annum. Naphtha is the only petroleum product which is produced in surplus in India. Oil fields in India are primarily concentrated in the states of Assam (Digboi), Gujarat (Ankleshwar), Maharashtra (Mumbai) and Andhra Pradesh (Vizag). Refineries are situated in Barauni, Haldia, Vizag, Numaligarh, Mathura, Bina, Deogarh, Mangalore, Bongaigon, Bhatinda, Paradeep, Kochi, Chennai and Guwahati, the Digboi refinery, established in 1901, was the first of its kind in India.

Upto the end of the first five year plan, indigenous production of crude oil in India was of the order of a quarter million tonnes only. Consumption always exceeded its indigenous production of crude oil and refinery production of
petroleum products. Therefore it was inevitable to import crude oil. Crude oil production and imports of crude oil is displayed in Table No. 3.1

Table No. 3.1: Production and imports of Crude Oil: (1953-54 to 1995-96) (000 tonnes)

<table>
<thead>
<tr>
<th>Year</th>
<th>Crude oil production</th>
<th>Index (%)</th>
<th>Crude oil imports</th>
<th>Index (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1953-54</td>
<td>300</td>
<td>100</td>
<td>-----</td>
<td>---</td>
</tr>
<tr>
<td>1960-61</td>
<td>500</td>
<td>166</td>
<td>5710</td>
<td>100</td>
</tr>
<tr>
<td>1965-66</td>
<td>3470</td>
<td>1156</td>
<td>6840</td>
<td>120</td>
</tr>
<tr>
<td>1970-71</td>
<td>6820</td>
<td>2273</td>
<td>11680</td>
<td>205</td>
</tr>
<tr>
<td>1974-75</td>
<td>7684</td>
<td>2561</td>
<td>14020</td>
<td>246</td>
</tr>
<tr>
<td>1980-81</td>
<td>10507</td>
<td>3502</td>
<td>16250</td>
<td>285</td>
</tr>
<tr>
<td>1984-85</td>
<td>28990</td>
<td>9663</td>
<td>13640</td>
<td>239</td>
</tr>
<tr>
<td>1990-91</td>
<td>33021</td>
<td>11007</td>
<td>NA</td>
<td>----</td>
</tr>
<tr>
<td>1995-96</td>
<td>35167</td>
<td>11722</td>
<td>NA</td>
<td>----</td>
</tr>
</tbody>
</table>

(Sources: 1. Indian Petroleum and Natural Gas statistics, ministry of Petroleum and Natural Gas, Government of India, 1985-86.

2. Energy, Centre for Monitoring Indian Economy, 2007.)

On the basis of above table, one would observe that imports of crude oil and crude production went on increasing: since 1953-54 to 1995-96. In 1953-54 the crude oil production was only 300 thousand tonnes, which rose to 35167 thousand tonnes (by an increase of 11622 %). The Crude oil production
jumped to 10 times in India in the year 1965-66 as compared to 1953-54. Similarly the crude oil imports increased from 5710 thousand tonnes in 1960-61 to 16250 thousand tonnes, in the year 1980-81.

Following table shows the production and imports of crude oil in India during the decade under study.

**Table No. 3.2: Production and imports of crude oil.**
*(1996-97 to 2005-06) (000 tonnes)*

<table>
<thead>
<tr>
<th>Years</th>
<th>Production</th>
<th>Index (%)</th>
<th>Imports</th>
<th>Index (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1996-97</td>
<td>32901</td>
<td>100.00</td>
<td>33906</td>
<td>100.00</td>
</tr>
<tr>
<td>1997-98</td>
<td>33859</td>
<td>102.91</td>
<td>34493</td>
<td>101.73</td>
</tr>
<tr>
<td>1998-99</td>
<td>32722</td>
<td>99.45</td>
<td>39808</td>
<td>117.40</td>
</tr>
<tr>
<td>1999-00</td>
<td>31949</td>
<td>97.10</td>
<td>57805</td>
<td>170.48</td>
</tr>
<tr>
<td>2000-01</td>
<td>32426</td>
<td>98.55</td>
<td>74097</td>
<td>218.51</td>
</tr>
<tr>
<td>2001-02</td>
<td>32032</td>
<td>97.35</td>
<td>78706</td>
<td>232.31</td>
</tr>
<tr>
<td>2002-03</td>
<td>33044</td>
<td>100.43</td>
<td>81989</td>
<td>241.81</td>
</tr>
<tr>
<td>2003-04</td>
<td>33373</td>
<td>101.43</td>
<td>90434</td>
<td>266.71</td>
</tr>
<tr>
<td>2004-05</td>
<td>33981</td>
<td>103.28</td>
<td>95861</td>
<td>282.72</td>
</tr>
<tr>
<td>2005-06</td>
<td>32190</td>
<td>93.83</td>
<td>99409</td>
<td>293.19</td>
</tr>
<tr>
<td>Total</td>
<td>328477</td>
<td>---</td>
<td>686510</td>
<td>---</td>
</tr>
<tr>
<td>Average</td>
<td>32847.7</td>
<td>---</td>
<td>68651</td>
<td>---</td>
</tr>
</tbody>
</table>

(Source: Energy, Centre for monitoring Indian Economy-2007)
On the basis of the above table, it would be noticed that crude oil production in the year 1996-97 was 32901 thousand tones, which comes down to 32190 thousand tones in the year 2005-06 with the decrease by 6.13%. However, average crude production in the above decade was 32847.7 thousand tones, only for four years crude oil production was slightly above than average production, for rest of the year’s production was below than average. On the other hand import of crude oil showed near about 3 times increase within the decade; In the year 1996-97 import of crude oil was 33906 thousand tones which increased to 99409 thousand tones in the year 2005-06.

Above figures revealed the declining trend in crude oil production. On the other hand, due to rapid increase of petroleum consumption, import of petroleum consumption is increasing very fast, which showed the dependence of our country on foreign oil producers. Also these heavy imports of crude oil create imbalance in India’s foreign trade. To save the foreign exchange and to create balance in India’s foreign trade, it is recommended that new exploration and production of crude oil should be undertaken on large scale.
Consumption of Petroleum Products:

Petroleum product comprise of petrol, diesel, oil, ethane, LPG, aviation Gasoline, Motor Gasoline, Jet fuels, Heavy fuel oils, Naphtha, Lube, Bitumen, paraffin vexes, petroleum coke. A brief outline of consumption of this products have been discussed here after.

Various petroleum products are grouped under three categories, viz. Light distillate, middle distillates and heavy ends. Light distillates include the LPG, Gasoline or Motor-gas, Naphtha, etc. Middle distillates are comprised Super Kerosene oil, Aviation Turbine Fuel, High Speed Diesel Oil, Low Diesel Oil, etc. and Furnace oil, low Sulpher heavy stock, Bitumen, etc. are grouped under Heavy ends. Besides three groups there is another group known as Refinery fuels consumed by Refineries themselves.

By 1951, the Indian Annual requirements of Petroleum products were about 4 million tonnes with 10 percent annual growth rate. Figures in respect of the consumption of three groups and Refineries are brought out in Table no.3.3
Table No. 3.3: Distillate wise consumption of petroleum Products. (1953-54 to 1995-96)  (000 tonnes)

<table>
<thead>
<tr>
<th>Year</th>
<th>Light Dist.</th>
<th>Middle Dist.</th>
<th>Heavy Ends</th>
<th>Refinery Fuels</th>
<th>Total</th>
<th>Index (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1953-54</td>
<td>893</td>
<td>2070</td>
<td>985</td>
<td>NA</td>
<td>3948</td>
<td>100</td>
</tr>
<tr>
<td>1960-61</td>
<td>983</td>
<td>4297</td>
<td>2706</td>
<td>NA</td>
<td>7986</td>
<td>202</td>
</tr>
<tr>
<td>1965-66</td>
<td>1370</td>
<td>6225</td>
<td>4323</td>
<td>NA</td>
<td>11918</td>
<td>302</td>
</tr>
<tr>
<td>1972-73</td>
<td>3334</td>
<td>10539</td>
<td>7700</td>
<td>1219</td>
<td>22792</td>
<td>577</td>
</tr>
<tr>
<td>1975-76</td>
<td>3596</td>
<td>11653</td>
<td>7198</td>
<td>1226</td>
<td>23673</td>
<td>600</td>
</tr>
<tr>
<td>1980-81</td>
<td>4388</td>
<td>17056</td>
<td>9452</td>
<td>1365</td>
<td>32261</td>
<td>817</td>
</tr>
<tr>
<td>1984-85</td>
<td>6318</td>
<td>22429</td>
<td>10048</td>
<td>2033</td>
<td>40828</td>
<td>1034</td>
</tr>
<tr>
<td>1990-91</td>
<td>9801</td>
<td>33106</td>
<td>12128</td>
<td>2710</td>
<td>57745</td>
<td>1463</td>
</tr>
<tr>
<td>1995-96</td>
<td>13701</td>
<td>46082</td>
<td>15048</td>
<td>3238</td>
<td>74831</td>
<td>1895</td>
</tr>
</tbody>
</table>

(Sources: 1. Report of working group on Energy policy, Planning Commission of Government of India, 1979,
2. Indian petroleum and natural Gas statistics, Ministry of petroleum and Natural Gas, Government of India, 1985-86,

On the basis of above table, one would noticed that total consumption of all the three groups of petroleum products have recorded an upward trend. Consumption of petroleum products in the year 1953-54 was only 3948 thousand tonnes which went up to 74831 thousand tonnes in the year 1995-96 an increase of 1795 %. During the above period the consumption increased rapidly. Comparing to other distillate, the consumption of middle distillate was more.

The consumption of petroleum product is growing continuously in recent years, a growth in consumption of
petroleum products other than LPG were 4.86% per annum. In the year 2005-06 total consumption of Petroleum products in India was 1, 11,920 thousand tones. Following table will display the consumption of major Petroleum products during the decade from 1996-97 to 2005-06.

Table No. 3.4: Consumption of Major Petroleum Products:
(1996-97 to 2005-06) (000 tonnes)

<table>
<thead>
<tr>
<th>Year</th>
<th>LPG</th>
<th>HSDO</th>
<th>LDO</th>
<th>MG</th>
<th>SKO</th>
<th>Total</th>
<th>Index (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1996-97</td>
<td>4267</td>
<td>35091</td>
<td>1223</td>
<td>4955</td>
<td>10153</td>
<td>55689</td>
<td>100.0</td>
</tr>
<tr>
<td>1997-98</td>
<td>4803</td>
<td>36071</td>
<td>1235</td>
<td>5182</td>
<td>11065</td>
<td>58356</td>
<td>104.7</td>
</tr>
<tr>
<td>1998-99</td>
<td>5352</td>
<td>37217</td>
<td>1278</td>
<td>5507</td>
<td>12243</td>
<td>61597</td>
<td>110.6</td>
</tr>
<tr>
<td>1999-00</td>
<td>6421</td>
<td>39245</td>
<td>1512</td>
<td>5909</td>
<td>11898</td>
<td>64985</td>
<td>116.6</td>
</tr>
<tr>
<td>2000-01</td>
<td>7148</td>
<td>37958</td>
<td>1399</td>
<td>6613</td>
<td>11307</td>
<td>64425</td>
<td>115.6</td>
</tr>
<tr>
<td>2001-02</td>
<td>7728</td>
<td>36546</td>
<td>1592</td>
<td>7011</td>
<td>10432</td>
<td>63309</td>
<td>113.6</td>
</tr>
<tr>
<td>2002-03</td>
<td>8351</td>
<td>36644</td>
<td>2063</td>
<td>7570</td>
<td>10405</td>
<td>65033</td>
<td>116.7</td>
</tr>
<tr>
<td>2003-04</td>
<td>9304</td>
<td>37075</td>
<td>1620</td>
<td>7896</td>
<td>10231</td>
<td>66126</td>
<td>118.7</td>
</tr>
<tr>
<td>2004-05</td>
<td>10203</td>
<td>39651</td>
<td>1476</td>
<td>8251</td>
<td>9395</td>
<td>68976</td>
<td>123.8</td>
</tr>
<tr>
<td>2005-06</td>
<td>10304</td>
<td>40152</td>
<td>855</td>
<td>8648</td>
<td>9359</td>
<td>69318</td>
<td>124.4</td>
</tr>
<tr>
<td>Total</td>
<td>73881</td>
<td>375650</td>
<td>14253</td>
<td>67542</td>
<td>106488</td>
<td>637814</td>
<td></td>
</tr>
<tr>
<td>Average</td>
<td>7388</td>
<td>37565</td>
<td>1425</td>
<td>6754</td>
<td>10649</td>
<td>63781</td>
<td></td>
</tr>
</tbody>
</table>

(Source: Energy centre for monitoring Indian economy-2007)

On the basis of above table, it could be notice that the total consumption of major petroleum products including LPG, HSDO, LDO, Motor Gasoline, Kerosene etc., was 55689 thousand tones in the year 1996-97, which goes to
69318 thousand tones by increasing of 24.47% in the year 2005-06. Consumption during the decade indicates increasing trends every year over the previous year except in the years 2000-01 and 2001-02. However, average consumption is worked out as 63781 thousand tones for the above decade period. Projecting that consumption in the year 1996-97, 1997-98, 1998-99 and 2001-02 was below average while rest of the years consumption was above average. Though, the consumption of Petroleum products showed increasing trend within the decade but with slow rate. However there is close relation between Petroleum consumption and economic growth. Hence above study shows the economic backwardness or slow growth rate of economy.

Increasing consumption of petroleum products is essential for rapid growth rate of economy so, it is desirable to increase the consumption of these products. But on the other hand increasing consumption of these products needs more imports that burdens on foreign exchange. Hence, it is advisable to maintain the balance between increasing consumption and heavy imports by utilising other sources available within the country or by using substitutes for these
products. Marketing of any product depends on the Production or availability of that product, hence it necessary to have a look on the production of petroleum products.

**Production of petroleum products:**

Indigenous production of main petroleum products was very low in 1960-61. The main petroleum products consists of LPG, Mogas or Motor Gas (petrol), High-speed Diesel Oil (HSDO), Low Diesel Oil (LDO), Kerosene,. Domestic production of these products is presented in the following table.

**Table No. 3.5: Production of main petroleum products in India : (1960-61 TO 1984-85)  (000 tonnes)**

<table>
<thead>
<tr>
<th>Year</th>
<th>LPG</th>
<th>Mogas</th>
<th>Kerosene</th>
<th>HSDO + LDO</th>
<th>Total</th>
<th>Index (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1960-61</td>
<td>Neg</td>
<td>1040</td>
<td>941</td>
<td>1644</td>
<td>3625</td>
<td>100</td>
</tr>
<tr>
<td>1965-66</td>
<td>NA</td>
<td>1583</td>
<td>1824</td>
<td>3249</td>
<td>6656</td>
<td>183</td>
</tr>
<tr>
<td>1972-73</td>
<td>227</td>
<td>1614</td>
<td>2813</td>
<td>5608</td>
<td>10262</td>
<td>283</td>
</tr>
<tr>
<td>1978-79</td>
<td>403</td>
<td>1515</td>
<td>2514</td>
<td>8577</td>
<td>13009</td>
<td>358</td>
</tr>
<tr>
<td>1981-82</td>
<td>483</td>
<td>1614</td>
<td>2907</td>
<td>9991</td>
<td>14995</td>
<td>413</td>
</tr>
<tr>
<td>1984-85</td>
<td>823</td>
<td>2144</td>
<td>3364</td>
<td>12339</td>
<td>18670</td>
<td>515</td>
</tr>
</tbody>
</table>

(Sources: 1.Indian Petroleum and Natural Gas Statistics, Ministry of Petroleum and Natural Gas, Government of India, 1985-86, p.37.)
From the said table, one may observe that the production of all the main petroleum products depicted an upward trend. The production of LPG was only 227 thousand tones in 1972-73 which jumped to 863 thousand tonnes in 1984-85. The production of Mogas (petrol) was 1040 thousand tonnes in 1960-61 which went up to 2144 thousand tonnes in 1984-85. The production of kerosene which was 941 thousand tonnes in 1960-61 also was boosted to 3364 thousand tonnes in 1984-85. Likewise, Diesel Oil production increased from 1644 thousand tonnes in 1960-61 to 12339 thousand tonnes in 1984-85. Total production of petroleum products was 3625 thousand tonnes in the year 1960-61 which go up 18670 in the year 1984-85, by increase of 415 % during the above period. HSDO and LDO are having a highest growth rate while Mogas has a lowest growth rate amongst petroleum products.
Domestic production of petroleum product was below the domestic requirement up to last few years. After 1999-2000 due to significant addition in refining capacity, the production of petroleum product has overtaken the consumption for the first time with some surplus, which was 100 million tones of petroleum products, during these years.

Out of total production the light distillates like LPG, naphtha constitute 27%, the middle distillates like Super Kerosene Oil (SKO), Auto Turbine Fuel (ATF), High Speed Diesel (HSD), Low Speed Diesel (LDO) etc. Constitute 54%. The heavy distillates like furnace oil lube oils, bitumen etc. make up 19%. Following Table shows production of petroleum products including LPG, HSDO, LDO, Motor Gasoline, and SKO etc. during the decade 1996-2006.
### Table No.3.6: Production of main petroleum products in India: (1996-97 to 2005-06) (000 tonnes)

<table>
<thead>
<tr>
<th>Year</th>
<th>LPG Production</th>
<th>Petroleum products Production</th>
<th>Total domestic Production</th>
<th>Index %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1996-97</td>
<td>1780</td>
<td>59005</td>
<td>60785</td>
<td>100.00</td>
</tr>
<tr>
<td>1997-98</td>
<td>1785</td>
<td>61308</td>
<td>63096</td>
<td>103.80</td>
</tr>
<tr>
<td>1998-99</td>
<td>2207</td>
<td>64544</td>
<td>66752</td>
<td>109.81</td>
</tr>
<tr>
<td>1999-00</td>
<td>1989</td>
<td>79411</td>
<td>81400</td>
<td>133.91</td>
</tr>
<tr>
<td>2000-01</td>
<td>2045</td>
<td>95614</td>
<td>97659</td>
<td>160.66</td>
</tr>
<tr>
<td>2001-02</td>
<td>2205</td>
<td>100004</td>
<td>102209</td>
<td>168.14</td>
</tr>
<tr>
<td>2002-03</td>
<td>2370</td>
<td>104140</td>
<td>106510</td>
<td>175.22</td>
</tr>
<tr>
<td>2003-04</td>
<td>2320</td>
<td>113463</td>
<td>115783</td>
<td>190.47</td>
</tr>
<tr>
<td>2004-05</td>
<td>2240</td>
<td>118579</td>
<td>120819</td>
<td>198.76</td>
</tr>
<tr>
<td>2005-06</td>
<td>2185</td>
<td>119750</td>
<td>121935</td>
<td>200.60</td>
</tr>
<tr>
<td>Total</td>
<td>21129</td>
<td>915818</td>
<td>936947</td>
<td>---</td>
</tr>
<tr>
<td>Average</td>
<td>2112.9</td>
<td>91581.8</td>
<td>93694.7</td>
<td>----</td>
</tr>
</tbody>
</table>

(Source- Energy, centre for monitoring Indian economy-2007)

From the table No. 3.2, one would notice that the total domestic production of the petroleum products including LSD, HSD, MS, SKO etc. Stood as 60785 thousand tons, in 1996-97, which goes to 121935 thousand tons by increase of 100.60% in the year 2005-06, production during the decade indicates increasing trends every year over the previous year.
However, the total average domestic production is worked out as 93694.7 thousand tones for the decade period. Projecting that first 4 years production was less than the average production, as such as one would notice that during those 4 years the production could increase but with slow pace. Although above table shows steady increasing trends in the domestic production of petroleum products of the 10 years. 6 years production was found to be more than average. This low rate of growth in domestic production can be attributed to lack of active and dynamic measures of the government in new centers of petroleum product exploration.

Reportedly Geological survey of India could not undertake the survey of the entire country so far. Hence, it is recommended that the geological survey of India needs to explore the new deposits of petroleum products, especially in the Himalayan region hitherto remain un-accessible. Marketing of petroleum products is one of the important aspects of this study which is discussed in the following paragraph.

**Marketing of Petroleum Products:**

Marketing is indeed an ancient art; it has been practiced in one form or the other since the days of Adam and Eve. It
evaluates through some stages which are known as, the Barter, Money Economy, Industrial Revolution and Competitions Stages. After the Second World War, especially in fifties and sixties, the size and character of markets in many countries of the world enormously changed. There was a substantial increase in population; `the disposable income of the average family registered an increase; a great variety of new products and services strengthened the rapidly developing consumer market. Selling of products and services became unusually difficult because of the high intensity of competition.

The Marketing system is rightly defined as “Marketing is a total system of interacting business activates design to plan, promote and distribute need satisfying products and services to existing and potential consumers”. In other words we can say, “Marketing is the performance of business actives that direct the flow of goods and services from the producer to consumer.” Marketing of any commodity or services includes four P’s which are known as Product, Pricing, Promotion and Place.
Pricing of petroleum products:

Pricing is undoubtedly one of the most important decision areas of marketing. Price and sales volume together decide the revenue of any business. The sales volume in itself is dependent on price. Price is the “exchange value of a product.” Price revolves two elements-utility and value. Utility is generic property of the product to satisfy need and demands of the consumers. Value is the quantitative worth the consumer attaches to the product, for which he is willing to part with a certain quantum of money. Pricing of petroleum product in India is frequently seen as a black hole of subsidies. On closer analysis, the issue of petroleum product pricing in India is more complex than the one-way flow of subsidies, so the question to be answered is: how high are subsidies really? Economists and oil companies complain about the impacts. Contrary to common perception, India's retail prices for petrol and diesel are relatively high despite subsidies. In fact, the total Government (central and states) taxes and surcharges on petroleum products exceed by far the annual budget subsidies for these products. There is a certain rationale for the Government to maintain the current system though it does not have negative implications on
the financial health of public oil companies and acts as a deterrent to private investments in the sector. The market of petroleum products and the economy as a whole would be better, if the Government would implement a consistent, transparent and rational fuel pricing system throughout the nation. The Government should abstain from influencing petroleum product pricing. Up to then, prices were controlled (or administered.) for transport fuels, viz petrol and high speed diesel, and cooking fuels, kerosene and LPG. The subsidy for the four products was not part of the Government budget but came out of the so-called oil pool account. The account was funded by surcharges on petroleum, but subsequently on 1st April, 2002, the Administered Pricing Mechanism (APM) and with it the Oil Pool Account was abolished.

Oil Marketing Companies (OMCs) implemented regular retail price adjustments for petrol and diesel during the Financial Years 2000 to 2002. As of 1 April 2004 the intervals between price revisions grew larger and the OMCs started to incur substantial under-recoveries for these two products in line with the drastic increase in international crude prices. More often than not the OMCs were requested
by the Government to keep prices constant for social (and political) reasons. This resulted in mounting losses on account of sales of petrol and diesel to the OMCs. However, as of the beginning of Financial Year 2005-06 the losses incurred by OMCs on sale of petrol and diesel which became substantial. For cooking fuels, OMCs were not given any profitable period of market based retail pricing. Consequently, LPG prices have only been increased six times between 1 April 2002 and 1 April 2005. Since then no further price revision has been carried out. The situation is even more pronounced for kerosene, prices have not changed since 1 April 2002. The only changes in retail prices resulted from a minor increase in dealer commissions in June 2003 and the introduction of a Value Added Tax (VAT) in June 2005. In recognition of this, the Government constituted the Committee on Pricing and Taxation of Petroleum Products. The so-called Rangarajan Committee, advice on a petroleum product pricing system. The Committee presented its report in February 2006, it includes several suggestions, including an increase in retail prices of LPG and kerosene restructuring of taxes and prices of petroleum products and better targeting of subsidies to reach
their intended beneficiaries. The main recommendation of the committee is to change the pricing formula from import parity to trade parity. In total though, the impact on the petroleum industry would be neutral. However, concerns have been expressed that the new formula could undermine the attractiveness for new investments in India. No other price adjustment has been made in 2002-2007. One important factor that affects the pricing policy of these products is taxation procedure, which is not uniform throughout India. Following paragraphs gives overview of taxation policies in India.

**Taxation Policy of Government of India towards Petroleum Products:**

As a result of India’s federal structure, the state governments are authorized to levy certain taxes and surcharges on petroleum products. India has a 30% VAT on diesel while the state of Punjab imposes only an 8% VAT. However, Punjab’s VAT on petrol is 27.5% compared to Maharashtra 27%. Also, within the states local government units and municipalities can levy extra charges on petroleum products. The city of Mumbai for example levies an extra 1% on VAT.
Central and state Governments Revenues from customs duty on petroleum products accounted for 24% of total customs duty in Financial Year 2004-05, up from 16% in 2001-2002, the last year of the Administered Pricing Mechanism (APM). Even in absolute terms they more than doubled over the same period. However, for Financial Year 2005-06 the share of revenues from petroleum products had declined to 16% due to the sharp reduction of custom duty. The share of revenue for all states is 34% of total sales tax. The State Government also obtain revenues from royalties, corporate tax, dividends and the state specific levies as well as a share of the excise duty collected by the center.

The flexibility of the Central Government to reduce taxes and levies points towards an Important observation: the government’s take on the final retail price of petroleum products is sufficiently high to offer room for maneuver! In particular the taxes and levies have the paradoxical effect of benefiting the Government from increasing international oil prices. According to India’s social and economic status such an un-elastic revenue source is crucial to allow the Government financing its policy objectives. In the global
competitive situation of prices, Government needs corrective
measures and remedies to maintain “Golden Balance”
between international pricing policies and subsidies.

Sales Promotion of Petroleum Products:

For promoting sales of petroleum products several
campaigns had been taken by oil companies. The promotion
activities like “Petrocard” and “Pure for Sure” by BPCL,
“Club HP” by HPCL are an indication of the emphasis on
improving retail marketing. Similarly, the oil companies have
also taken new initiatives in branding their products, for
example, “Speed” by BPCL, “Power” by HPCL. Along with
these initiatives, the oil companies have introduced
convenience stores and cyber cafes in their retail outlets.
Cooking gas users need not have to wait for days for their
new LPG cylinders. It is Hindustan Petroleum Corporation
Ltd (HPCL) which is hopeful about Jee Haan initiative for
customer’s satisfaction, which is bid to reinforce a strong
positive service orientation. The roll out is to take place in a
phased manner, covering 258 distributorships in the city like
Mumbai, Delhi, Kolkata, Bangalore, Hyderabad and Pune.
The company has revamped its LPG service set up to deliver
on its “Jee Haan” commitment. It has committed that
delivery and installation of refills will take place within 24 hours, it has extended delivery timings (8 am to 8 pm all days of week), set up a single point contact and single number for refill booking, customer service enquiries, emergency services (a four digit single number 1716 across the country can be used for this purpose). The single number facility is being introduced first in Mumbai followed by the other cities. It has also computerised the entire distributor network to provide value added services to consumers such as refill booking through internet.

**Transportation of Petroleum Products:**

Considering the geographical spread of the country, the infrastructure for movements of petroleum products is woefully inadequate for handling the growing volume of Petroleum products. Not much thought has been given for development of pipelines. The main mode transportation of petroleum products are road, rail, pipelines and coastal shipping which are discussed as follows:

**Roads:** Due to non availability of tank-wagons and railway network, oil movement is undertaken by road which is not only hazardous and polluting but also costly compared to other means of transportation. In a country where oil is being
imported, expenditure on movement of Petroleum products by road results is a serious drain of foreign exchange. The losses due to road/rail transportation are higher compared to transportation through pipelines. One of the major disadvantages of road transportation is that it contributes 27% share in the movement of petroleum products.

**Railways:** Railways has all along been an important means of transportation of Petroleum products. This has been, so as rail movements are comparatively cost-effective vis-à-vis road movements. However, the limiting factor has been the availability of tank-wagons. Notwithstanding this fact, more than 40% of the Petroleum products were transported through this mode. The share of rail in the total traffic would however fall in the years to come, due to withdrawal of budgetary support. To overcome the shortages of tank-wagons and railway network, especially for transportation of LPG, oil companies have been financing railways under “own your tank-wagon scheme”. Railways offer a rebate in freight with respect to products moved through tank-wagons owned by oil companies. In such a way the depreciation on tank-wagons is compensated under APM.
**Pipelines:** The pipeline network forms are of the most critical and intelligent components of the petroleum industry. The creation and management of a functional pipeline network required in depth analysis and study of geographical locations, business requirement and managed utilization resources leading in to optimal production and transfer of crude and refine oil from petroleum resource to refinery and then to storage unit respectively. Crude form onshore oil fields are mainly transported through the pipelines. Share of pipeline in the movement of petroleum product is around 23%, it is cheaper than the road transportation with less risk.

Considering various advantages of pipeline transportation, it was felt desirable to expand the product pipeline network in the country for transport increasing requirements of petroleum products. In view of this, the Government of India has embarked upon an ambitious programme of developing product pipelines for which a separate holding company by the name of “Petronet India Ltd.” has been formed. This holding company will implement pipeline proposals through subsidiaries and Joint Ventures (JV) for different pipelines with private participation.
Coastal Shipping: Coastal Shipping is one of the most important sources for the movement of Petroleum Products in India. In case of offshore Oil fields, sea route is most useful. Imported crude coming via sea route is directly supplied to refineries taking advantage of their coastal locations.

Table No. 3.7: Mode wise share (Percentage) in movement of Petroleum products in India.

<table>
<thead>
<tr>
<th>Year</th>
<th>Road</th>
<th>Rail</th>
<th>Pipe Line</th>
<th>Coastal Shipping</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1996-97</td>
<td>29.9</td>
<td>37.7</td>
<td>24.9</td>
<td>7.5</td>
<td>100%</td>
</tr>
<tr>
<td>1997-98</td>
<td>26.4</td>
<td>37.6</td>
<td>25.1</td>
<td>10.9</td>
<td>100%</td>
</tr>
<tr>
<td>1998-99</td>
<td>28.0</td>
<td>36.5</td>
<td>26.3</td>
<td>9.2</td>
<td>100%</td>
</tr>
<tr>
<td>1999-00</td>
<td>27.0</td>
<td>40.4</td>
<td>25.6</td>
<td>7.0</td>
<td>100%</td>
</tr>
<tr>
<td>2000-01</td>
<td>25.0</td>
<td>40.3</td>
<td>25.3</td>
<td>9.4</td>
<td>100%</td>
</tr>
<tr>
<td>2001-02</td>
<td>23.6</td>
<td>41.0</td>
<td>25.0</td>
<td>9.7</td>
<td>100%</td>
</tr>
<tr>
<td>2002-03</td>
<td>27.0</td>
<td>39.96</td>
<td>24.52</td>
<td>8.52</td>
<td>100%</td>
</tr>
<tr>
<td>2003-04</td>
<td>28.7</td>
<td>40.5</td>
<td>23.5</td>
<td>7.3</td>
<td>100%</td>
</tr>
<tr>
<td>2004-05</td>
<td>28.25</td>
<td>41.36</td>
<td>22.5</td>
<td>7.89</td>
<td>100%</td>
</tr>
<tr>
<td>2005-06</td>
<td>27.5</td>
<td>41.2</td>
<td>23.2</td>
<td>8.1</td>
<td>100%</td>
</tr>
<tr>
<td>Average</td>
<td>27.13</td>
<td>39.65</td>
<td>24.60</td>
<td>8.62</td>
<td></td>
</tr>
</tbody>
</table>

(Sources: www. India stat.com)

On the basis of above table, one would notice the percentage share in movement of petroleum products by Road, Rail, Pipeline and Coastal Shipping during the decade.
of 1996-97 to 2005-06. Railway is on number one with 40% share in movement of petroleum products. Road is second most important source with 27% shares on an average. Through pipeline near about 25% petroleum products were transported, it is on number third while coastal shipping having less than 10% share in transportation of petroleum products. At present out of the total annual crude production of 32 million tones from three offshore oil fields, coastal shipping moves about 16 million tones. Out of the total transportation of Petroleum Products, share of coastal shipping is around 8 percent.

As discussed earlier, pipeline is the cheapest source as compared to any other source for transportation of petroleum products. However, the above table showed that only 25% products transported through pipeline. For reducing cost of transportation, it is advised to oil company and concern authority to increase the length of pipeline which will be helpful to transport the petroleum products.

As previously discussed, the four ps of marketing i.e. product, pricing, promotion, and place in detailed. Though production is different than marketing but it gives an idea about the availability of products, hence production of crude
oil and petroleum products have been discussed. Pricing and demand are interrelated; price determination is one of the important aspects of marketing, ideal pricing create demand to the product. Taxation policy is one of the parts of pricing. Marketing needs to launch the different schemes of products promotion to increase the sales. Various means of transportation can provide a place utility to the products. All the above factors impact on the marketing of any products.

Likewise in the marketing, in the field of Petroleum Companies, there is an enviable position of having an established marketing network. The system is a vastly depreciated storage & distribution network and it would not only be cost-prohibitive but also extremely difficult to replicate the facilities in place. This could be a key barrier for new entrants into the business. The sales volumes are also likely to grow at a Common Aggregate Growth Rate (CAGR) of more than 7% and the sales volumes of the oil companies would double in the next decade. The key drivers to profits would be retail products like Motor Sprite (MS), High Speed Diesel (HSD) and LPG, and companies focused on retail markets are also likely to gain strength. It may however be noted that competition among the existing players may
emerge and a lot would depend on the strategy and sales focus of each of these companies.

At the time of Independence of the country, an exploration, refining and marketing of petroleum products were in the hands of the private multinational companies. To fulfill its socio-economic obligations, the development of marketing and distribution system for petroleum products in India has witnessed four distinct phases.

1. Participation of private sector in production and exploration of petroleum products started in 1972.

2. Between 1974 and 1976, the Government acquired the assets of ESSO, Burmah Shell and Caltex. This resulted in establishment of Hindustan Petroleum Corporation Limited (HPCL) and Bharat Petroleum Corporation Limited (BPCL). Finally, with the acquisition of assets of Burmah Oil Company in 1981, the entire oil industry comes under government control.

3. Era of globalization and liberalization in hydrocarbon sector after 1991, where new industrial policy came into existence.

4. In February 1993, the Government introduced parallel marketing of LPG, kerosene by private parties in order
to increase the availability of these products. Accordingly, imports and pricing of these products for parallel marketing were decontrolled under the scheme. The objective of this scheme was to enable the affluent sections of the society to buy these products from the open market.

Import, blending and marketing of lubes was fully deregulated in November 1993. In order to promote foreign investment and transfer of technology for modernisation and upgradation of lubricants manufactured in the country, the Government has approved formation of several joint venture companies. In this process, more than 30 multinational companies (MNC) are presently operating in India such as Mobil, Shell, Caltex, Essar, Elf, Mitsubishi and Gulf. As parallel marketing have proven very effective role in marketing of petroleum products, it is required to discuss parallel marketing.

**Parallel Marketing of Petroleum Products:**

In order to contain the deficit arising in marketing of petroleum products like SKO and LPG, Government announced in February 1993, the introduction of Parallel Marketing of SKO and LPG with a view to bridge the wide
gap between the supply and demand of these products. Parallel marketing System means the system other than the public distribution system, under which a person imports, transports, packs, distributes or sells LPG and kerosene under his own arrangement. Parallel marketer means any person, firm, company, and institution, association of persons, co-operative society or organization carrying on the business of importing, refining, producing, packing, marketing, distributing and selling of LPG and kerosene under the parallel marketing system.

As a result of the decimalization of these products, the private parties are allowed to import and market them at market determined prices, under the parallel marketing system. For this purpose the parallel marketers have to develop infrastructure facilities for the import of these products, tank for storage, LPG Bottling plants and set up their own distribution and marketing network, including transportation arrangements. The parallel marketers are not required to obtain any approval from the Ministry of Petroleum & Natural Gas for undertaking parallel marketing of these products. However, they are required to obtain rating from the notified agencies before starting any activity relating
to kerosene and LPG under parallel marketing scheme. They are required to obtain necessary clearance from statutory authorities like Chief Controller of Explosives, Pollution Control Boards, Local Bodies, etc., as applicable. Under the Kerosene (Restriction of use and Fixation of Ceiling Price) Order, 1993 and LPG (Regulation Of Supply and Distribution) Order 2000, the parallel marketers are required to intimate their intention and capabilities to import, bottle, market, distribute or sale of such products before commencement of these activities.

**Maintenance of Records and Furnishing of Information by Parallel Marketer:**

a) Every parallel marketer before commencing the import, transportation, packing, marketing, distribution or sale of kerosene shall intimate to the Central Government in the Ministry of Petroleum and Natural Gas his intention to engage in all or any one of the above activities, specifying therein his capability to do so, and other relevant particulars.

b) The parallel marketer of kerosene shall submit monthly returns before the 15th day of the following month, giving
details of kerosene imported, port wise, to the Central Government in the Ministry of Petroleum and Natural Gas.

c) The parallel marketer shall furnish to the Central Government in the Ministry of Petroleum and Natural Gas, or to such authority as may be specified by the Government in this regard, such other information as may be required.

**Assessment and Certification/Rating of Parallel Marketers:**

a) No parallel marketer, shall commence any activity such as import, transport, marketing distribution, sale or any activity incidental thereto, relating to the business of kerosene without obtaining a rating certificate on the basis of evaluation and rating for his capability, infrastructure network and readiness to carry out professed business and delivered goods and services promised, by and agency.

Provided that a parallel marketer who commences any such activity, before the commencement of this order, shall within three months, get himself evaluated and rated by the said agency.

(b) The rating certificate shall be issued in the prescribed format.
c) The rating certificate shall be:

(i) Valid for a period of one year from the date of its issue, and

(ii) Requires renewal by the rating agency, annually.

Every parallel marketer announcing details of his activity or inviting offers of any kind in the field of import, transport, marketing, distribution or sale of kerosene, either in a newspaper, handout, pamphlet, leaflet or by any other means of communication or advertising shall indicate the rating awarded to him and prominently publish the rating certificate, as given by the rating agency. No parallel marketer shall either give incomplete, incorrect, misleading or vague information in the newspaper, handout, pamphlet, leaflet, advertisement etc. or submits such information to the rating agency.

The LPG Control Order, 2000 (earlier 1993) has specified that the cylinders, regulators and valves to be used by the parallel marketers have to be distinctively different from that used by the public sector oil companies.

However, due to huge price disparity in the products marketed by parallel marketer vis-à-vis the price at which the
products are sold by Public Sector Unit. Due to the price disparity the scheme could not succeed. The marketing of petroleum products by public sector units is discussed in forthcoming paragraph.

**LPG Marketing by Public Sector Units (PSU’s):**

Liquefied Petroleum Gas (LPG) is the most clean and convenient domestic cooking fuel. The customer population of LPG, which was about 170 lakhs on 1.4.1991, has gone up manifold to about 579 lakhs as on 1.4.2001 and in the year 2006, LPG consumers were 888 Lakhs. With the augmentation of production capacity at some of the existing sources and commissioning of new sources, LPG production was 1785 thousand tones in the year 1996-97 which goes up in the year 2005-06 to 2185 thousand tones. Presently LPG connections are available on demand, across the country in existing markets throughout the country.

Ministry of Petroleum and Natural Gas (MOPNG) has formulated a scheme for release of additional LPG connections in the states over and above the normal entitlement in lieu of surrender of corresponding kerosene allocation in line with average per capita consumption of the
State for the number of families to which LPG connections would be released. Under the above scheme, the State Govt. of Andhra Pradesh had availed additional 15 lakhs LPG connections and released to the women falling below the poverty line under their Deepam scheme and the State Government of Maharashtra and Rajasthan have availed 8 lakhs and 1-lakh connections respectively.

Various studies carried out by expert agencies National Council for Applied Economic Research (NCAER), have revealed that the supply of kerosene in the country as a whole is more than adequate to meet the normal demand for cooking and lighting purposes in urban and rural areas. According to the Hindu Group of News Papers more than one third of subsidised Kerosene is being diverted for black marketing or adulteration by the owners of PDS because of price differential. By rationalising the system of distribution, including the discontinuance of the supply of kerosene to LPG consumers especially those with double cylinder, more quantities can be made available to the needy groups. LPG, in packed form is currently being marketed in 14.2 kg, 19 kg and 50 kg cylinders however; special facilities are needed to pack
the LPG in bottles. LPG bottling plants are setup near the markets to facilitate return movements of empty cylinders. Among the PSUs, IOC, HPCL and BPCL are marketing packed LPG.

**Distribution Channels of Petroleum Products:**

The marketing network of oil companies consist of wholesale and retail outlets through which Petrol, Diesel, Oil, Motor spirit are sold, distributorships on a franchise basis for distribution of LPG to a dedicated set of customers attached to each company and Super Kerosene Oil (SKO) dealership for distributing SKO. Strong growth has been witnessed in the retail segment and this segment is likely to grow at double-digit rates.

1) Petrol Diesel and Oil: The oil companies, through their outlets, are making distribution of petrol & diesel. The dealers get supply of petrol/diesel as per their previous histories. In case of need, the State Government arranges supply of diesel/petrol after submitting a report to the State Level Coordinator cum Chief Divisional Manager of Oil Company. The officers of the Food Supply Department have been allowed powers of entry, search and seizure under the Central
high Speed diesel and motor Spirit (prevention of malpractices in supply and distribution) order, 1990. In order to ensure that the dealers do not indulge in adulteration of petrol/diesel with kerosene oil, monthly checking of petrol pumps and distribution of these products is undertaken. For this search and seizure, power has been granted to the officers. Whenever any complaint is received against any agency, checking is conducted and action is recommended to the concerned oil company, if any irregularity is found during checking. Since kerosene is highly subsidized commodity, the department has taken various steps to check its diversion from the public distribution petrol. Monthly checking norms of wholesale licenses and retailers have been fixed and regular reports are obtained from district officers.

2) LPG: The Ministry of Petroleum and Natural Gas grants the distributorship of LPG. The agencies are governed under the Central LPG (regulation of Supply) in which powers granted to the officers for entry, search and seize the faulty agencies. Whenever any complaint is received against any agency, checking is conducted and action is recommended to
the concerned Oil Company, if any regularity is found during checking.

3) Kerosene: Kerosene is allocated by the Government of India on quarterly basis for distribution to ration cardholders for the purpose of cooking and illumination. Kerosene is distributed in the ratio 60:40 in urban and rural areas respectively. The fixed scale for distribution is 8 liters for urban area and 6 liters for rural area per ration card per month for non-LPG users and 3 liters per card per month, for single cylinder LPG users. The distribution of kerosene depends on the availability of kerosene and ration cards in each area. Hospitals, Schools, Colleges, CRPF, BSF/Police units and religious places are allowed kerosene at Public Distribution System (PDS) rates out of the monthly quota of the state.

Success of marketing also depends on the distribution network of that product. Distribution channels provide the place utility to the product. Following table displayed the total distribution channels of various petroleum products in India during the reference period of this research work.
On the basis of above table, it is noticed that total number of distributors of petroleum products were 28625 in the year 1996-97, which increased up to 45719 in the year 2005-06, showed increase of 59.77%. Average retail outlets were 20491, first seven years retail outlets was below average while rest of years in the decade were above the average,
when average dealer of SKO were 6465 and LPG dealers were 7079.

Above figures revealed that increasing trend in distribution channels of petroleum products but with slow rate. To meet out increasing demand of petroleum products and to overcome from shortages of these products it is recommended that Government as well as oil companies should issue distributor according to need.

**Kerosene Distribution through Public Distribution System (PDS):**

Public Distribution System (PDS) means the system of distribution, marketing or selling kerosene at declared price through a distribution system approved by the Central or State Government. No person shall use kerosene supplied under the public distribution system for any purpose other than cooking and illumination. Provided, that Central or State Government may by order permit any person to use kerosene for such other purposes as it may specify in that order. It is also directed to every dealer appointed under the public distribution system shall prominently display at the place of business including
the place of storage on a conspicuous place a stock-cum-price board showing:

1) The opening stock of kerosene.

2) The quantity received during the day.

3) The quantity sold, delivered or otherwise disposed of during the day.

4) The closing stock of the day and

5) Such other particulars as the Government or Government Oil Company may by order in writing specify in this regard.

6) Maintenance of Registers, Accounts Books and submission or returns by a dealer under the public distribution system. Kerosene supplied through public distribution system shall be made distinguishable from the kerosene to be imported, sold or distributed under parallel marketing system by use of suitable measures to be adopted by the Government Oil Companies as and when necessary.

**Government Policy for petroleum Industry (marketing):**

The development of any country often depends on the sustainable energy supply/availability from sources like Coal,
Hydroelectricity, Oil, Gas and Nuclear power, which are typically called the five primary constituents of conventionally used energy. India, being one of the fastest growing economies of the world, is heavily dependent on the energy supplies and is currently the third largest consumer in the Asia-Pacific region after Japan and China. To meet the ever-increasing demand for energy, which depends on Oil & Gas sector, a market-driven industry structure is of vital importance. On the economic front, oil accounts for nearly 30% of the import bill. The figures of import of petroleum products reveal the clear picture of the policy.

Due to the sharp rise in the oil prices, India’s import bill of oil reached its highest peak. It would be in the fitness of things to note as to how the oil imports bill made its impact on India’s total imports, total exports and balance of trade.

Prior to oil crisis (1973-74), the imports of crude oil and petroleum products did not constitute any sizeable part of the total value of imports of India; but it did during the post-oil crisis era as displayed in table no. 3.6.
Table no. 3.9: The share of imported petroleum products in total imports of India:
(1953-54 to 1984-85) (Rs. In crores)

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Imports</th>
<th>Petroleum Imports</th>
<th>% share of petroleum imports in total imports</th>
</tr>
</thead>
<tbody>
<tr>
<td>1953-54</td>
<td>855</td>
<td>NA</td>
<td>-------</td>
</tr>
<tr>
<td>1960-61</td>
<td>1768</td>
<td>112.16</td>
<td>6.3</td>
</tr>
<tr>
<td>1965-66</td>
<td>2194</td>
<td>125.50</td>
<td>5.7</td>
</tr>
<tr>
<td>1970-71</td>
<td>1634</td>
<td>136.63</td>
<td>8.4</td>
</tr>
<tr>
<td>1974-75</td>
<td>4519</td>
<td>193.90</td>
<td>24.6</td>
</tr>
<tr>
<td>1980-81</td>
<td>12549</td>
<td>5266.49</td>
<td>41.9</td>
</tr>
<tr>
<td>1984-85</td>
<td>16485</td>
<td>5345.25</td>
<td>32.4</td>
</tr>
</tbody>
</table>

(Source- Indian petroleum and Natural Gas, statistics, Ministry of petroleum and Natural Gas, Government of India, 1985-86, pp.61)

From the above table, it is seen that before the massive hike in oil prices in 1973-74, oil imports consisted only 5 to 11% of India’s total imports, which were 8.4% in the year 1970-71. During the late 1970 the share of oil imports was about 25% as against 42% in 1980-81, which was the highest share of petroleum imports in the total imports, but after 1980-81, this percent decline. In the year 1984-85, the percent of petroleum import in the total imports was 32.4%.

Though the percent share of petroleum imports stated to decline but total quantity of petroleum is still increasing year
over the year. Following table shows the share of petroleum imports in the total imports of India, during the reference period taken under the study.

Table No. 3.10: The share of imported petroleum products in total imports of India: (1996-97 to 2005-06) (000 tonnes)

<table>
<thead>
<tr>
<th>Year</th>
<th>All Commodities</th>
<th>Petroleum Products</th>
<th>% share of petroleum imports in total Imports</th>
</tr>
</thead>
<tbody>
<tr>
<td>1996-97</td>
<td>33465.46</td>
<td>10044.75</td>
<td>30.28</td>
</tr>
<tr>
<td>1997-98</td>
<td>41575.78</td>
<td>8173.81</td>
<td>19.68</td>
</tr>
<tr>
<td>1998-99</td>
<td>42379.20</td>
<td>6397.13</td>
<td>15.09</td>
</tr>
<tr>
<td>1999-00</td>
<td>49798.64</td>
<td>12626.76</td>
<td>25.36</td>
</tr>
<tr>
<td>2000-01</td>
<td>50056.27</td>
<td>15675.62</td>
<td>31.32</td>
</tr>
<tr>
<td>2001-02</td>
<td>51888.42</td>
<td>14047.94</td>
<td>27.23</td>
</tr>
<tr>
<td>2002-03</td>
<td>61571.55</td>
<td>17685.31</td>
<td>28.72</td>
</tr>
<tr>
<td>2003-04</td>
<td>78356.46</td>
<td>20624.05</td>
<td>26.32</td>
</tr>
<tr>
<td>2004-05</td>
<td>107284.59</td>
<td>29905.00</td>
<td>27.87</td>
</tr>
<tr>
<td>2005-06</td>
<td>133420.68</td>
<td>34981.93</td>
<td>26.22</td>
</tr>
<tr>
<td>Total</td>
<td>649497.05</td>
<td>170162.30</td>
<td>26.19</td>
</tr>
<tr>
<td>Average</td>
<td>64949.70</td>
<td>17016.23</td>
<td>-----------------</td>
</tr>
</tbody>
</table>

(Source- Energy, Center for Monitoring Indian Economy, 2007)

On the basis of above table, it is noticed that all commodities imported in the year 1995-96 was 33165.46 thousand tones, while petroleum products is imported was
30.28%. In the year 2005-06 all commodity imports reaches up to 133420.68 thousand tones and petroleum products import was 34981.93 thousand tones in percentage 26.22. Imports of petroleum products during the above decade indicate the increasing trend, though the percentage share of petroleum import showed decrease. Average import of petroleum products was 17016.30 thousand tones. First six years import was less than average import. Above figure revealed that India is heavily depending on import of petroleum, which impact on imbalance of India’s foreign trade.

To reduce import of petroleum products and to save the foreign exchange, it is recommended that government as well as oil companies should concentrate on new exploration and production of crude oil and petroleum products.

Being a Government controlled sector, the Oil & Gas industry has experienced a slow and steady growth in the past. Some of the major problems associated with the industry are, the low private participation segments and excessive dependence on imports to meet the requirements. Realising the importance of private participation and encouraging
initiatives aimed at reducing oil imports, the Indian Government has initiated structural reforms in the industry. The initiatives included the dismantling of Administered Pricing Mechanism (APM), New Exploration and Licensing Policy (NELP), and facilitating the entry of private participants. The growth of the industry was low and was more dominated by the private sectors till independence. After independence, the Indian Government took control of the sector, the oil crisis of 1970s triggered the nationalisation of oil companies and subsequently, the Indian Government nationalized the Indian arms of international oil majors like Caltex, Esso and Burmah Shell in the early 1970s. Following this, the government introduced regulatory controls on production, import, distribution and pricing of crude oil through the appointment of Oil Coordination Committee (OCC). Through the committee, the Government administered the prices of petroleum products after establishing a complex system of OPA. The APM and OCC superseded the role of market through command and control.

The control of the Government on the sector continued well up to 1990s. The main idea behind the OCC and APM
was to stabilize the prices of petroleum products across the country and insulate the consumers of any volatility of crude oil prices through the OPA. The OPA is maintained to provide uniform and stable prices by balancing the high and low crude oil and input costs. The need for deregulating the sector was realized only when the OPA deficit continued to grow. The OPA was showing surplus till the late eighties. However, raising international crude oil prices and poor fiscal condition of the country resulted in the surplus turning into deficit, which by 1997. This has forced the Indian Government to issue oil pool bonds. With the crude oil prices falling drastically in 1999, the oil pool bonds were redeemed.

Fortunately, the Indian Government realized that the development of the industry can be possible only by liberalising the industry from all the controls and creating an environment that is conducive to private and productive investment. Realizing the importance of investment and private participation in the sectors, the Government opted to deregulate the sector in 1995 and accordingly, an Oil Industry Restructuring Group (R-Group) and an Expert Technical
Group (ETG) were constituted to develop a road map to open the sector.

Some of the major recommendations of the committees were:

a) permitting refining, crude oil imports and petroleum product exports by private sector with marketing of petroleum products subject to eligibility criteria.

b) Dismantling APM for entire oil sector and to allow market-determined pricing of petroleum products.

c) Rationalising tariff structure for crude oil & petroleum products and permitting Foreign Direct Investment (FDI) in the oil sector.

Following the recommendations of the committees, the Indian Government in 1997 issued a gazette notification that clearly laid out the blueprint for the oil sector reforms. As envisaged by the R-Group, the reforms process was planned as three-phase processes which were as follows:

1. The first phase (1996-98), emphasized rationalization of retention margin for refineries, natural gas pricing deregulation, decanalisation of furnace oil and bitumen and partial deregulation of the marketing sector.
Additionally, it was suggested to phase out subsidies on High Speed Diesel (HSD) and a gradual reduction of subsidies on kerosene, LPG.

2. In the second phase (1998-2000), the Government suggested adopting the pricing of indigenous crude on the basis of average Free on Board (FOB) price of imported crude, rationalisation of royalty and cess (taxes), further opening of the marketing sector and another round of reduction in subsidies pertaining to kerosene, LPG.

3. In the final phase (2000-02), complete deregulation of the sector was to be achieved including Aero Turbine Fuel (ATF), HSD and Motor Spirit (MS) and a transfer of subsidies extended to PDS kerosene and domestic LPG to the general budget. The Government realizing the importance of deregulating the sector, as it required huge investments to meet the future demand went ahead according to the schedule. As per the Schedule in between 2000 to 05 the Government awarded 110 Oil and Natural Gas concession in five separate licensing rounds. The Government expected to singe production sharing contract for 52 blocks in 2007. The government requires massive
foreign exchange reserves to import oil, since this demand can only be met through imports. In January 2007 ONGC Videsh hold 25 Oil and Natural Gas project in 15 countries such as South Africa, Latin America etc. On the other hand, if the sector is opened and private participation in exploration and production is stressed upon, the dependence on oil imports can be reduced if the Government adopts the policy of complete self reliability.

As discussed priorly in the table NO. 3.6 and 3.7 India is heavily depending on the imports of petroleum products. Out of the total import bill of India, around 30 to 35% import bill represent the petroleum products. To maintain the balance in India’s Foreign Trade, it is necessary to become the self reliable. Time to time Government of India is announcing the different policies regarding to self reliability of petroleum industry. Forth coming paragraph highlighted the Government policy towards self reliability.

**Government policy and action plan towards Self-Reliability:**

It can be seen that in the past four decades, ONGC and OIL have increasingly become dependent on foreign
companies in all major operational activities. Moreover, there was no major breakthrough in any Oil or Gas fields in the last thirty years though till last year, most prolific fields were kept reserved for national oil companies. With the introduction of New Exploration and Licensing Policy (NELP), those privileges have been withdrawn and chances of success by national oil companies have also decreased. Thus operational expenses will rise with stagnant/falling production. Added to this, private sector refineries will not be bound to purchase crude oil from National Oil Companies. They will search for better quality crude at cheaper rates from alternative sources.

On April 1, 2002 a new era was ushered in for the Indian Oil & Gas industry, with the Indian government dismantling the three-decade-old APM following a six-year debate on the pros and cons of APM dismantling.

As a result of the dismantling, the Government had to wind up the Oil Pool Account which is estimated to have a deficit. The account was liquidated with the issuance of Government bonds to the oil companies. More importantly, the dismantling has paved the way for a free market in India, in which the oil companies are free to set the prices of their
petroleum products in accordance with the international oil price movements with Government monitoring the pricing aspects during the transition time to ensure smooth switch-over to the deregulated regime. In the deregulated environment, one of the major aspects would pertain to pricing of petroleum products. Oil Companies can set their prices linked to fluctuations in global crude prices. However, before setting prices the oil companies would be calculating the net overall impact of the free market on their margins. This, in turn, will determine whether prices will move up or down or remain constant. Through the Indian Oil Corporation, the Government planned to monitor the pricing.

Though the industry has not witnessed the entry of private sectors, their entry into the retailing market would force the Oil Companies to adopt different pricing mechanisms to differentiate and positioning in the market. Already with the possibility of new entrants, oil companies have initiated action to revamp their retail marketing strategies. The focus is no more on bringing the retail outlets under the ownership of the company as opposed to the
franchise model, upgrading of retail outlets and aggressively pursuing promotional schemes to build customer loyalty.

The industrial structure is likely to change with the entry of new private and Foreign Companies, along with increased activity in exploration and production. Retail presence, logistics and risk management are going to be the key determinants of success for the companies in the deregulated era, with respect to the gas segment, the deregulation and subsequent private participation results are evident in the success of the new exploration and licensing policy. Along with private sectors like Reliance and Essar, ONGC has increased its efforts in new discoveries and has, to a large extent, succeeded. The real impetus to the new discoveries came from “India Hydrocarbons Vision – 2025”, which stressed specific attention in four areas: a) Focus on oil security by intensifying exploration efforts; b) maintenance of self-sufficiency in refining; c) securing of acreages in identified countries for long-term supplies; and d) strategic storage of crude and petroleum products in various locations.

The series of new discoveries of gas reserves in various parts of the country are an indication of the increased
emphasis on the Hydrocarbons vision. Also, the deregulation has enabled the domestic companies to enter into joint ventures with foreign companies, thus enabling the investment and effective transfer of technology. As the industry is highly technology-oriented, these new initiatives by the companies will enable the industry to develop new technologies and result in improving the recovery rate as well as the life of the reserves through the use of better recovery techniques. Another important trend that is being witnessed is that Indian Companies of late are going abroad and bidding for Oil & Gas reserves. ONGC through its subsidiary “ONGC Videsh” has already succeeded in bagging equity stakes in some of the oil wells in Sudan and Russia, and has spread its presence in Iran, Iraq, Libya, Syria, Myanmar, Australia, and Russia. The state-run companies are expanding their operations through Foreign Direct Investment and acquisitions in Oil and Gas companies around the globe.

Though the concept of securing land at abroad for digging well is not new, India is slowly adopting these international practices. US and the European countries have, over the years, encouraged their domestic companies in
securing acreages abroad and, in fact, this is precisely the reason for the domination of the former seven sisters, Exxon (formerly Standard Oil), Mobil (Standard Oil of New York, which merged with Vacuum Oil), Chevron, the Mellon’s Gulf Oil, Shell, Texaco, and British Petroleum (Anglo-Iranian). The support extended to these Oil Companies by their respective Governments has enabled those countries in handling the volatility in prices effectively. Similarly, India with its new initiatives and domestic discoveries can hope to achieve the objectives of energy security. Currently, the Indian oil industry is undergoing a transformation. The benefits of deregulation can be reaped only when the transition to deregulated regime is complete.

Conclusion:

Before independence, Indian petroleum sector was dominated by foreign oil companies, after independence Government of India established their oil companies in the form of IOCL, BPCL, and HPCL etc. and through this domestic production started to meet the requirements. In fact, till date India is heavily depended upon imports of these products and this incurs ample amount of currency that is
taken out of country against the payment of import. Heavy import of these products have impact on economy of several under developing countries like India, African countries, so these countries trying to become self reliable in context of these products to reduce the impact upon their national economies. Several steps are taken by Government of India to cope up with the aforementioned problems and various projects are undertaken to increase domestic production, also high intention upon marketing and distribution of these products is given. Regular assessment and close supervision are given by corresponding oil companies as well as Government of India to achieve the target.
Select references:


3) Ibid. pp.39

4) Ibid. pp. 74

5) Ibid. pp. 75


7) Ibid pp. 80

8) Ibid, pp. 81


11) HPCL: Annual report, 2003-04, pp.4


13) Ibid. pp. 8

15) Government of India (Dr. Rangarajan Committee report): “pricing and Taxation of petroleum products”, February 2006, pp. 11


17) The Hindu, August, 04, 2006, Online edition of India’s National Newspapers, “PDS Kerosene diverted to black marketing or adulteration by its owners”, pp. 1